DEPARTMENT OF TRANSPORTATION

MnDOT

VIRGINIA HEADQUARTERS MASTER PLAN

Final Submission
November 01, 2018

SUBMITTED BY:

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EXECUTIVE SUMMARY

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This purpose of this master plan is to establish a vision for the MnDOT Virginia Headquarters for the next 50 years and to provide an informed basis for all future phases of design for the facility.

NEEDS AND GOALS:

The truck station in Virginia is centrally located within MnDOT District 1 in the northeast part of the state. Eighteen different departments work out of the facility with an extended scope of services including but not limited to: license exam, heavy truck maintenance, State Trooper, and construction services. After many years of use, the truck station is experiencing noticeable growing pains. Staff has worked to adapt the building over the years but their current needs are beyond the physical limitations of the building envelope. Each department has a need for additional square footage and some departments, like Warm Storage and Repair Shop, need additional area, interior ceiling clearance, and updated building infrastructure. In addition, many of the building's primary systems (mechanical, electrical, etc.) require upgrading for code compliance and energy efficiency. As such, the agency has hired Oertel Architects to identify the current and future building, site, and operational needs of staff in advance of the design phase of the project.

LOCATION:

Prior to the master plan, agency staff explored options for site relocation and site expansion. It has been determined that the facility will occupy the existing site within the current property limits.

PROJECT PARTICIPATION:

MnDOT:

C.O. Planning-
David Schilling, *Project Manager*
Chris Moates, *Director of Planning*

Virginia Headquarters-
Andy Johnson, Assistant Maintenance Engineer
Brian Jussila, Facilities Manager

Oertel Architects-
Thomas Stromsodt, *Project Architect*
Daniel Englund, *Intern/Designer*

The design team met on with staff in Virginia on several occasions. Departmental divisions and contacts are as follows:

Maintenance Operations	Holly Johnson, Chris Cheney
Mechanics	Mike Bukvich, Chris Vest
Bridge Maintenance	Dan Perkins
Construction	Jeff Tillman
Driver's License	Joshua Sipola
Surveys	Kevin Sutherland, Tony Newman, Keith Bengston
Sign Shop	Mitzi Lanier
Permits	Jeff Swenson
Building Services	Brian Jussila, Damien Hoey
Administration	Denise Baublitz, Barb Nelson
State Patrol	Captain Silcox
Radio shop	Mike Grand
Inventory	Max Schreyer
IT	Julie Neari

PLANNING PROCESS:

DEPARTMENTAL INTERVIEWS:

Prior to the study, staff was asked to fill out Facilities Programming Worksheets. These worksheets provided a starting point for the facility needs analysis. Oertel Architects created an expanded version of the worksheet to capture and record individual space needs. Information for the worksheets was gathered using individual department interviews and follow-up video and phone conferences. The changes were tracked using meeting minutes and within the overall project timeline; both are included within the appendix of this report. The team incorporated the May 2017 draft of the MnDOT Facility Standards as applicable for space sizes, layout, and design criteria.

SUPPLEMENTAL ANALYSIS:

Data collection and analysis was done for the following:

- Existing and Future Site Usage
- Sustainability Concepts
- Project Budgeting
- Preliminary Code Review
- Building Design Guidelines
- Project Phasing

PROOF OF CONCEPT DRAWINGS:

Concept planning diagrams, site plans, and floor plans were prepared to track space adjacencies, circulation, and overall space needs. The primary concern was to prove that the operation could be functional over the long term on the existing site. The diagrams were also used to review operational flow, turning movements, phasing, and staging constraints and to analyze whether the facility could remain operational during construction.

DEPARTMENTAL REVIEW AND COMMENT:

Staff provided review and comment through intermittent progress submissions and on-site meetings. The team also met with agency staff to review buried tanks, soil contamination concerns, and storm water standard practices. A post-up exercise was conducted for the Proof of Concept drawings where staff reviewed and commented on several options prior to moving forward with a chosen concept. Meeting minutes from these exercises are included within the Proof of Concept section.

PROJECT BUDGETING:

The following budget estimates were defined using historic bid information and 2018 pricing cost data as it relates to the amount, type, and volume of spaces programmed for the project. The budget number will be used to define and identify funding and procurement methodologies and to provide an overall scale for anticipated costs.

Cold Storage (15,250 SF)	$2,180,000
Office/Shop (50,000 SF)	$8,971,000
Vehicle Parking (96,200 SF)	$13,855,000
Vehicle Repair (30,000 SF)	$8,904,000
Support Structures	$1,220,000
▪ Salt Building	
▪ Brine Building	
▪ Storage Bins	
Total:	$35,130,000

Anticipated demo/site/utility costs are included within each individual section. A breakdown for each area per major category is included within the Construction Phasing and Budgeting section.

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SITE ANALYSIS

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Address:	101 Hoover Road North, Virginia, MN 55792
Current Use:	MnDOT Virginia Headquarters
Lot Size:	795,165 sf. (18.25 acres)

Climate

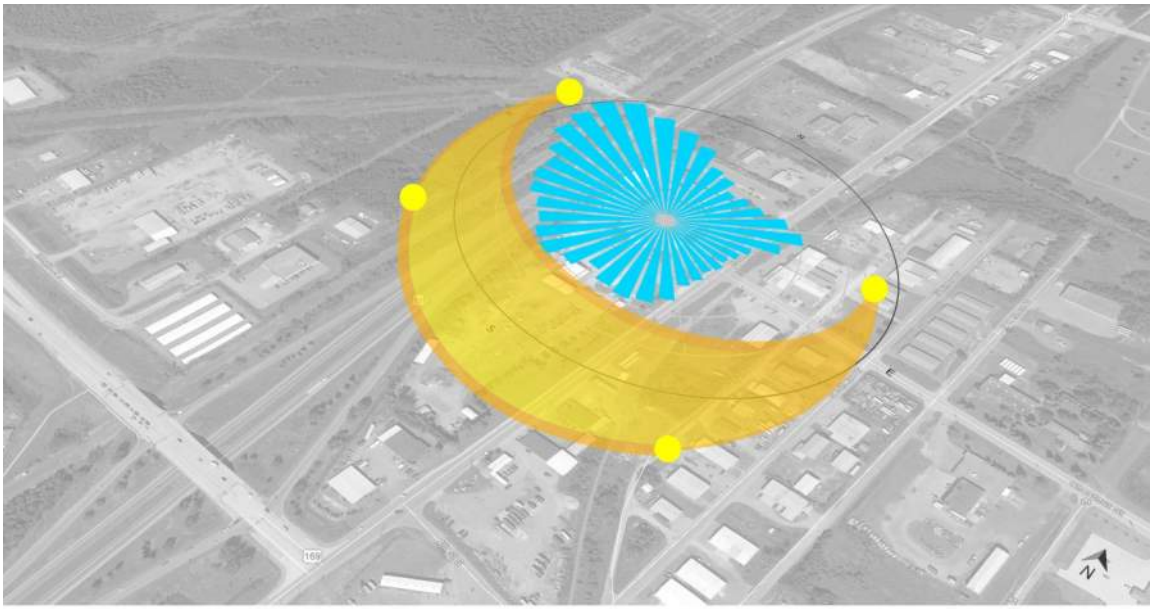
Sun:	*Winter*		*Summer*	
	Sunrise	7:56	Sunrise	5:14
	Solar Noon	12:09	Solar Noon	13:13
	Sunset	16:22	Sunset	21:12

Annual % of Sunshine = 52%

Number of Sunny Days = (177)

The existing site is oriented north/south

Prevailing Wind:	North/Northwest
Avg. Wind Speed:	September – May = 9.3 mph
	May – September = 8.1 mph
Temperature:	Average July High = 77
	Average January Low = -3



SUN AND WIND

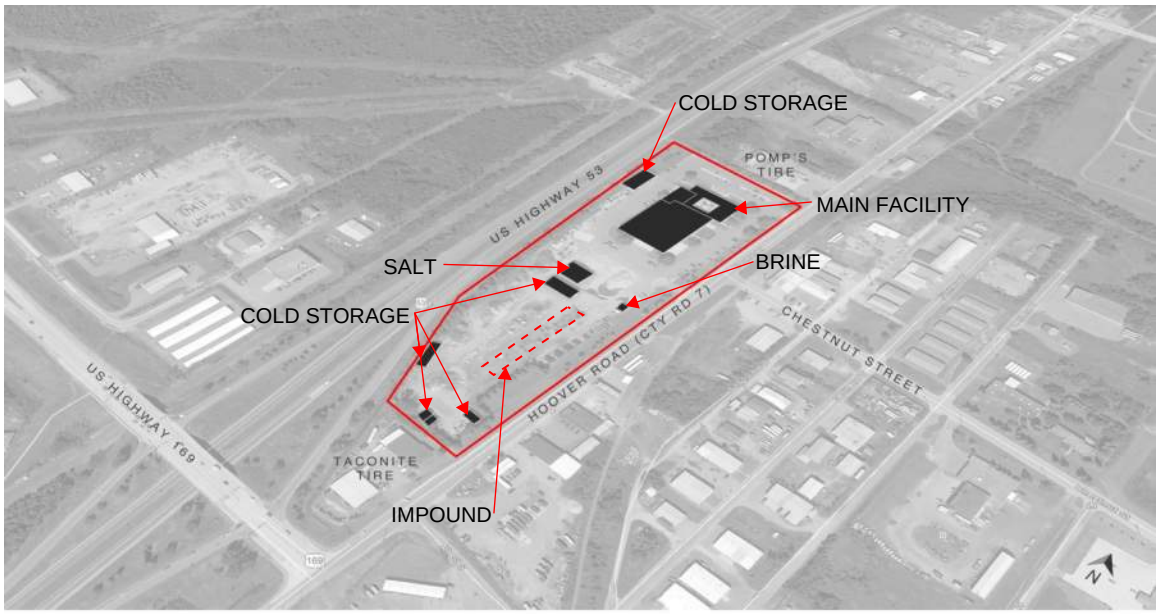
Precipitation: Average Rainfall = 27”

Average Snowfall = 60”

Precipitation Days = (60)

GENERAL

The site currently includes multiple structures, parking, and exterior storage areas. The main building is located on the north end of the site with passenger vehicle parking on the north, east, and west (partial) sides. The salt building, brine building, and building maintenance storage building are located at the center of the site. Multiple cold storage buildings line the west and south property lines (Of note, the existing cold storage building to the immediate west of the main building is over the property line). The groundcover at the north half and southern tip of the site is bituminous paving. The two paving areas are connected via gravel paths and storage areas. The site is bordered by industrial/commercial development to the north (Pomp’s Tire) and to the south (Taconite Tire), US Highway 53 to the west, and Hoover Road N (C.R. 7) to the east.



EXISTING VIRGINIA HEADQUARTERS

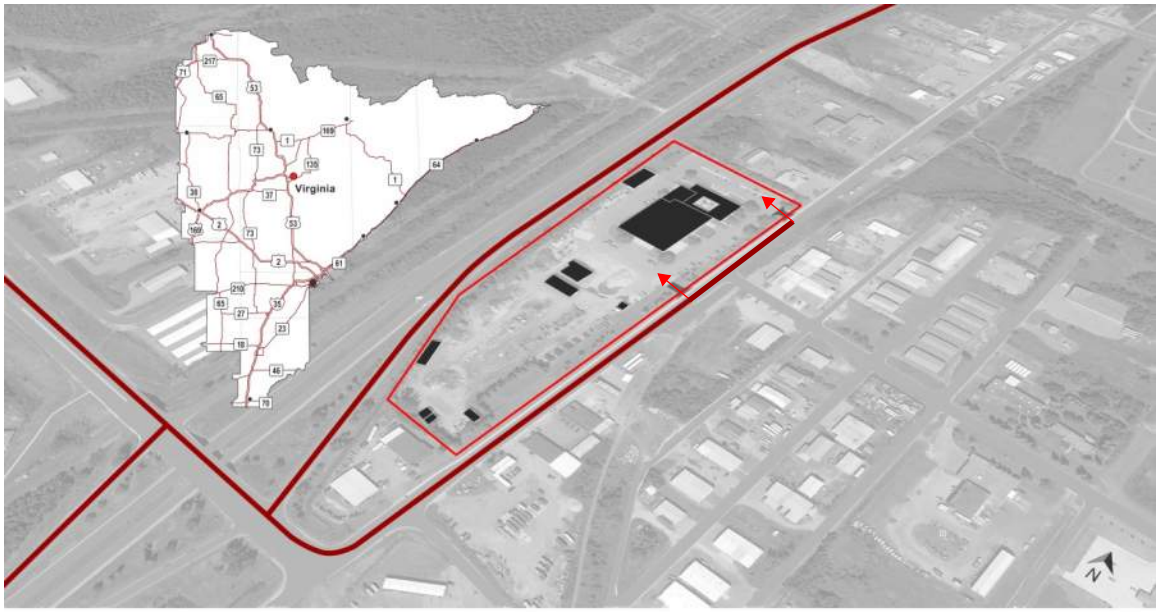
TOPOGRAPHY

Physical Features:

The site is generally flat with a gradual fall in elevation from north to south of approximately 5’-6’ from an elevation of 1436 at the main building to 1431 at the south end of the site. The green area at the west side of the site (bordering US Highway 53) consists of drainage ditch, delineated wetlands, and earth berming, which provides some level of screening at the northwest corner of the site.

Existing Access and Circulation:

The existing truck station site is well positioned and centrally located to serve the District 1. There is direct access to US Highway 53 and 169 and County Road 7 (Hoover Road). Immediate access to the site is limited to the east side off of Hoover Road (C.R. 7). There are currently (2) curb cuts; one on the north end and one near the center of the site.



SITE AND DISTRICT ACCESS

Vegetation:

The site is surrounded by a perimeter ring of turf/native grass/landscaping which is used as screening from and into the site. Tree coverage is primarily coniferous with intermingled deciduous/ornamental trees. There are a series of planting islands around the existing building perimeter with turf grass, shrubs, and mature trees.

Existing Water Bodies:

Like most of Minnesota, there are a series of nearby lakes. The closest lakes are Silver and Bailey Lakes, located east of the site.

Geotechnical/Soils (Included in Appendix)

Basic Surface Soil Type
Basic Subgrade Soil Type
Bedrock Depth and Classification
Environmental Hazards

UTILITIES

Potable Water:

The site is served by city water. The water main is located within Hoover Road and enters the site near the middle of the site (in line with Chestnut Street). The brine building is serviced by a separate 1" water line, directly off of Hoover Road.

Electrical:

The general area appears to be serviced by an overhead electrical line that runs on the east side of Hoover Road. The electrical service to the building runs underground and enters the site off of Hoover Road, north of the water main. The primary electrical service entry is located in a planting island on the east side at approximately the midpoint of the main building. Electrical service to the support buildings (Salt/Chemical Storage) is fed from the south side of the main building, running underground. The brine building is fed directly from Hoover Road.

Gas:

Gas service enters the site off of Hoover Road and runs along the north side of the existing building to a gas meter on the west side of the building. The gas meter is located in a planting island near the middle of the building next to a generator and LP tank.

Data/Cable/Phone:

The building is served by existing local utilities with primary access from Hoover Road.

Sewer Service:

The building is connected to city sanitary and storm sewer. Both services run along Hoover Road with storm running in the median and sanitary running under the street. The sanitary service turns and connects to the east/west line running under Chestnut Street. There is no indication of a line serving the south half of the site. The main building's sanitary service exits on the southern half of the east elevation.

Fire Protection:

There is (1) hydrant on the east side of the site in the green area located to the north of the southern curb cut/drive access.

SITE CONTEXT

Neighborhood Structures:

The immediate site is surrounded by older commercial/industrial single-story buildings. Further east, moving towards the downtown/lakes area, there is a mix of newer higher-end commercial and single-family development.

Shading and Solar Access:

The linear north/south orientation of the site limits available southern exposure. There are no structures or topography that will shade the building.

Noise Concerns:

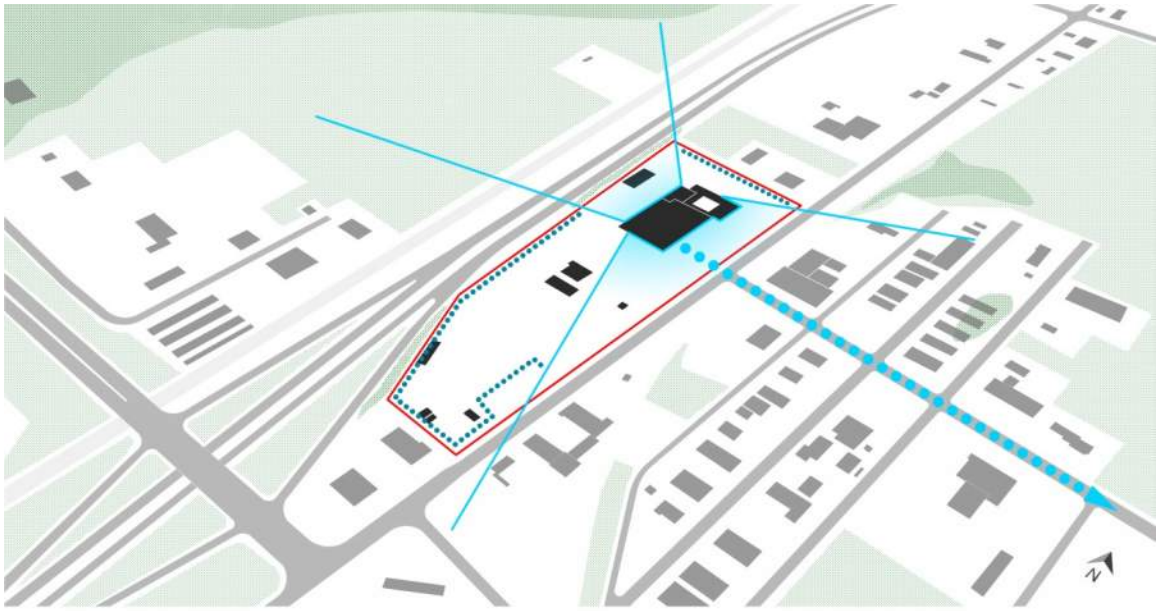
The site is in close proximity to US Highway 53 and 169. However, given the nature of operation planned for the site, traffic noise is not a primary concern. Similarly, back-up alarms, large vehicle traffic, and other operations on-site should not significantly impact the adjacent neighbors.

Odors:

There doesn't appear to be any odor concerns either from adjacent properties or from planned on-site operations.

Views/Vistas:

The site's prominent location within the city and close proximity to US Highway 53 and 169 create exciting opportunities and challenges for siting the main building, associated support buildings, and site functions. Currently, the southern half of the site is most visible from Highway 53 due to a break in vegetation and relative topography/elevations. The site also has a strong connection back to the heart of the city at Chestnut Street, which is located on the east side near the middle of the site. Strong consideration should be given to screening at site functions such as material storage and handling, impound, and equipment parking.



VIEWS AND VISTAS

SITE HISTORY

Former Site Uses

Hazardous: The site currently houses an impound lot, which is located on gravel/class 5. Given then condition and nature of these vehicles, there is a strong chance that this area has been subjected to hazardous materials.

Old Foundations: There are and have been a number of different structures built over time on the site. There is a strong likelihood that there are abandoned building or site components located on-site.

PROGRAM ANALYSIS

Proposed Building Program	190,000 sf	
Proposed Site Program	162,000 sf	
Anticipated Site Circulation	245,000 sf	
25% Green Space Allowance	100,000 sf	
30% Increase for Setbacks, Variances, Drainage Paths, etc.	210,000 sf	
Total Site Required	907,000 sf	*(20.8 acres)*

As indicated above, the site appears to be undersized for the anticipated building and site needs. Through the design process, there are a number of proven planning and layout strategies that might decrease the overall footprint required for operation. However, given the initial area shortfall and the linear nature of the site, there will limitations to the type of configurations and layouts possible. This is further complicated by the gradual tapering of the site towards the southern portion of the site. It would appear, at this point, that the area currently occupied by the existing building provides the most flexibility in terms of anticipated building and site layouts. However, the agency needs to maintain operations at or near full capacity for the duration of any building project. This is particularly critical during the snow and ice season.

SITE PROGRAM:

Salt/Sand Storage	17,600 sf	(110'x160')

The facility's 5-year average for salt is 5900 tons and the 5-year average for sand is 3600 tons. It is highly favorable to be able to store a full season's quantity of salt and sand as it can be bought out of season and provides the District with more funding options and potential savings. The salt shed was sized per the current district standard (Grand Rapids, etc.)

Careful consideration should be given to the position of the salt building on-site. Current agency practices utilize pre-engineered fabric structures with one open end for salt storage. Exposure of the open end to the north or west should be avoided.

Staff Parking Spaces	31,875 sf
Additional Parking	6,000 sf
Impound Lot	18,000 sf

The impound vehicles need to be secured from the rest of the site with a separate access point outside of the secured yard. The area needs to be screened from adjacent properties.

Motorcycle Testing	2,250 sf
Bridge Crew Materials	9,600 sf
Material Storage Bins	4,000 sf

All exterior storage and material storage bins should be screened from view from outside the site. Consideration for covering the material (class 5, black dirt, pea gravel, etc.) bins should be included in the design and screening strategy.

Outdoor Employee Area	400 sf
Generator	600 sf

Depending on the type of generator used, mitigation of noise/odor should be considered in the placement of the generator.

Radio Tower	144 sf	
Dish Antennas	3,600 sf	
Storm Water Retention	66,474 sf	*(Estimate)*

Depending on site availability, geo-technical, hydrology, etc.; the design should consider the cost/benefit of an underground chamber system for storm water retention in an effort to conserve available space.

Brine Building	720 sf

The infrastructure support for the brine building is critical.

Trash/Recycling	640 sf

DEPARTMENTAL
WORKSHEETS

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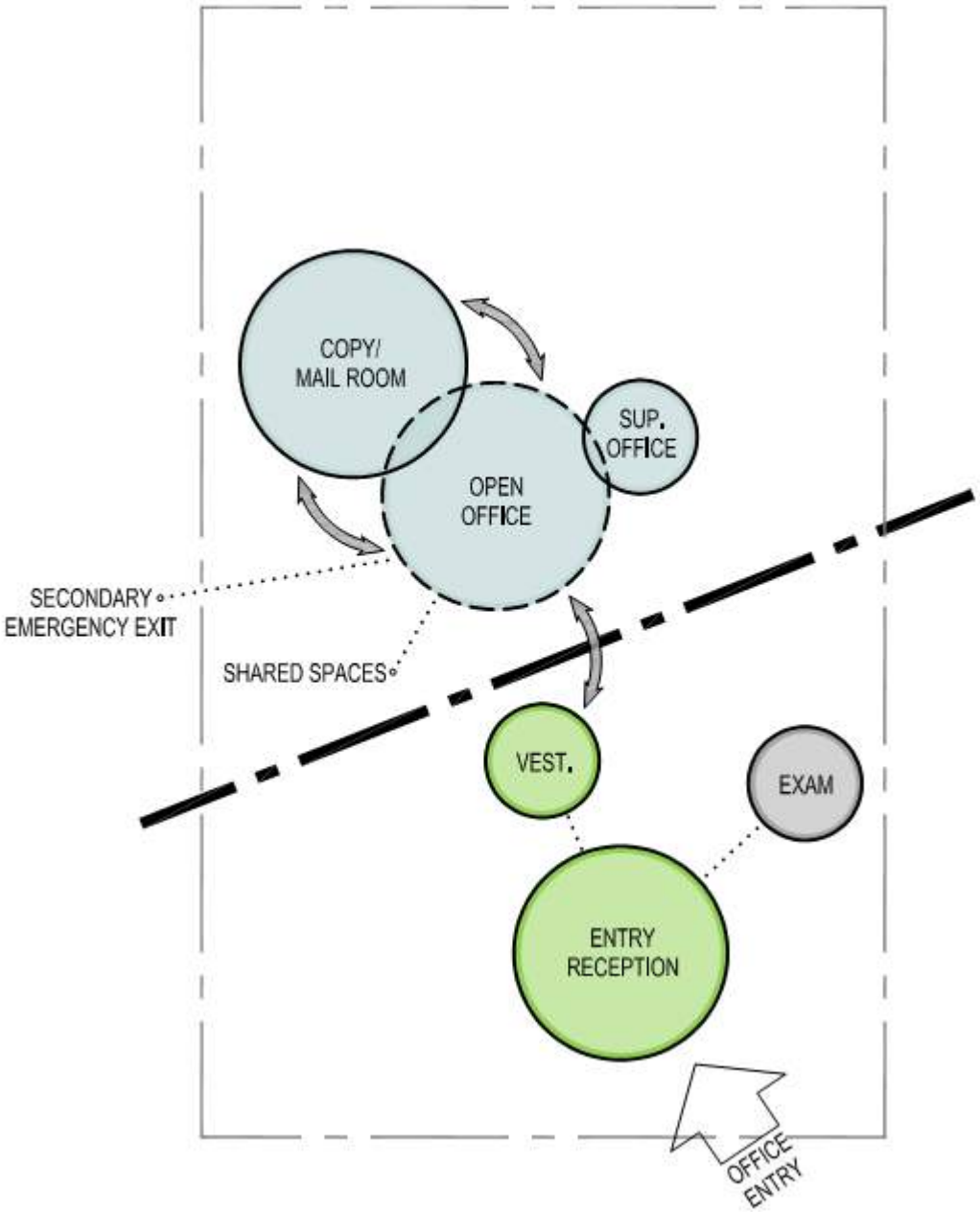
COPY/
MAIL ROOM
SUP.
OFFICE
OPEN
OFFICE
SECONDARY
EMERGENCY EXIT
SHARED SPACES
VEST.
EXAM
ENTRY
RECEPTION
OFFICE
ENTRY

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ROOM/SPACE NAME:	**Open Office**
SQUARE FOOT AREA:	320 sf (16'x 20')
HOURS OF OPERATION:	Day Shift - Typical Facility Hours are from 7:30 am – 4:30 pm
FUNCTION:	Private Office for (2) Employees with storage
ADJACENCIES:	Vestibule, Reception, Mail Room
FURNITURE, FIXTURES & EQUIPMENT:	Systems Furniture Counter with upper and lower storage cabinets
ARCHITECTURAL:	
FLOOR:	Concrete (Carpet)
WALLS:	Steel Framing/Gypsum Board (Paint)
CEILING:	Acoustical Ceiling
HEIGHT:	Min. of 8'-6"
DOORS/WINDOWS:	Std. Door with Sidelight
ACOUSTICAL REQUIREMENT:	STC 52-55
LIGHTING:	Direct/Indirect LED Lay-In Fixtures Task Lighting at Work Surface
MECHANICAL REQUIREMENTS:	Standard Air Distribution
ELECTRICAL REQUIREMENTS:	Standard Electrical Distribution Convenience Outlet
TECHNOLOGY REQUIREMENTS:	Voice/Data Distribution
SPECIAL CRITERIA:	Area to be Securable in Emergency Scenarios Provide Secondary Emergency Staff Exit

ROOM/SPACE NAME:	**Office**
SQUARE FOOT AREA:	120 sf (10'x 12')
HOURS OF OPERATION:	Day Shift - Typical Facility Hours are from 7:30 am – 4:30 pm
FUNCTION:	Private Office for (1) Employee
ADJACENCIES:	Vestibule, Reception, Mail Room
FURNITURE, FIXTURES & EQUIPMENT:	Systems Furniture
ARCHITECTURAL:	
FLOOR:	Concrete (Carpet)
WALLS:	Steel Framing/Gypsum Board (Paint)
CEILING:	Acoustical Ceiling
HEIGHT:	Min. of 8'-6"
DOORS/WINDOWS:	Std. Door with Sidelight
ACOUSTICAL REQUIREMENT:	STC 52-55
LIGHTING:	Direct/Indirect LED Lay-In Fixtures Task Lighting at Work Surface
MECHANICAL REQUIREMENTS:	Standard Air Distribution
ELECTRICAL REQUIREMENTS:	Standard Electrical Distribution Convenience Outlet
TECHNOLOGY REQUIREMENTS:	Voice/Data Distribution
SPECIAL CRITERIA:	

ROOM/SPACE NAME:	**Copy/Mail Room**
SQUARE FOOT AREA:	392 sf (14'x 28')
HOURS OF OPERATION:	Day Shift - Typical Facility Hours are from 7:30 am – 4:30 pm
FUNCTION:	Centralized Mail/Print/Storage Area for Facility
ADJACENCIES:	Office Centralized Departmental Offices
FURNITURE, FIXTURES & EQUIPMENT:	Center Island Table Upper and Lower Cabinets Staff Mailboxes (Non-Secure)
ARCHITECTURAL:	
FLOOR:	Concrete (Carpet)
WALLS:	Steel Framing/Gypsum Board (Paint)
CEILING:	Acoustical Ceiling
HEIGHT:	Min. of 8'-6"
DOORS/WINDOWS:	Std. Door
ACOUSTICAL REQUIREMENT:	STC 45-50
LIGHTING:	Direct/Indirect LED Lay-In Fixtures
MECHANICAL REQUIREMENTS:	Standard Air Distribution
ELECTRICAL REQUIREMENTS:	Standard Electrical Distribution Convenience Outlet Continuous Plug Strip
TECHNOLOGY REQUIREMENTS:	Voice/Data Distribution Analog Phone Line for Fax/Postage
SPECIAL CRITERIA:	(2) entrances into mail room for multiple department access

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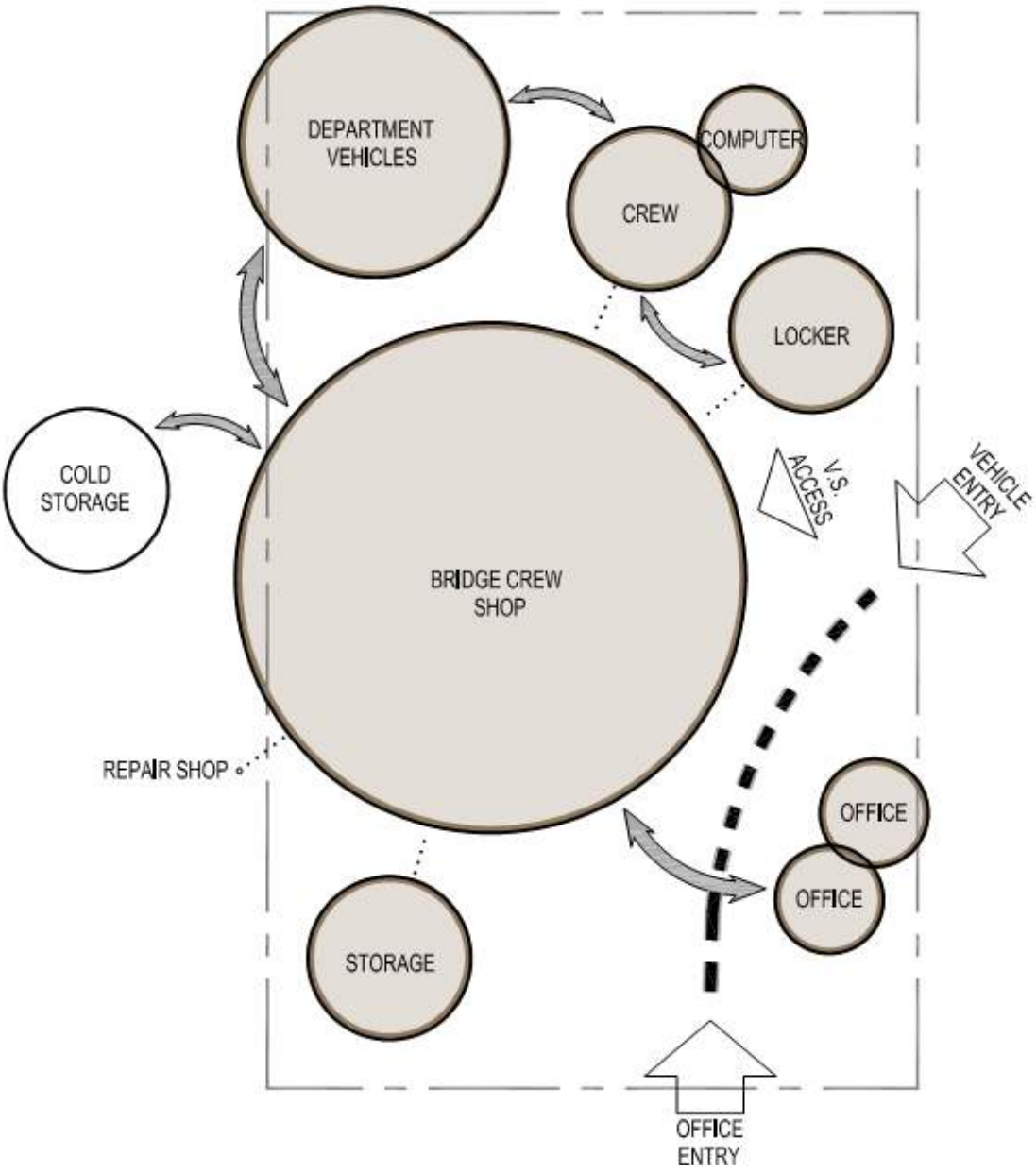
DEPARTMENT VEHICLES
COMPUTER
CREW
LOCKER
COLD STORAGE
V.S. ACCESS
VEHICLE ENTRY
BRIDGE CREW SHOP
REPAIR SHOP
OFFICE
OFFICE
STORAGE
OFFICE ENTRY

Dept/Dedicated	Size	Usage	Count	Class	Vehicle Description
Bridge Crew	Large	Cold Storage	1	482	Construction Trailer
Bridge Crew	Large	Warm Storage	1	372	Boom Truck
Bridge Crew	Medium	Warm Storage	1	190	Pick Up
Bridge Crew	Large	Warm Storage	1	255	Tool Truck
Bridge Crew	Large	Warm Storage	1	254	Dump Truck
Bridge Crew	Small	Warm Storage	1	458	Welder
Bridge Crew	Medium	Warm Storage	2	484	Sign Trailer
Bridge Crew	Small	Warm Storage	1	665	Skyjack Lift
Bridge Crew	Medium	Warm Storage	1	-	Signal Light Trailer

ROOM/SPACE NAME:	**Office (2)**
SQUARE FOOT AREA:	80 sf (8'x 10')
HOURS OF OPERATION:	Day Shift/On Call (out on site) - Typical Facility Hours are from 7:30 am – 4:30 pm
FUNCTION:	Private Office for (1) Employees
ADJACENCIES:	Consolidated Departmental Office Area
FURNITURE, FIXTURES & EQUIPMENT:	Systems Furniture
ARCHITECTURAL:	
FLOOR:	Concrete (Carpet)
WALLS:	Steel Framing/Gypsum Board (Paint)
CEILING:	Acoustical Ceiling
HEIGHT:	Min. of 8'-6"
DOORS/WINDOWS:	Std. Door with Sidelight
ACOUSTICAL REQUIREMENT:	STC 52-55
LIGHTING:	Direct/Indirect LED Lay-In Fixtures Task Lighting at Work Surface
MECHANICAL REQUIREMENTS:	Standard Air Distribution
ELECTRICAL REQUIREMENTS:	Standard Electrical Distribution Convenience Outlet
TECHNOLOGY REQUIREMENTS:	Voice/Data Distribution
SPECIAL CRITERIA:	-

ROOM/SPACE NAME:	**Computer Work Station (3)**
SQUARE FOOT AREA:	48 sf (6'x 8')
HOURS OF OPERATION:	Day Shift/On Call (out on site) - Typical Facility Hours are from 7:30 am – 4:30 pm
FUNCTION:	Shared Computer Area for Staff
ADJACENCIES:	Bridge Crew Shop Areas
FURNITURE, FIXTURES & EQUIPMENT:	Systems Furniture (Counter)
ARCHITECTURAL:	
FLOOR:	Concrete (Epoxy/Resilient Tile)
WALLS:	Concrete (Burnished/Paint)
CEILING:	Acoustical Ceiling
HEIGHT:	Min. of 8'-6"
DOORS/WINDOWS:	Std. Door with Sidelight
ACOUSTICAL REQUIREMENT:	STC 45-48
LIGHTING:	Direct/Indirect LED Lay-In Fixtures Task Lighting at Work Surface
MECHANICAL REQUIREMENTS:	Standard Air Distribution
ELECTRICAL REQUIREMENTS:	Standard Electrical Distribution Electrical Plug Strip
TECHNOLOGY REQUIREMENTS:	Voice/Data Distribution
SPECIAL CRITERIA:	-

ROOM/SPACE NAME:	**Computer Work Station**
SQUARE FOOT AREA:	64 sf (8'x 8')
HOURS OF OPERATION:	Day Shift/On Call (out on site) - Typical Facility Hours are from 7:30 am – 4:30 pm
FUNCTION:	Dedicated Computer Area
ADJACENCIES:	Bridge Crew Shop Areas/Computer Work Station
FURNITURE, FIXTURES & EQUIPMENT:	Systems Furniture (Counter)
ARCHITECTURAL:	
FLOOR:	Concrete (Epoxy/Resilient Tile)
WALLS:	Concrete (Burnished/Paint)
CEILING:	Acoustical Ceiling
HEIGHT:	Min. of 8'-6"
DOORS/WINDOWS:	Std. Door with Sidelight
ACOUSTICAL REQUIREMENT:	STC 45-48
LIGHTING:	Direct/Indirect LED Lay-In Fixtures Task Lighting at Work Surface
MECHANICAL REQUIREMENTS:	Standard Air Distribution
ELECTRICAL REQUIREMENTS:	Standard Electrical Distribution Electrical Plug Strip
TECHNOLOGY REQUIREMENTS:	Voice/Data Distribution
SPECIAL CRITERIA:	-

ROOM/SPACE NAME:	**Crew Room**
SQUARE FOOT AREA:	560 sf (20'x 28')
HOURS OF OPERATION:	Day Shift/On Call (out on site) - Typical Facility Hours are from 7:30 am – 4:30 pm
FUNCTION:	Central Meeting Space for Bridge Crew Staff
ADJACENCIES:	Bridge Crew Shop Areas/Computer Work Station/ Locker Room
FURNITURE, FIXTURES & EQUIPMENT:	Movable Tables and Chairs Kitchenette with Counter and Storage Cabinets Kitchen Equipment per District Standards
ARCHITECTURAL:	
FLOOR:	Concrete (Epoxy/Resilient Tile)
WALLS:	Concrete (Paint)
CEILING:	Acoustical Ceiling
HEIGHT:	Min. of 8'-6"
DOORS/WINDOWS:	Std. Door with Sidelight
ACOUSTICAL REQUIREMENT:	STC 45-48
LIGHTING:	Direct/Indirect LED Lay-In Fixtures Task Lighting at Kitchenette
MECHANICAL REQUIREMENTS:	Standard Air Distribution Dedicated Exhaust at Kitchen Equipment *(As Required)*
ELECTRICAL REQUIREMENTS:	Standard Electrical Distribution Convenience Outlet
TECHNOLOGY REQUIREMENTS:	Voice/Data Distribution Wall-Mounted Television(s) AV Equipment for Training/Presentation
SPECIAL CRITERIA:	

ROOM/SPACE NAME:	**Locker Room**
SQUARE FOOT AREA:	280 sf (14'x 20')
HOURS OF OPERATION:	Day Shift/On Call (out on site) - Typical Facility Hours are from 7:30 am – 4:30 pm
FUNCTION:	Gear Storage/Restroom for Staff
ADJACENCIES:	Bridge Crew Shop Areas/Computer Work Station/ Lunch/Meeting Room
FURNITURE, FIXTURES & EQUIPMENT:	2'-0" x 2'-0" Vented Lockers 2'-0" Wide Benches (1) 21"x42" Bench with Back per ADA Requ. (Min.)
ARCHITECTURAL:	
FLOOR:	Concrete (Epoxy/Tile/Resilient)
WALLS:	Concrete (Paint)
CEILING:	Acoustical Ceiling
HEIGHT:	Min. of 8'-6"
DOORS/WINDOWS:	Std. Door
ACOUSTICAL REQUIREMENT:	STC 45-48
LIGHTING:	Direct/Indirect LED Lay-In Fixtures
MECHANICAL REQUIREMENTS:	Standard Air Distribution Dedicated Exhaust at Restroom
ELECTRICAL REQUIREMENTS:	Standard Electrical Distribution Convenience Outlet
TECHNOLOGY REQUIREMENTS:	NA
SPECIAL CRITERIA:	

ROOM/SPACE NAME:	**Storage Room**
SQUARE FOOT AREA:	384 sf (16'x 24')
HOURS OF OPERATION:	Day Shift/On Call (out on site) - Typical Facility Hours are from 7:30 am – 4:30 pm
FUNCTION:	Consolidated Bridge Crew Storage
ADJACENCIES:	Bridge Crew Shop Areas
FURNITURE, FIXTURES & EQUIPMENT:	Industrial Shelving, Flammable Cabinets, Area for Pallet Delivery
ARCHITECTURAL:	
FLOOR:	Concrete (Light Broom)
WALLS:	Concrete (Paint)
CEILING:	Open to Structure (Steel Joist & Deck)-Paint
HEIGHT:	Min. of 10'-0"
DOORS/WINDOWS:	8'-0"x 8'-0" Opening (Double Door)
ACOUSTICAL REQUIREMENT:	
LIGHTING:	Ceiling Mounted LED Industrial Fixture
MECHANICAL REQUIREMENTS:	Standard Air Distribution
ELECTRICAL REQUIREMENTS:	Standard Electrical Distribution Convenience Outlet
TECHNOLOGY REQUIREMENTS:	
SPECIAL CRITERIA:	Provide Space for Bringing in Vehicles for Deliveries

ROOM/SPACE NAME:	**Bridge Crew Shop**
SQUARE FOOT AREA:	2,000 sf (40'x 50')
HOURS OF OPERATION:	Day Shift/On Call (out on site) - Typical Facility Hours are from 7:30 am – 4:30 pm
FUNCTION:	Main Workspace for Bridge Department
ADJACENCIES:	Office, Crew Room
FURNITURE, FIXTURES & EQUIPMENT:	Steel Storage, 3-Ton Bridge Crane, Work Benches
ARCHITECTURAL:	
FLOOR:	Concrete (Light Broom)
WALLS:	Concrete (Paint)
CEILING:	Open to Structure (Steel Joist & Deck)-Paint
HEIGHT:	Min. of 16'-0"
DOORS/WINDOWS:	3" Insulated Overhead Doors at 16'x14' (standard) with (3) Rows of Vision Glazing
ACOUSTICAL REQUIREMENT:	
LIGHTING:	High Bay LED with Multi-Level Switching
MECHANICAL REQUIREMENTS:	Gas Fired Unit Heaters at Overhead Doors CO2 and NO2 sensors 6" Wide Prefab. Trench Drains with Trash Bin Clean-Out Dedicated Welding Exhaust (Articulated Arm and/or Hood)
ELECTRICAL REQUIREMENTS:	Standard Electrical Distribution Convenience Outlets Special Purpose Welding Outlets 6' 110v cord reels with switch
TECHNOLOGY REQUIREMENTS:	
SPECIAL CRITERIA	

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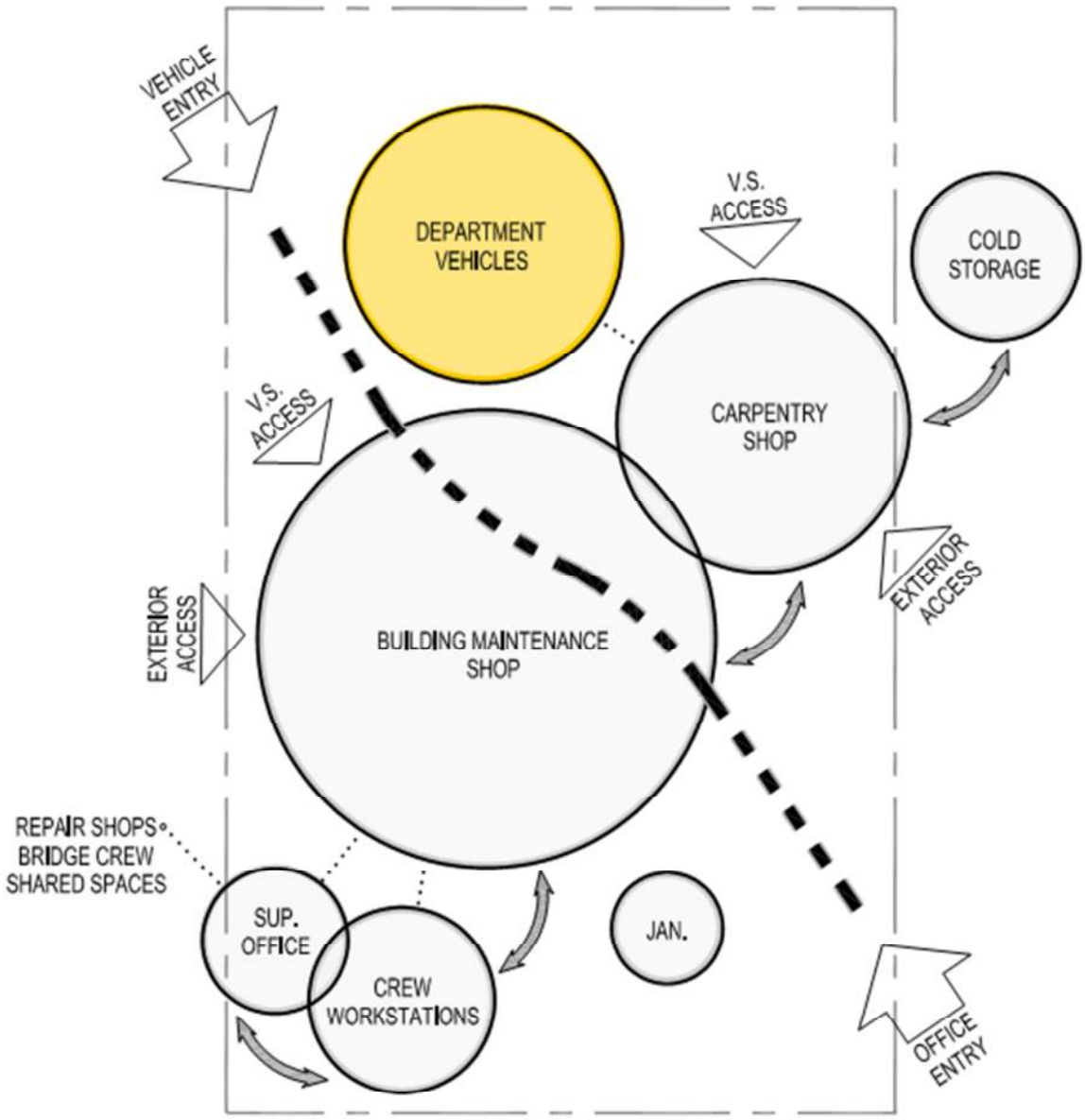
VEHICLE ENTRY
DEPARTMENT VEHICLES
V.S. ACCESS
COLD STORAGE
CARPENTRY SHOP
V.S. ACCESS
EXTERIOR ACCESS
BUILDING MAINTENANCE SHOP
EXTERIOR ACCESS
REPAIR SHOPS
BRIDGE CREW
SHARED SPACES
SUP. OFFICE
CREW WORKSTATIONS
JAN.
OFFICE ENTRY

Dept/Dedicated	Size	Usage	Count	Class	Vehicle Description
Building Maint.	Medium	Warm Storage	1	184	Pick Up
Building Maint.	Medium	Warm Storage	1	250	Repair Truck
Building Maint.	Medium	Warm Storage	1	250	Electrician Truck
Building Maint.	Small	Warm Storage	2	-	Mobile Man Lift
Building Maint.	Medium	Warm Storage	1	-	Pick Up (Plow and Lift Gate)

ROOM/SPACE NAME:	**Supervisor Office**
SQUARE FOOT AREA:	120 sf (10'x 12')
HOURS OF OPERATION:	Day Shift/On Call (out on site) - Typical Facility Hours are from 7:30 am – 4:30 pm
FUNCTION:	Private Office for (1) Employees
ADJACENCIES:	Shop Areas
FURNITURE, FIXTURES & EQUIPMENT:	Systems Furniture
ARCHITECTURAL:	
FLOOR:	Concrete (Tile/Epoxy)
WALLS:	Concrete (Burnished/Paint)
CEILING:	Acoustical Ceiling
HEIGHT:	Min. of 8'-6"
DOORS/WINDOWS:	Std. Door with Sidelight
ACOUSTICAL REQUIREMENT:	STC 52-55
LIGHTING:	Direct/Indirect LED Lay-In Fixtures Task Lighting at Work Surface
MECHANICAL REQUIREMENTS:	Standard Air Distribution
ELECTRICAL REQUIREMENTS:	Standard Electrical Distribution Convenience Outlet
TECHNOLOGY REQUIREMENTS:	Voice/Data Distribution
SPECIAL CRITERIA:	

ROOM/SPACE NAME:	**Janitor Service Area**
SQUARE FOOT AREA:	120 sf (10'x 12')
HOURS OF OPERATION:	Day Shift/On Call (out on site) - Typical Facility Hours are from 7:30 am – 4:30 pm
FUNCTION:	General Maintenance Area for Building
ADJACENCIES:	
FURNITURE, FIXTURES & EQUIPMENT:	Adjustable Wall Shelving Mop/Broom Mounting Bracket
ARCHITECTURAL:	
FLOOR:	Concrete (Tile/Epoxy)
WALLS:	Concrete (Paint)
CEILING:	Acoustical Ceiling
HEIGHT:	Min. of 8'-6"
DOORS/WINDOWS:	Std. Door with Sidelight
ACOUSTICAL REQUIREMENT:	
LIGHTING:	Direct/Indirect LED Lay-In Fixtures
MECHANICAL REQUIREMENTS:	Standard Air Distribution Utility/Mop Sink
ELECTRICAL REQUIREMENTS:	Standard Electrical Distribution Convenience Outlet Verify Outlet for Floor Sweeper/Scrubber
TECHNOLOGY REQUIREMENTS:	
SPECIAL CRITERIA:	

ROOM/SPACE NAME:	**Crew Room**
SQUARE FOOT AREA:	320 sf (16'x 20')
HOURS OF OPERATION:	Day Shift/On Call (out on site) - Typical Facility Hours are from 7:30 am – 4:30 pm
FUNCTION:	Central Meeting Space for Building Maintenance Staff (5-6 Employees)
ADJACENCIES:	
FURNITURE, FIXTURES & EQUIPMENT:	Movable Tables and Chairs Kitchenette with Counter and Storage Cabinets Kitchen Equipment per District Standards Fixed Counter for (1) Computer Workstation
ARCHITECTURAL:	
FLOOR:	Concrete (Polish/Tile)
WALLS:	Concrete (Burnish/Paint)
CEILING:	Acoustical Ceiling
HEIGHT:	Min. of 8'-6"
DOORS/WINDOWS:	Std. Door with Sidelight
ACOUSTICAL REQUIREMENT:	STC 45-48
LIGHTING:	Direct/Indirect LED Lay-In Fixtures Task Lighting at Kitchenette
MECHANICAL REQUIREMENTS:	Standard Air Distribution Dedicated Exhaust at Kitchen Equipment (As Requ.)
ELECTRICAL REQUIREMENTS:	Standard Electrical Distribution Convenience Outlet
TECHNOLOGY REQUIREMENTS:	Voice/Data Distribution Wall-Mounted Monitor AV Equipment for Training/Presentation
SPECIAL CRITERIA:	

ROOM/SPACE NAME:	**Carpentry Shop**
SQUARE FOOT AREA:	1,600 sf (40'x 40')
HOURS OF OPERATION:	Day Shift/On Call (out on site) - Typical Facility Hours are from 7:30 am – 4:30 pm
FUNCTION:	Wood Fabrication Shop for Facility
ADJACENCIES:	Vehicle/Shop Areas, Office, Crew Room
FURNITURE, FIXTURES & EQUIPMENT:	Table Saw, Planer, Wood Racking, Jointer, Radial Arm Saw, Drill Press, Misc. Bench Tools, Work Bench/Layout Table, Ban Saw, Miter Saw
ARCHITECTURAL:	
FLOOR:	Concrete (Light Broom)
WALLS:	Concrete (Paint)
CEILING:	Open to Structure (Steel Joist & Deck)-Paint
HEIGHT:	Min. of 12'-0"
DOORS/WINDOWS:	3" Insulated Overhead Doors at 28'x14' (standard) with (3) Rows of Vision Glazing
ACOUSTICAL REQUIREMENT:	-
LIGHTING:	Ceiling Mounted LED Industrial Fixture Task Lighting at Work Bench
MECHANICAL REQUIREMENTS:	Standard Air Distribution Dedicated Sawdust Extraction/Collection
ELECTRICAL REQUIREMENTS:	Standard Electrical Distribution Convenience Outlets Special Purpose Equipment Outlets (220v) 6' 110v cord reels with switch
TECHNOLOGY REQUIREMENTS:	Voice/Data Distribution
SPECIAL CRITERIA:	Provide lumber storage rack at wall

ROOM/SPACE NAME:	**Building Maintenance Shop**
SQUARE FOOT AREA:	4,000 sf (60'x 80')
HOURS OF OPERATION:	Day Shift/On Call (out on site) - Typical Facility Hours are from 7:30 am – 4:30 pm
FUNCTION:	Equipment Storage/Staging for Building Maintenance Department
ADJACENCIES:	Vehicle/Shop Areas, Office, Crew Room
FURNITURE, FIXTURES & EQUIPMENT:	Pallet Racking, Work Bench, Industrial Shelving
ARCHITECTURAL:	
FLOOR:	Concrete (Light Broom)
WALLS:	Concrete (Paint)
CEILING:	Open to Structure (Steel Joist & Deck)-Paint
HEIGHT:	Min. of 20'-0"
DOORS/WINDOWS:	Minimum 8'-0"x 8'-0" Opening (Double Door)
ACOUSTICAL REQUIREMENT:	
LIGHTING:	Ceiling Mounted LED Industrial Fixture
MECHANICAL REQUIREMENTS:	High-Efficiency Unit Heaters with Make-Up Air Units. 6" Wide Prefab. Trench Drains with Trash Bin Clean-Out Air Reel Drop
ELECTRICAL REQUIREMENTS:	Standard Electrical Distribution Convenience Outlet Light and Power Reel Drops
TECHNOLOGY REQUIREMENTS:	
SPECIAL CRITERIA:	Building Maintenance Vehicle Parking

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SPACE NAME:	**Inventory**
SQUARE FOOT AREA:	2,500 sf (50'x 50')
HOURS OF OPERATION:	Day Shift/On Call (out on site) - Typical Facility Hours are from 7:30 am – 4:30 pm
FUNCTION:	Tempered General Storage for Inventory Dept.
ADJACENCIES:	
FURNITURE, FIXTURES & EQUIPMENT:	
ARCHITECTURAL:	
FLOOR:	Concrete (Light Broom)
WALLS:	Concrete
CEILING:	Open to Structure (Steel Joist & Deck)
HEIGHT:	Min. of 16'-0" (Clear)
DOORS/WINDOWS:	8'-0"x 8'-0" Opening (Double Door)
ACOUSTICAL REQUIREMENT:	
LIGHTING:	Ceiling Mounted LED Industrial Fixture
MECHANICAL REQUIREMENTS:	Minimal Air Distribution
ELECTRICAL REQUIREMENTS:	Standard Electrical Distribution Convenience Outlets
TECHNOLOGY REQUIREMENTS:	
SPECIAL CRITERIA:	

ROOM/SPACE NAME:	**Radio Shop**
SQUARE FOOT AREA:	2,000 sf (40'x 50')
HOURS OF OPERATION:	Day Shift/On Call (out on site) - Typical Facility Hours are from 7:30 am – 4:30 pm
FUNCTION:	Tempered General Storage for Radio Dept.
ADJACENCIES:	
FURNITURE, FIXTURES & EQUIPMENT:	
ARCHITECTURAL:	
FLOOR:	Concrete (Light Broom)
WALLS:	Concrete
CEILING:	Open to Structure (Steel Joist & Deck)
HEIGHT:	Min. of 16'-0" (Clear)
DOORS/WINDOWS:	8'-0"x 8'-0" Opening (Double Door)
ACOUSTICAL REQUIREMENT:	
LIGHTING:	Ceiling Mounted LED Industrial Fixture
MECHANICAL REQUIREMENTS:	Minimal Air Distribution
ELECTRICAL REQUIREMENTS:	Standard Electrical Distribution Convenience Outlets
TECHNOLOGY REQUIREMENTS:	
SPECIAL CRITERIA:	

ROOM/SPACE NAME:	**Inventory/Hazmat**
SQUARE FOOT AREA:	400 sf (20'x 20')
HOURS OF OPERATION:	Day Shift/On Call (out on site) - Typical Facility Hours are from 7:30 am – 4:30 pm
FUNCTION:	Hazardous Storage for Inventory Department
ADJACENCIES:	
FURNITURE, FIXTURES & EQUIPMENT:	Rated Storage Cabinets
ARCHITECTURAL:	
FLOOR:	Concrete (Light Broom)
WALLS:	Concrete
CEILING:	Open to Structure (Steel Joist & Deck)
HEIGHT:	Min. of 16'-0" (Clear)
DOORS/WINDOWS:	8'-0"x 8'-0" Opening (Double Door)
ACOUSTICAL REQUIREMENT:	
LIGHTING:	Ceiling Mounted LED Industrial Fixture
MECHANICAL REQUIREMENTS:	Minimal Air Distribution Dedicated Exhaust/Ventilation at Rated Cabinets As Required
ELECTRICAL REQUIREMENTS:	Standard Electrical Distribution Convenience Outlets
TECHNOLOGY REQUIREMENTS:	
SPECIAL CRITERIA:	Verify Building Component Rating per Current Code Based on Type and Quantities of Materials Stored

ROOM/SPACE NAME:	**Sign**
SQUARE FOOT AREA:	1,600 sf (40'x 40')
HOURS OF OPERATION:	Day Shift/On Call (out on site) - Typical Facility Hours are from 7:30 am – 4:30 pm
FUNCTION:	Tempered General Storage for Sign Department
ADJACENCIES:	
FURNITURE, FIXTURES & EQUIPMENT:	
ARCHITECTURAL:	
FLOOR:	Concrete (Light Broom)
WALLS:	Concrete
CEILING:	Open to Structure (Steel Joist & Deck)
HEIGHT:	Min. of 16'-0" (Clear)
DOORS/WINDOWS:	8'-0"x 8'-0" Opening (Double Door)
ACOUSTICAL REQUIREMENT:	
LIGHTING:	Ceiling Mounted LED Industrial Fixture
MECHANICAL REQUIREMENTS:	Minimal Air Distribution
ELECTRICAL REQUIREMENTS:	Standard Electrical Distribution Convenience Outlets
TECHNOLOGY REQUIREMENTS:	
SPECIAL CRITERIA:	

ROOM/SPACE NAME:	**Bridge**
SQUARE FOOT AREA:	400 sf (20'x 20')
HOURS OF OPERATION:	Day Shift/On Call (out on site) - Typical Facility Hours are from 7:30 am – 4:30 pm
FUNCTION:	Tempered General Storage for Bridge Department
ADJACENCIES:	
FURNITURE, FIXTURES & EQUIPMENT:	
ARCHITECTURAL:	
FLOOR:	Concrete (Light Broom)
WALLS:	Concrete
CEILING:	Open to Structure (Steel Joist & Deck)
HEIGHT:	Min. of 16'-0" (Clear)
DOORS/WINDOWS:	8'-0"x 8'-0" Opening (Double Door)
ACOUSTICAL REQUIREMENT:	
LIGHTING:	Ceiling Mounted LED Industrial Fixture
MECHANICAL REQUIREMENTS:	Minimal Air Distribution
ELECTRICAL REQUIREMENTS:	Standard Electrical Distribution Convenience Outlets
TECHNOLOGY REQUIREMENTS:	
SPECIAL CRITERIA:	

ROOM/SPACE NAME:	**Building Maintenance**
SQUARE FOOT AREA:	4,000 sf (40'x 100')
HOURS OF OPERATION:	Day Shift/On Call (out on site) - Typical Facility Hours are from 7:30 am – 4:30 pm
FUNCTION:	Tempered General Storage for Building Maintenance Department
ADJACENCIES:	
FURNITURE, FIXTURES & EQUIPMENT:	
ARCHITECTURAL:	
FLOOR:	Concrete (Light Broom)
WALLS:	Concrete
CEILING:	Open to Structure (Steel Joist & Deck)
HEIGHT:	Min. of 16'-0" (Clear)
DOORS/WINDOWS:	8'-0"x 8'-0" Opening (Double Door)
ACOUSTICAL REQUIREMENT:	
LIGHTING:	Ceiling Mounted LED Industrial Fixture
MECHANICAL REQUIREMENTS:	Minimal Air Distribution
ELECTRICAL REQUIREMENTS:	Standard Electrical Distribution Convenience Outlets
TECHNOLOGY REQUIREMENTS:	
SPECIAL CRITERIA:	

ROOM/SPACE NAME:	**Parking**
SQUARE FOOT AREA:	8,000 sf (80'x 100')
HOURS OF OPERATION:	Day Shift/On Call (out on site) - Typical Facility Hours are from 7:30 am – 4:30 pm
FUNCTION:	Consolidated Tempered Parking for Fleet
ADJACENCIES:	
FURNITURE, FIXTURES & EQUIPMENT:	
ARCHITECTURAL:	
FLOOR:	Concrete (Light Broom)
WALLS:	Concrete
CEILING:	Open to Structure (Steel Joist & Deck)
HEIGHT:	Min. of 16'-0" (Clear)
DOORS/WINDOWS:	Uninsulated Overhead Doors at 16'x 14' (standard) with (3) Rows of Vision Glazing
ACOUSTICAL REQUIREMENT:	
LIGHTING:	Ceiling Mounted LED Industrial Fixture
MECHANICAL REQUIREMENTS:	Overhead Gas Fired Radiant Heat with Make-Up Air Units. Gas Fired Unit Heaters at Overhead Doors CO2 and NO2 sensors 6" Wide Prefab. Trench Drains with Trash Bin Clean-Out
ELECTRICAL REQUIREMENTS:	Standard Electrical Distribution Convenience Outlets
TECHNOLOGY REQUIREMENTS:	
SPECIAL CRITERIA:	Vehicle Storage Necessitates Floor Drains and a Flammable Waste Trap. Therefore, the Heating Requirements of the Parking Area Will Be Greater Than Other Cold Storage Areas.

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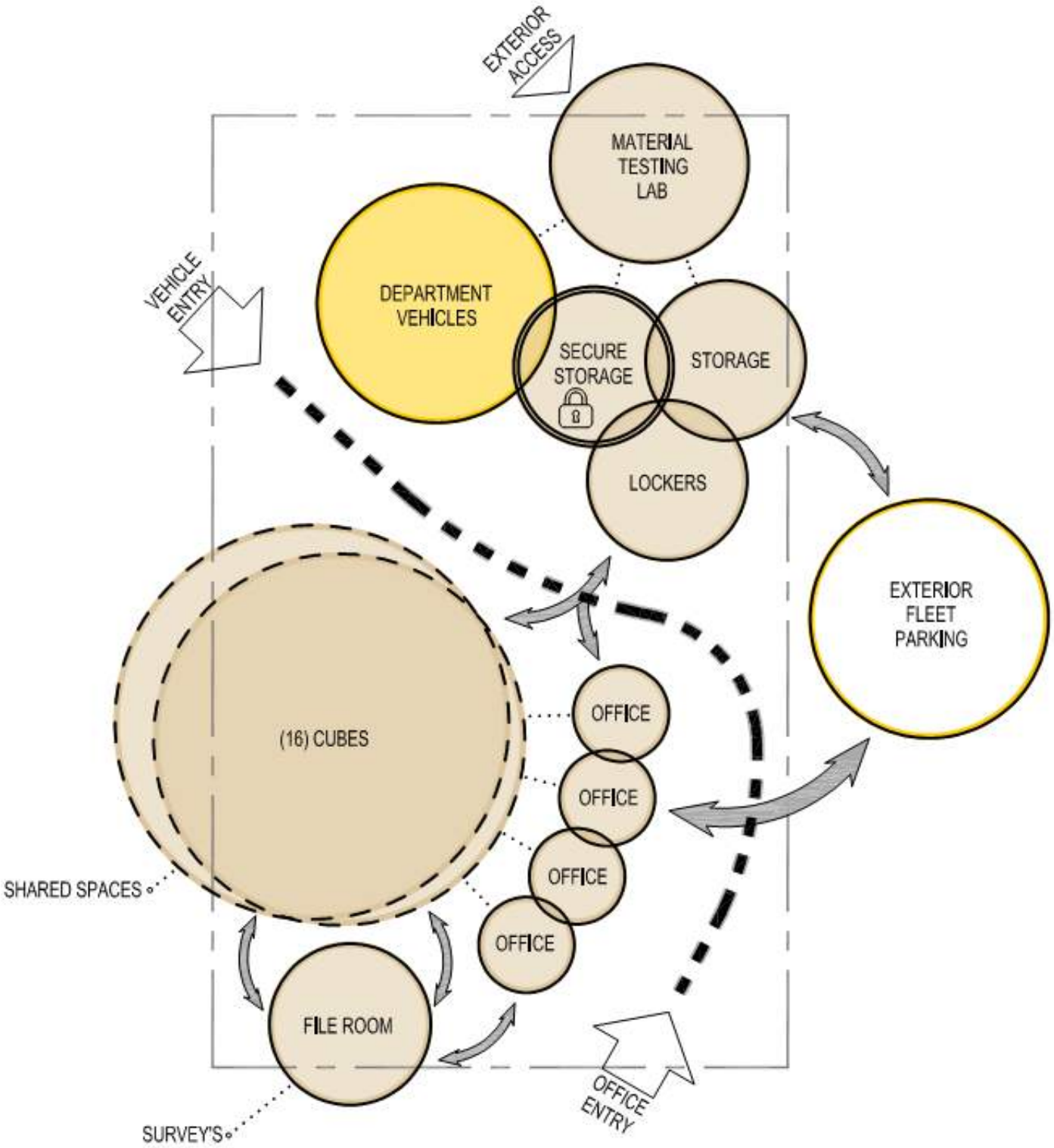

EXTERIOR ACCESS
MATERIAL TESTING LAB
VEHICLE ENTRY
DEPARTMENT VEHICLES
SECURE STORAGE
STORAGE
LOCKERS
EXTERIOR FLEET PARKING
(16) CUBES
OFFICE
OFFICE
OFFICE
OFFICE
SHARED SPACES
FILE ROOM
OFFICE ENTRY
SURVEY'S

Dept/Dedicated	Size	Usage	Count	Class	Vehicle Description
Construction	Medium	Exterior	16	-	Pick Up
Construction	Medium	Warm Storage	4	-	Pick Up

ROOM/SPACE NAME:	**Cubicle (16)**
SQUARE FOOT AREA:	64 sf (8'x 8')
HOURS OF OPERATION:	Day Shift/On Call (out on site) - Typical Facility Hours are from 7:30 am – 4:30 pm
FUNCTION:	Open Office Work Area for (1) Employee
ADJACENCIES:	Consolidated Departmental Office Area File Room/Print Room/Conference Room
FURNITURE, FIXTURES & EQUIPMENT:	Systems Furniture
ARCHITECTURAL:	
FLOOR:	Concrete (Carpet)
WALLS:	Steel Framing/Gypsum Board (Paint)
CEILING:	Acoustical Ceiling (Above)
HEIGHT:	Min. of 8'-6"
DOORS/WINDOWS:	-
ACOUSTICAL REQUIREMENT:	Clear Above
LIGHTING:	Direct/Indirect LED Lay-In Fixtures Task Lighting at Work Surface
MECHANICAL REQUIREMENTS:	Standard Air Distribution
ELECTRICAL REQUIREMENTS:	Standard Electrical Distribution Convenience Outlets
TECHNOLOGY REQUIREMENTS:	Voice/Data Distribution
SPECIAL CRITERIA:	

ROOM/SPACE NAME:	**Office (3)**
SQUARE FOOT AREA:	120 sf (10'x 12')
HOURS OF OPERATION:	Day Shift/On Call (out on site) - Typical Facility Hours are from 7:30 am – 4:30 pm
FUNCTION:	Private Office for (1) Employees
ADJACENCIES:	Consolidated Departmental Office Area File Room/Print Room/Conference Room
FURNITURE, FIXTURES & EQUIPMENT:	Systems Furniture
ARCHITECTURAL:	
FLOOR:	Concrete (Carpet)
WALLS:	Steel Framing/Gypsum Board (Paint)
CEILING:	Acoustical Ceiling
HEIGHT:	Min. of 8'-6"
DOORS/WINDOWS:	Std. Door with Sidelight
ACOUSTICAL REQUIREMENT:	STC 52-55
LIGHTING:	Direct/Indirect LED Lay-In Fixtures Task Lighting at Work Surface
MECHANICAL REQUIREMENTS:	Standard Air Distribution
ELECTRICAL REQUIREMENTS:	Standard Electrical Distribution Convenience Outlets
TECHNOLOGY REQUIREMENTS:	Voice/Data Distribution
SPECIAL CRITERIA:	

ROOM/SPACE NAME:	**Manager Office (1)**
SQUARE FOOT AREA:	168 sf (12'x 14')
HOURS OF OPERATION:	Day Shift/On Call (out on site) - Typical Facility Hours are from 7:30 am – 4:30 pm
FUNCTION:	Private Office for (1) Employees
ADJACENCIES:	Consolidated Departmental Office Area File Room/Print Room/Conference Room
FURNITURE, FIXTURES & EQUIPMENT:	Systems Furniture Space for (3)-(4) guest chairs
ARCHITECTURAL:	
FLOOR:	Concrete (Carpet)
WALLS:	Steel Framing/Gypsum Board (Paint)
CEILING:	Acoustical Ceiling
HEIGHT:	Min. of 8'-6"
DOORS/WINDOWS:	Std. Door with Sidelight
ACOUSTICAL REQUIREMENT:	STC 52-55
LIGHTING:	Direct/Indirect LED Lay-In Fixtures Task Lighting at Work Surface
MECHANICAL REQUIREMENTS:	Standard Air Distribution
ELECTRICAL REQUIREMENTS:	Standard Electrical Distribution Convenience Outlets
TECHNOLOGY REQUIREMENTS:	Voice/Data Distribution
SPECIAL CRITERIA:	

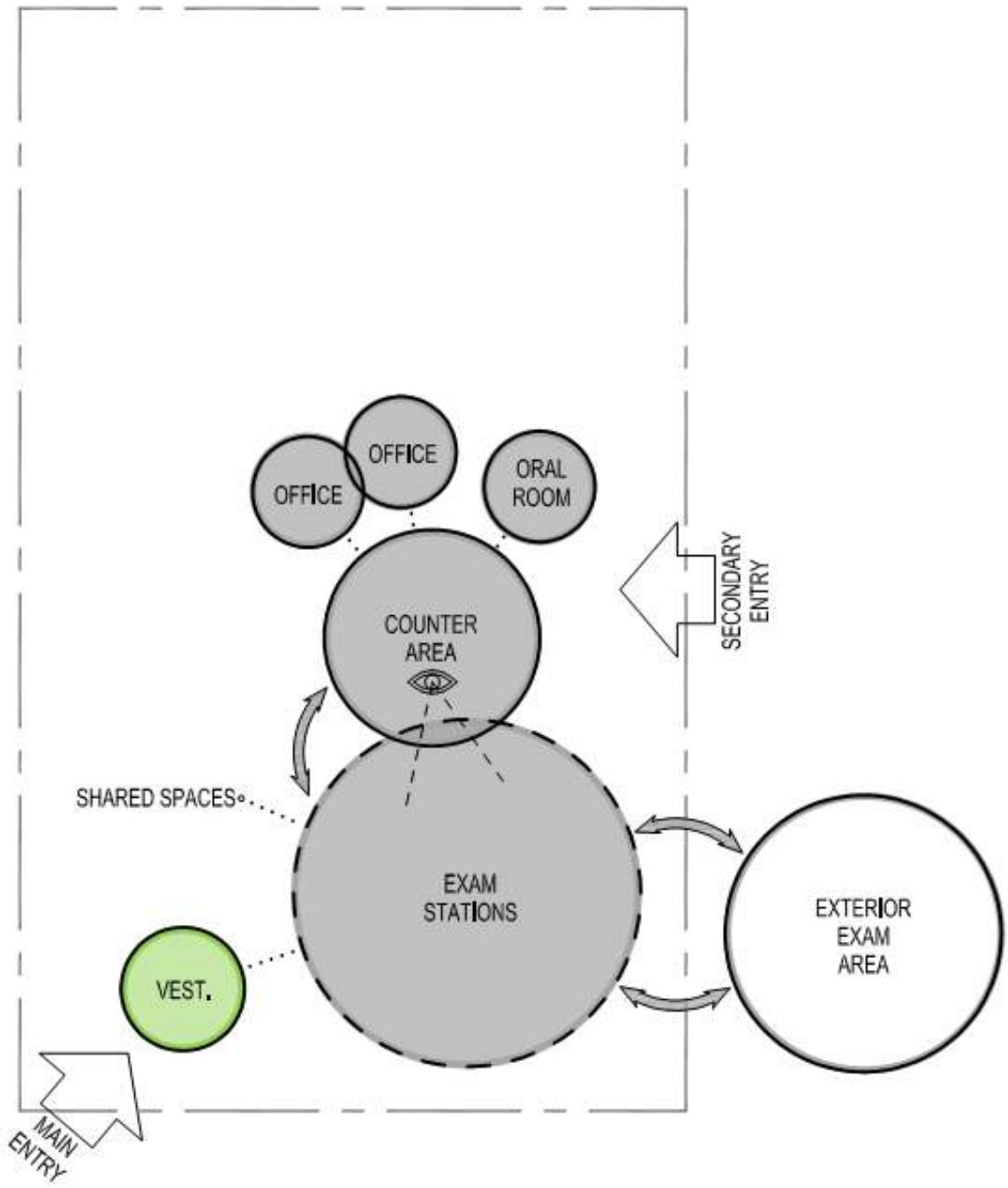
ROOM/SPACE NAME:	**Storage**
SQUARE FOOT AREA:	240 sf (12'x 20')
HOURS OF OPERATION:	Day Shift/On Call (out on site) - Typical Facility Hours are from 7:30 am – 4:30 pm
FUNCTION:	General Storage for Construction Dept.
ADJACENCIES:	Vehicle/Shop Areas
FURNITURE, FIXTURES & EQUIPMENT:	Industrial Shelving
ARCHITECTURAL:	
FLOOR:	Concrete (Light Broom)
WALLS:	Concrete (Paint)
CEILING:	Open to Structure (Steel Joist & Deck)-Paint
HEIGHT:	Min. of 10'-0"
DOORS/WINDOWS:	8'-0"x 8'-0" Opening (Double Door)
ACOUSTICAL REQUIREMENT:	
LIGHTING:	Ceiling Mounted LED Industrial Fixture
MECHANICAL REQUIREMENTS:	Standard Air Distribution
ELECTRICAL REQUIREMENTS:	Standard Electrical Distribution Convenience Outlets
TECHNOLOGY REQUIREMENTS:	
SPECIAL CRITERIA:	

ROOM/SPACE NAME:	**Secure Storage**
SQUARE FOOT AREA:	240 sf (12'x 20')
HOURS OF OPERATION:	Day Shift/On Call (out on site) - Typical Facility Hours are from 7:30 am – 4:30 pm
FUNCTION:	Secure Storage for Construction Dept.
ADJACENCIES:	Vehicle/Shop Areas
FURNITURE, FIXTURES & EQUIPMENT:	2'-0" deep industrial shelving Lockable cage area within storage
ARCHITECTURAL:	
FLOOR:	Concrete (Light Broom)
WALLS:	Concrete (Paint)
CEILING:	Open to Structure (Steel Joist & Deck)-Paint
HEIGHT:	Min. of 10'-0"
DOORS/WINDOWS:	8'-0"x 8'-0" Opening (Double Door)
ACOUSTICAL REQUIREMENT:	
LIGHTING:	Ceiling Mounted LED Industrial Fixture
MECHANICAL REQUIREMENTS:	Standard Air Distribution
ELECTRICAL REQUIREMENTS:	Standard Electrical Distribution Convenience Outlets
TECHNOLOGY REQUIREMENTS:	
SPECIAL CRITERIA:	Secure Room

ROOM/SPACE NAME:	**File Room**
SQUARE FOOT AREA:	240 sf (12'x 20')
HOURS OF OPERATION:	Day Shift/On Call (out on site) - Typical Facility Hours are from 7:30 am – 4:30 pm
FUNCTION:	File Storage for Construction Dept.
ADJACENCIES:	Consolidated Departmental Office Area
FURNITURE, FIXTURES & EQUIPMENT:	File Cabinets, Building Plan Hanging and/or Flat File Layout Table for large plan sets
ARCHITECTURAL:	
FLOOR:	Concrete (Carpet)
WALLS:	Steel Framing/Gypsum Board (Paint)
CEILING:	Acoustical Ceiling
HEIGHT:	Min. of 8'-6"
DOORS/WINDOWS:	Std. Door with Sidelight
ACOUSTICAL REQUIREMENT:	
LIGHTING:	Direct/Indirect LED Lay-In Fixtures
MECHANICAL REQUIREMENTS:	Standard Air Distribution
ELECTRICAL REQUIREMENTS:	Standard Electrical Distribution Convenience Outlets
TECHNOLOGY REQUIREMENTS:	
SPECIAL CRITERIA:	

ROOM/SPACE NAME:	**Locker Room**
SQUARE FOOT AREA:	280 sf (14'x 20')
HOURS OF OPERATION:	Day Shift/On Call (out on site) - Typical Facility Hours are from 7:30 am – 4:30 pm
FUNCTION:	Gear Storage for Staff (16 Lockers)
ADJACENCIES:	
FURNITURE, FIXTURES & EQUIPMENT:	2'-0" x 2'-0" Vented Lockers 2'-0" Wide Benches (1) 21"x42" Bench with Back per ADA Requ. (Min.)
ARCHITECTURAL:	
FLOOR:	Concrete (Tile)
WALLS:	Concrete (Paint)
CEILING:	Acoustical Ceiling
HEIGHT:	Min. of 8'-6"
DOORS/WINDOWS:	Std. Door
ACOUSTICAL REQUIREMENT:	STC 45-48
LIGHTING:	Direct/Indirect LED Lay-In Fixtures
MECHANICAL REQUIREMENTS:	Standard Air Distribution Dedicated Exhaust at Restroom
ELECTRICAL REQUIREMENTS:	Standard Electrical Distribution Convenience Outlet
TECHNOLOGY REQUIREMENTS:	NA
SPECIAL CRITERIA:	

ROOM/SPACE NAME:	**Materials Testing Lab**
SQUARE FOOT AREA:	400 sf (20'x 20')
HOURS OF OPERATION:	Day Shift/On Call (out on site) - Typical Facility Hours are from 7:30 am – 4:30 pm
FUNCTION:	Materials Testing
ADJACENCIES:	Separate/remote location
FURNITURE, FIXTURES & EQUIPMENT:	
ARCHITECTURAL:	
FLOOR:	Concrete (Light Broom)
WALLS:	Concrete (Paint)
CEILING:	Open to Structure (Steel Joist & Deck)-Paint
HEIGHT:	Min. of 8'-6"
DOORS/WINDOWS:	4'-0" Opening
ACOUSTICAL REQUIREMENT:	
LIGHTING:	Dust-Proof Ceiling Mounted LED Industrial Fixture
MECHANICAL REQUIREMENTS:	Dedicated Air Distribution Dedicated Intake/Exhaust at Equipment Water Drop Reels Utility Sink
ELECTRICAL REQUIREMENTS:	Standard Electrical Distribution Convenience Outlet Dedicated Special Purpose Outlet at Equipment 220v outlet(s)
TECHNOLOGY REQUIREMENTS:	NA
SPECIAL CRITERIA:	Function of the Room Includes Tests that Produce High Volumes, Dust, etc. and Should be Located in a Remote Location


OFFICE
OFFICE
ORAL ROOM
SECONDARY ENTRY
COUNTER AREA
SHARED SPACES
EXAM STATIONS
EXTERIOR EXAM AREA
VEST.
MAIN ENTRY

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ROOM/SPACE NAME:	**Supervisor Office**
SQUARE FOOT AREA:	120 sf (10'x 12')
HOURS OF OPERATION:	8:00 am – 4:30 pm M-F
FUNCTION:	Private Office for (1) Employees
ADJACENCIES:	Near Front Entry of Facility Exam Area
FURNITURE, FIXTURES & EQUIPMENT:	Systems Furniture (1) Small Safe
ARCHITECTURAL:	
FLOOR:	Concrete (Carpet)
WALLS:	Steel Framing/Gypsum Board (Paint)
CEILING:	Acoustical Ceiling
HEIGHT:	Min. of 8'-6"
DOORS/WINDOWS:	Std. Door with Sidelight
ACOUSTICAL REQUIREMENT:	STC 52-55
LIGHTING:	Direct/Indirect LED Lay-In Fixtures Task Lighting at Work Surface
MECHANICAL REQUIREMENTS:	Standard Air Distribution
ELECTRICAL REQUIREMENTS:	Standard Electrical Distribution Convenience Outlet
TECHNOLOGY REQUIREMENTS:	Voice/Data Distribution
SPECIAL CRITERIA:	Office needs to be secure

ROOM/SPACE NAME:	**Shared Office**
SQUARE FOOT AREA:	256 sf (16'x 16')
HOURS OF OPERATION:	8:00 am – 4:30 pm M-F
FUNCTION:	Private Office for (4) Employees
ADJACENCIES:	Shared Office Exam Area
FURNITURE, FIXTURES & EQUIPMENT:	Systems Furniture
ARCHITECTURAL:	
FLOOR:	Concrete (Carpet)
WALLS:	Steel Framing/Gypsum Board (Paint)
CEILING:	Acoustical Ceiling
HEIGHT:	Min. of 8'-6"
DOORS/WINDOWS:	Std. Door with Sidelight
ACOUSTICAL REQUIREMENT:	STC 52-55
LIGHTING:	Direct/Indirect LED Lay-In Fixtures Task Lighting at Work Surface
MECHANICAL REQUIREMENTS:	Standard Air Distribution
ELECTRICAL REQUIREMENTS:	Standard Electrical Distribution Convenience Outlet
TECHNOLOGY REQUIREMENTS:	Voice/Data Distribution
SPECIAL CRITERIA:	Office needs to be secure

ROOM/SPACE NAME:	**Counter Area**
SQUARE FOOT AREA:	192 sf (8'x 24')
HOURS OF OPERATION:	
FUNCTION:	Public Interface/Reception Workstations for (4) employees
ADJACENCIES:	Exam Area, Shared Office(s)
FURNITURE, FIXTURES & EQUIPMENT:	Fixed Counter with ADA accommodations Cabinet Storage beneath counter
ARCHITECTURAL:	
FLOOR:	Concrete (Carpet)
WALLS:	Steel Framing/Gypsum Board (Paint)
CEILING:	Acoustical Ceiling
HEIGHT:	Min. of 8'-6"
DOORS/WINDOWS:	Std. Door
ACOUSTICAL REQUIREMENT:	Open to exam area
LIGHTING:	Direct/Indirect LED Lay-In Fixtures Task Lighting at Work Surface
MECHANICAL REQUIREMENTS:	Standard Air Distribution
ELECTRICAL REQUIREMENTS:	Standard Electrical Distribution Convenience Outlet
TECHNOLOGY REQUIREMENTS:	Voice/Data Distribution
SPECIAL CRITERIA:	Area to be Securable in Emergency Scenarios Provide Secondary Emergency Staff Exit

ROOM/SPACE NAME:	**Storage Room**
SQUARE FOOT AREA:	48 sf (6'x 8')
HOURS OF OPERATION:	
FUNCTION:	General Storage for Exam Department
ADJACENCIES:	
FURNITURE, FIXTURES & EQUIPMENT:	Adjustable shelving
ARCHITECTURAL:	
FLOOR:	Concrete (Carpet)
WALLS:	Steel Framing/Gypsum Board (Paint)
CEILING:	Acoustical Ceiling
HEIGHT:	Min. of 8'-6"
DOORS/WINDOWS:	Std. Door
ACOUSTICAL REQUIREMENT:	
LIGHTING:	Direct/Indirect LED Lay-In Fixtures
MECHANICAL REQUIREMENTS:	Standard Air Distribution
ELECTRICAL REQUIREMENTS:	Standard Electrical Distribution Convenience Outlet
TECHNOLOGY REQUIREMENTS:	Voice/Data Distribution
SPECIAL CRITERIA:	

ROOM/SPACE NAME:	**Exam Area**
SQUARE FOOT AREA:	750 sf (25'x 30')
HOURS OF OPERATION:	
FUNCTION:	Public Test Area
ADJACENCIES:	Counter Area
FURNITURE, FIXTURES & EQUIPMENT:	Prefabricated testing stations
ARCHITECTURAL:	
FLOOR:	Concrete (Carpet)
WALLS:	Steel Framing/Gypsum Board (Paint)
CEILING:	Acoustical Ceiling
HEIGHT:	Min. of 8'-6"
DOORS/WINDOWS:	Std. Door
ACOUSTICAL REQUIREMENT:	
LIGHTING:	Direct/Indirect LED Lay-In Fixtures
MECHANICAL REQUIREMENTS:	Standard Air Distribution
ELECTRICAL REQUIREMENTS:	Standard Electrical Distribution Convenience Outlet Additional Outlets for Testing Stations
TECHNOLOGY REQUIREMENTS:	Voice/Data Distribution Dedicated Ethernet for Testing Stations
SPECIAL CRITERIA:	Area to be Securable in Emergency Scenarios Provide waiting area for 4-5 customers including a small pre-test prep area Open testing area needs to be located to minimize acoustical disturbance while maintaining clear observation from counter area

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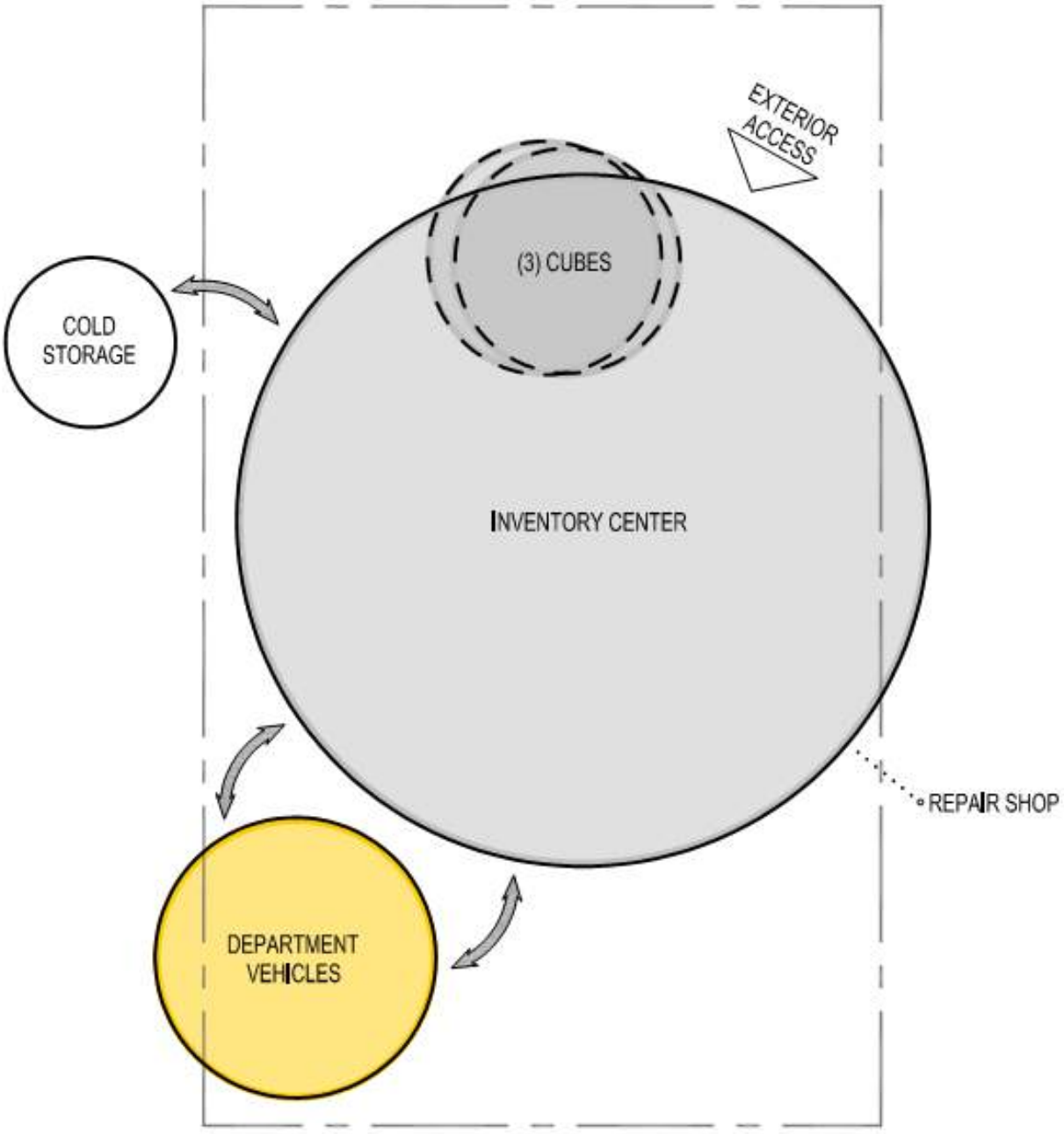
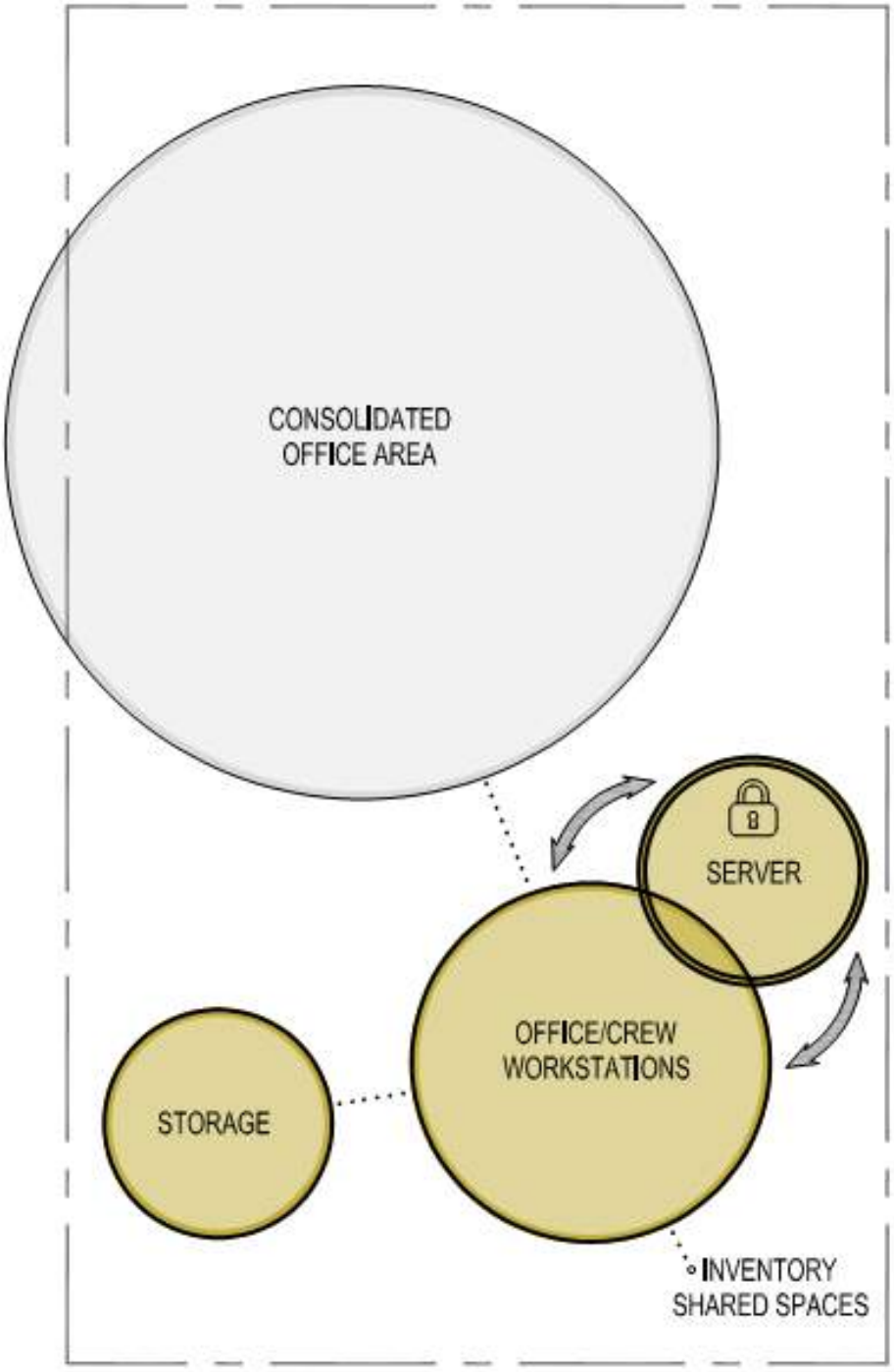

EXTERIOR ACCESS
(3) CUBES
COLD STORAGE
INVENTORY CENTER
REPAIR SHOP
DEPARTMENT VEHICLES

Dept/Dedicated	Size	Usage	Count	Class	Vehicle Description
Inventory	Medium	Warm Storage	1	-	Pick Up
Inventory	Small	Warm Storage	1	-	Small Forklift

ROOM/SPACE NAME:	**Inventory Room**
SQUARE FOOT AREA:	4,800 sf (60'x 80')
HOURS OF OPERATION:	
FUNCTION:	Centralized Shipping and Receiving for Facility
ADJACENCIES:	Exterior Access
FURNITURE, FIXTURES & EQUIPMENT:	Pallet Racking, Storage Cabinets, Secure Fence Area for Oil Storage
ARCHITECTURAL:	
FLOOR:	Concrete (Polish/Epoxy)
WALLS:	Concrete (Paint)
CEILING:	Open to Structure (Steel Joist & Deck)-Paint
HEIGHT:	16'-0"
DOORS/WINDOWS:	3" Insulated Overhead Doors at 10'x14' (standard) with (3) Rows of Vision Glazing
ACOUSTICAL REQUIREMENT:	
LIGHTING:	Ceiling Mounted LED Industrial Fixture
MECHANICAL REQUIREMENTS:	Standard Air Distribution Make-Up Air (Forklift)
ELECTRICAL REQUIREMENTS:	Standard Electrical Distribution Convenience Outlet Charging Outlet for Forklift
TECHNOLOGY REQUIREMENTS:	Voice/Data Distribution
SPECIAL CRITERIA:	Need to accommodate hazmat (used oil/oil filters) Blade/Cutting Edge Storage Provide area for inventory vending machine system (vests, gloves, etc.)

ROOM/SPACE NAME:	**Cubicle (3)**
SQUARE FOOT AREA:	64 sf (8'x 8')
HOURS OF OPERATION:	
FUNCTION:	Open Office Work Area for (1) Employee
ADJACENCIES:	Inventory Room
FURNITURE, FIXTURES & EQUIPMENT:	Systems Furniture
ARCHITECTURAL:	
FLOOR:	Concrete (Tile/Epoxy)
WALLS:	Concrete (Burnished/Paint)
CEILING:	Acoustical Ceiling (Above)
HEIGHT:	Min. of 8'-6"
DOORS/WINDOWS:	-
ACOUSTICAL REQUIREMENT:	Clear Above
LIGHTING:	Direct/Indirect LED Lay-In Fixtures Task Lighting at Work Surface
MECHANICAL REQUIREMENTS:	Standard Air Distribution
ELECTRICAL REQUIREMENTS:	Standard Electrical Distribution Convenience Outlets
TECHNOLOGY REQUIREMENTS:	Voice/Data Distribution
SPECIAL CRITERIA:	


CONSOLIDATED
OFFICE AREA
SERVER
OFFICE/CREW
WORKSTATIONS
STORAGE
INVENTORY
SHARED SPACES

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ROOM/SPACE NAME:	**Storage**
SQUARE FOOT AREA:	168 sf (12'x 14')
HOURS OF OPERATION:	
FUNCTION:	General Equipment Storage for IT Department
ADJACENCIES:	IT Office/Workroom
FURNITURE, FIXTURES & EQUIPMENT:	Fixed Counter, Storage Racking
ARCHITECTURAL:	
FLOOR:	Concrete (Polish/Epoxy)
WALLS:	Steel Framing/Gypsum Board (Paint)
CEILING:	Acoustical Ceiling
HEIGHT:	8'-6"
DOORS/WINDOWS:	Std. Door
ACOUSTICAL REQUIREMENT:	
LIGHTING:	Ceiling Mounted LED Industrial Fixture
MECHANICAL REQUIREMENTS:	Standard Air Distribution
ELECTRICAL REQUIREMENTS:	Standard Electrical Distribution Convenience Outlet
TECHNOLOGY REQUIREMENTS:	Voice/Data Distribution
SPECIAL CRITERIA:	

ROOM/SPACE NAME:	**Office/Workroom**
SQUARE FOOT AREA:	192 sf (12'x 16')
HOURS OF OPERATION:	
FUNCTION:	Private Office With Adjacent Work Area for (1) Employee
ADJACENCIES:	Office should be located near but separate from the consolidated office area
FURNITURE, FIXTURES & EQUIPMENT:	Systems Furniture Work Counter
ARCHITECTURAL:	
FLOOR:	Concrete (Carpet)
WALLS:	Steel Framing/Gypsum Board (Paint)
CEILING:	Acoustical Ceiling
HEIGHT:	Min. of 8'-6"
DOORS/WINDOWS:	Std. Door with Sidelight
ACOUSTICAL REQUIREMENT:	STC 52-55
LIGHTING:	Direct/Indirect LED Lay-In Fixtures Task Lighting at Work Surface
MECHANICAL REQUIREMENTS:	Standard Air Distribution
ELECTRICAL REQUIREMENTS:	Standard Electrical Distribution Convenience Outlet Continuous Electrical Plug Strip at Wall
TECHNOLOGY REQUIREMENTS:	Voice/Data Distribution Dedicated Ethernet Data Banks – Min. of (30)
SPECIAL CRITERIA:	

ROOM/SPACE NAME:	**Server**
SQUARE FOOT AREA:	168 sf (12'x 14')
HOURS OF OPERATION:	
FUNCTION:	Server, Phone System, Alarm Panels
ADJACENCIES:	Office/Workroom
FURNITURE, FIXTURES & EQUIPMENT:	Dedicated Server Racking
ARCHITECTURAL:	
FLOOR:	Concrete (Polish/Epoxy)
WALLS:	Steel Framing/Gypsum Board (Paint)
CEILING:	Open to Structure (Steel Joist & Deck)-Paint
HEIGHT:	10'-0"
DOORS/WINDOWS:	Std. Door
ACOUSTICAL REQUIREMENT:	
LIGHTING:	Ceiling Mounted LED Industrial Fixture
MECHANICAL REQUIREMENTS:	Dedicated Air Distribution Isolated Humidity and Cooling Control
ELECTRICAL REQUIREMENTS:	Standard Electrical Distribution Convenience Outlet Dedicated Electrical (Head-In)
TECHNOLOGY REQUIREMENTS:	Voice/Data Distribution Dedicated Data (Head-In) Phone Connection
SPECIAL CRITERIA:	Secure Access Mount 4'x8' Plywood at Walls for Equipment Mounting

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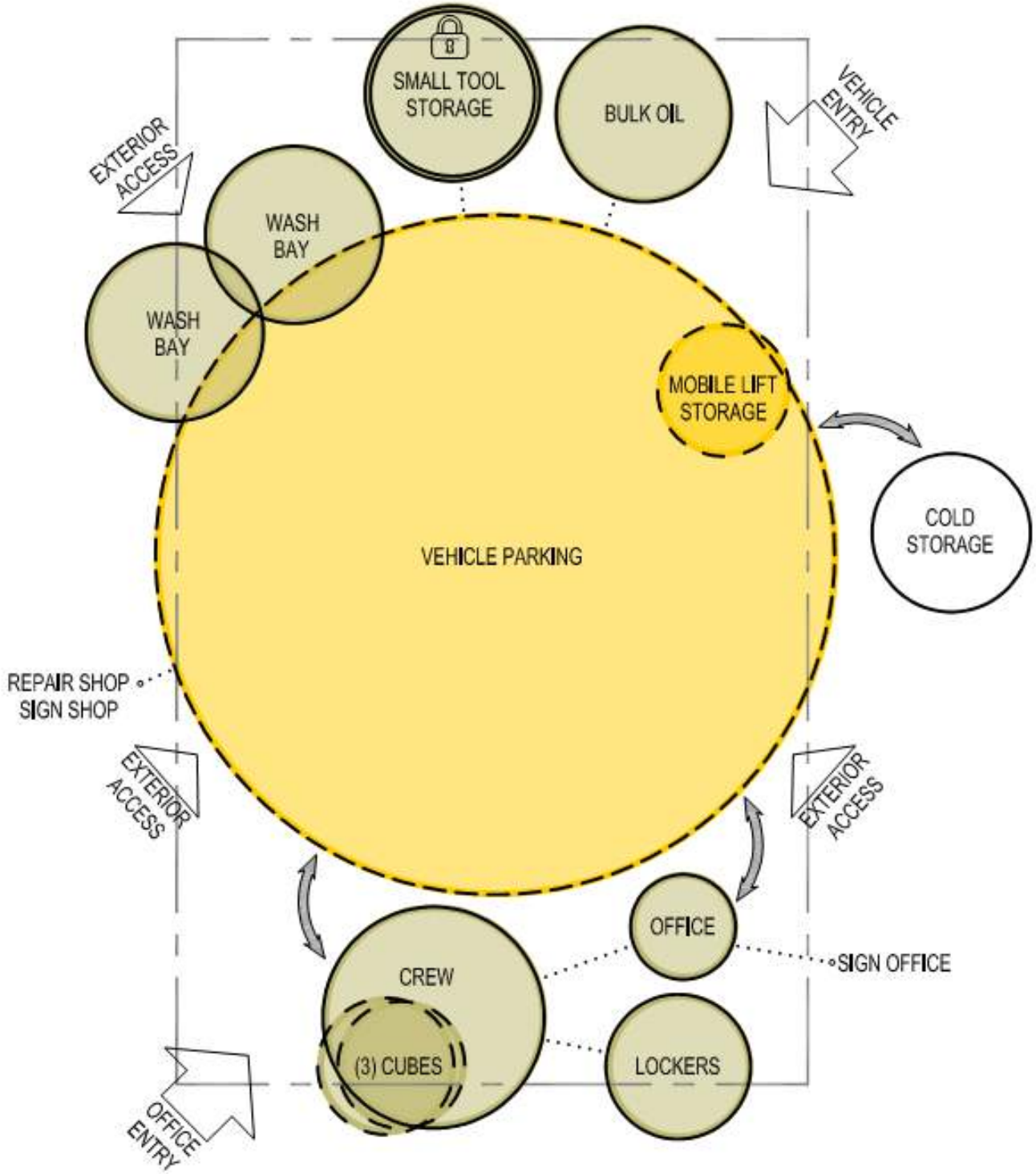
SMALL TOOL STORAGE
BULK OIL
VEHICLE ENTRY
EXTERIOR ACCESS
WASH BAY
WASH BAY
MOBILE LIFT STORAGE
COLD STORAGE
VEHICLE PARKING
REPAIR SHOP
SIGN SHOP
EXTERIOR ACCESS
EXTERIOR ACCESS
OFFICE
SIGN OFFICE
CREW
(3) CUBES
LOCKERS
OFFICE ENTRY

Dept/Dedicated	Size	Usage	Count	Class	Vehicle Description
Maintenance	Small	Cold Storage	2	-	Rollers
Maintenance	Small	Cold Storage	7	-	Skidsteer Attachments
Maintenance	Medium	Cold Storage	1	-	Culvert Crew Trailer
Maintenance	Medium	Cold Storage	2	-	Scorpion Trailer
Maintenance	Medium	Cold Storage	1	-	Auto Flaggers
Maintenance	Medium	Cold Storage	2	-	Sign Trailer
Maintenance	Small	Cold Storage	8	-	Attachments
Maintenance	Small	Cold Storage	1	-	Compaction Breaker
Maintenance	Small	Cold Storage	1	-	Swing Mowers
Maintenance	Medium	Cold Storage	1	-	3 Tilt Bed Trailers
Maintenance	Medium	Cold Storage	1	-	Batwing Mower
Maintenance	Small	Cold Storage	3	-	Mower Attachments
Maintenance	Small	Cold Storage	1	-	Chipper
Maintenance	Large	Cold Storage	1	-	Plow Wing Storage
Maintenance	Small	Cold Storage	1	-	Trench Box Trailer
Maintenance	Small	Cold Storage	1	-	Garbage Truck
Maintenance	Medium	Warm Storage	1	254	Herbicide Truck
Maintenance	Large	Warm Storage	1	770	Motor Grader
Maintenance	Large	Warm Storage	2	-	Sno-Go
Maintenance	Medium	Warm Storage	1	-	Elgin Sweeper
Maintenance	Small	Warm Storage	2	-	Culvert Steamer
Maintenance	Large	Warm Storage	1	320	Tanker Truck
Maintenance	Medium	Warm Storage	1	-	Vactor Trailer
Maintenance	Large	Warm Storage	1	760	Loader 4x4
Maintenance	Oversized	Warm Storage	1	352	Semi-Tractor Trailer
Maintenance	Small	Warm Storage	1	-	Rosco Sweeper
Maintenance	Large	Warm Storage	1	310	Guardrail Truck
Maintenance	Medium	Warm Storage	1	721	Rubber Tire Backhoe
Maintenance	Medium	Warm Storage	2	425	Mower Tractors
Maintenance	Medium	Warm Storage	1	320	Slurry Tractor
Maintenance	Large	Warm Storage	1	346	Distributor Truck
Maintenance	Oversized	Warm Storage	1	346	Water Tanker
Maintenance	Large	Warm Storage	1	346	Water Truck
Maintenance	Small	Warm Storage	1	727	Skidsteer
Maintenance	Small	Warm Storage	1	668	Air Compressor Trailer
Maintenance	Oversized	Warm Storage	2	-	Future Tow Plows
Maintenance	Medium	Warm Storage	1	-	Loader Tractor
Maintenance	Medium	Warm Storage	1	-	Plow Blade Storage
Maintenance	Large	Warm Storage	1	-	TM215649 Trackless
Maintenance	Large	Warm Storage	7	330	Single Axle Plow Trucks
Maintenance	Large	Warm Storage	6	350	Tandem Axle Plow Trucks
Maintenance	Small	Warm Storage	1	-	Tennent Sweeper

Maintenance	Small	Warm Storage	1	-	Forklift
Maintenance	Medium	Warm Storage	4	184	Pick Up
Maintenance	Large	Warm Storage	1	-	1 Ton Six Pack Truck
Maintenance	Large	Warm Storage	1	-	Excavator
Maintenance	Medium	Warm Storage	1	-	Patch Trailer

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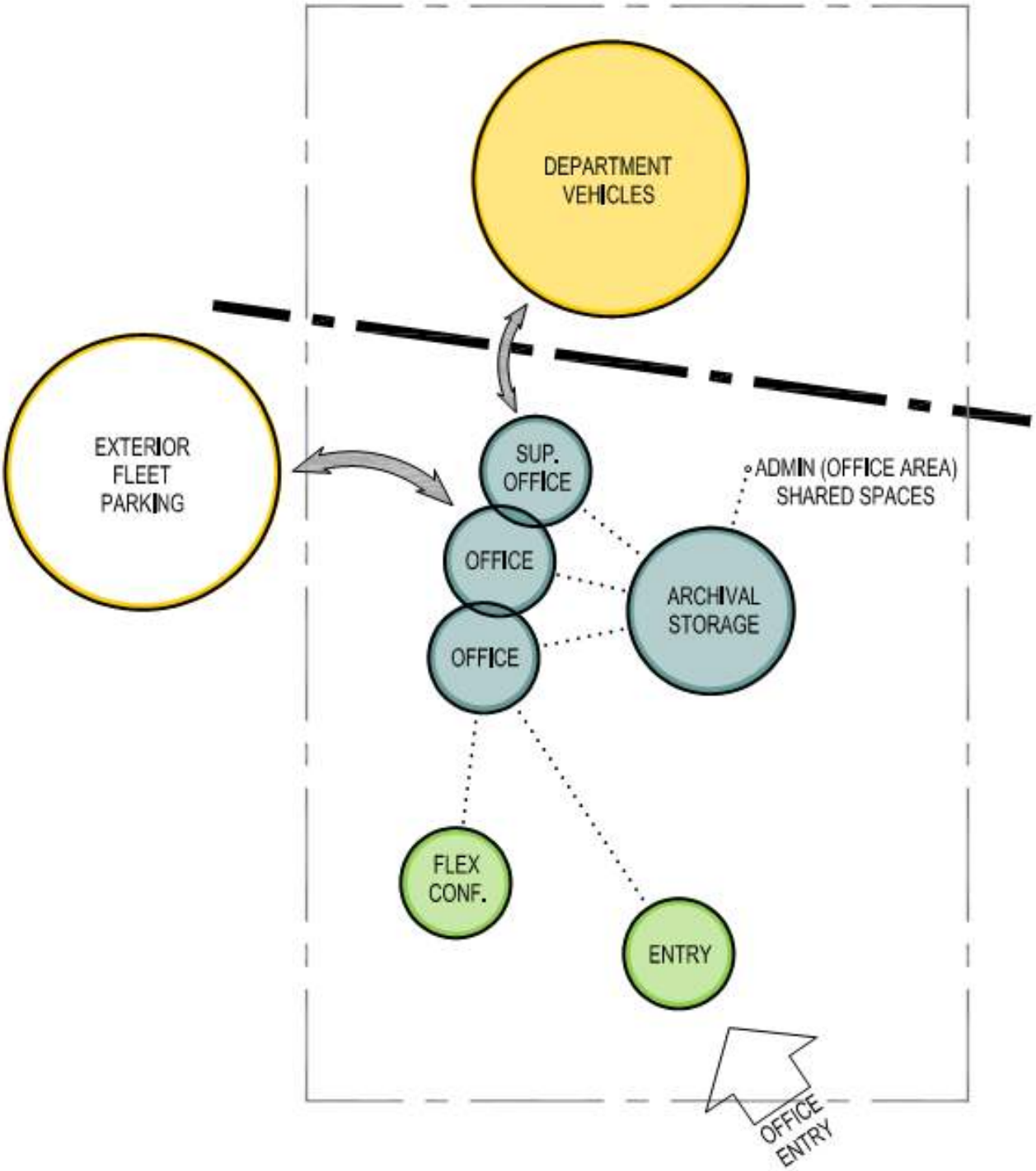
ROOM/SPACE NAME:	**Supervisor Office (2)**
SQUARE FOOT AREA:	120 sf (10'x12')
HOURS OF OPERATION:	Day Shift/On Call (out on site) - Typical Facility Hours are from 7:30 am – 4:30 pm
FUNCTION:	Private Office for (1) Employees
ADJACENCIES:	(1) Consolidated Office Area (1) Adjacent to Shop/Vehicle Areas, Sign/Traffic Services
FURNITURE, FIXTURES & EQUIPMENT:	Systems Furniture
ARCHITECTURAL:	
FLOOR:	Concrete (Epoxy/Resilient Tile)
WALLS:	Concrete (Burnished/Paint)
CEILING:	Acoustical Ceiling
HEIGHT:	Min. of 8'-6"
DOORS/WINDOWS:	Std. Door with Sidelight
ACOUSTICAL REQUIREMENT:	STC 52-55
LIGHTING:	Direct/Indirect LED Lay-In Fixtures Task Lighting at Work Surface
MECHANICAL REQUIREMENTS:	Standard Air Distribution
ELECTRICAL REQUIREMENTS:	Standard Electrical Distribution Convenience Outlet
TECHNOLOGY REQUIREMENTS:	Voice/Data Distribution
SPECIAL CRITERIA:	

ROOM/SPACE NAME:	**Cubicle (3)**
SQUARE FOOT AREA:	64 sf (8'x 8')
HOURS OF OPERATION:	Day Shift/On Call (out on site) - Typical Facility Hours are from 7:30 am – 4:30 pm
FUNCTION:	(3) Shared office areas for staff (1) Dedicated office area
ADJACENCIES:	Adjacent to Shop/Vehicle Areas/Crew Room
FURNITURE, FIXTURES & EQUIPMENT:	Systems Furniture
ARCHITECTURAL:	
FLOOR:	Concrete (Epoxy/Resilient Tile)
WALLS:	Concrete (Burnished/Paint)
CEILING:	Acoustical Ceiling (Above)
HEIGHT:	Min. of 8'-6" (Clear Above)
DOORS/WINDOWS:	-
ACOUSTICAL REQUIREMENT:	
LIGHTING:	Direct/Indirect LED Lay-In Fixtures Task Lighting at Work Surface
MECHANICAL REQUIREMENTS:	Standard Air Distribution
ELECTRICAL REQUIREMENTS:	Standard Electrical Distribution Convenience Outlets
TECHNOLOGY REQUIREMENTS:	Voice/Data Distribution
SPECIAL CRITERIA:	-

ROOM/SPACE NAME:	**Crew Room**
SQUARE FOOT AREA:	1,000 sf (20'x 50')
HOURS OF OPERATION:	Day Shift/On Call (out on site) - Typical Facility Hours are from 7:30 am – 4:30 pm
FUNCTION:	Central Meeting Space for Maintenance Staff (12-15 Employees)
ADJACENCIES:	Office, Vehicle Parking
FURNITURE, FIXTURES & EQUIPMENT:	Movable Tables and Chairs Kitchenette with Counter and Storage Cabinets Kitchen Equipment per District Standards Fixed Counter with Upper and Lower Storage Cabinets
ARCHITECTURAL:	
FLOOR:	Concrete (Polish/Tile)
WALLS:	Concrete (Paint)
CEILING:	Acoustical Ceiling
HEIGHT:	Min. of 8'-6"
DOORS/WINDOWS:	Std. Door with Sidelight
ACOUSTICAL REQUIREMENT:	STC 45-48
LIGHTING:	Direct/Indirect LED Lay-In Fixtures Task Lighting at Kitchenette
MECHANICAL REQUIREMENTS:	Standard Air Distribution Dedicated Exhaust at Kitchen Equipment (As Required)
ELECTRICAL REQUIREMENTS:	Standard Electrical Distribution Convenience Outlet Plug Strip
TECHNOLOGY REQUIREMENTS:	Voice/Data Distribution Wall-Mounted Television(s) AV Equipment for Training/Presentation
SPECIAL CRITERIA:	

ROOM/SPACE NAME:	**Locker Room**
SQUARE FOOT AREA:	280 sf (14'x 20')
HOURS OF OPERATION:	Day Shift/On Call (out on site) - Typical Facility Hours are from 7:30 am – 4:30 pm
FUNCTION:	Gear Storage/Restroom for Staff
ADJACENCIES:	Crew Room, Vehicle Parking, Office
FURNITURE, FIXTURES & EQUIPMENT:	2'-0" x 2'-0" Vented Lockers 2'-0" Wide Benches (1) 21"x42" Bench with Back per ADA Requ. (Min.)
ARCHITECTURAL:	
FLOOR:	Concrete (Epoxy/Tile/Resilient)
WALLS:	Concrete (Paint)
CEILING:	Acoustical Ceiling
HEIGHT:	Min. of 8'-6"
DOORS/WINDOWS:	Std. Door
ACOUSTICAL REQUIREMENT:	STC 45-48
LIGHTING:	Direct/Indirect LED Lay-In Fixtures
MECHANICAL REQUIREMENTS:	Standard Air Distribution Dedicated Exhaust at Restroom
ELECTRICAL REQUIREMENTS:	Standard Electrical Distribution Convenience Outlet
TECHNOLOGY REQUIREMENTS:	NA
SPECIAL CRITERIA:	


DEPARTMENT VEHICLES
EXTERIOR FLEET PARKING
SUP. OFFICE
ADMIN (OFFICE AREA) SHARED SPACES
OFFICE
ARCHIVAL STORAGE
OFFICE
FLEX CONF.
ENTRY
OFFICE ENTRY

Dept/Dedicated	Size	Usage	Count	Class	Vehicle Description
Permit/RW	Medium	Warm Storage	2	-	Pick Up

ROOM/SPACE NAME:	**Supervisor Office**
SQUARE FOOT AREA:	120 sf (10'x 12')
HOURS OF OPERATION:	Day Shift/On Call (out on site) - Typical Facility Hours are from 7:30 am – 4:30 pm
FUNCTION:	Private Office for (1) Employees
ADJACENCIES:	Consolidated Departmental Office Area
FURNITURE, FIXTURES & EQUIPMENT:	Systems Furniture
ARCHITECTURAL:	
FLOOR:	Concrete (Carpet)
WALLS:	Steel Framing/Gypsum Board (Paint)
CEILING:	Acoustical Ceiling
HEIGHT:	Min. of 8'-6"
DOORS/WINDOWS:	Std. Door with Sidelight
ACOUSTICAL REQUIREMENT:	STC 52-55
LIGHTING:	Direct/Indirect LED Lay-In Fixtures Task Lighting at Work Surface
MECHANICAL REQUIREMENTS:	Standard Air Distribution
ELECTRICAL REQUIREMENTS:	Standard Electrical Distribution Convenience Outlet
TECHNOLOGY REQUIREMENTS:	Voice/Data Distribution
SPECIAL CRITERIA:	

ROOM/SPACE NAME:	**Office (2)**
SQUARE FOOT AREA:	100 sf (10'x 10')
HOURS OF OPERATION:	Day Shift/On Call (out on site) - Typical Facility Hours are from 7:30 am – 4:30 pm
FUNCTION:	Private Office for (1) Employees
ADJACENCIES:	Consolidated Departmental Office Area
FURNITURE, FIXTURES & EQUIPMENT:	Systems Furniture
ARCHITECTURAL:	
FLOOR:	Concrete (Carpet)
WALLS:	Steel Framing/Gypsum Board (Paint)
CEILING:	Acoustical Ceiling
HEIGHT:	Min. of 8'-6"
DOORS/WINDOWS:	Std. Door with Sidelight
ACOUSTICAL REQUIREMENT:	STC 52-55
LIGHTING:	Direct/Indirect LED Lay-In Fixtures Task Lighting at Work Surface
MECHANICAL REQUIREMENTS:	Standard Air Distribution
ELECTRICAL REQUIREMENTS:	Standard Electrical Distribution Convenience Outlet
TECHNOLOGY REQUIREMENTS:	Voice/Data Distribution
SPECIAL CRITERIA:	

ROOM/SPACE NAME:	**Archival Storage**
SQUARE FOOT AREA:	80 sf (10'x 12')
HOURS OF OPERATION:	Day Shift/On Call (out on site) - Typical Facility Hours are from 7:30 am – 4:30 pm
FUNCTION:	Storage for Archival Documents
ADJACENCIES:	Consolidated Departmental Office Area
FURNITURE, FIXTURES & EQUIPMENT:	Adjustable Wall Shelving
ARCHITECTURAL:	
FLOOR:	Concrete
WALLS:	Steel Framing/Gypsum Board (Paint)
CEILING:	Acoustical Ceiling
HEIGHT:	Min. of 8'-6"
DOORS/WINDOWS:	Std. Door with Sidelight
ACOUSTICAL REQUIREMENT:	STC 52-55
LIGHTING:	Direct/Indirect LED Lay-In Fixtures
MECHANICAL REQUIREMENTS:	Standard Air Distribution
ELECTRICAL REQUIREMENTS:	Standard Electrical Distribution Convenience Outlet
TECHNOLOGY REQUIREMENTS:	Voice/Data Distribution
SPECIAL CRITERIA:	

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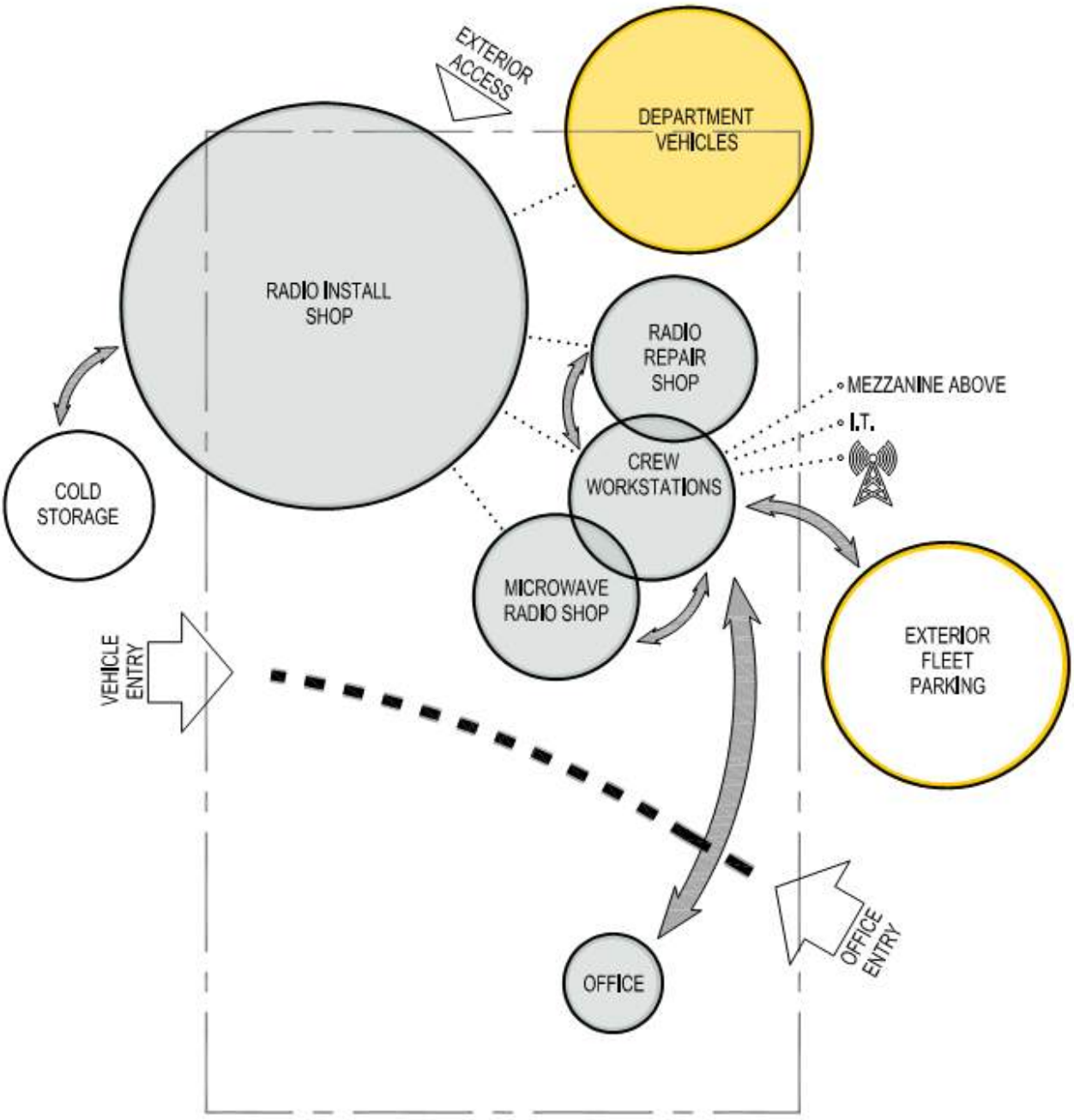

EXTERIOR ACCESS
DEPARTMENT VEHICLES
RADIO INSTALL SHOP
RADIO REPAIR SHOP
MEZZANINE ABOVE
I.T.
CREW WORKSTATIONS
COLD STORAGE
MICROWAVE RADIO SHOP
EXTERIOR FLEET PARKING
VEHICLE ENTRY
OFFICE ENTRY
OFFICE

Dept/Dedicated	Size	Usage	Count	Class	Vehicle Description
Radio Shop	Medium	Exterior	1	-	7-ton Trailer
Radio Shop	Medium	Warm Storage	1	152	Minivan
Radio Shop	Medium	Warm Storage	1	184	Pick Up
Radio Shop	Medium	Warm Storage	1	-	ATV/Trailer

ROOM/SPACE NAME:	**Office Crew**
SQUARE FOOT AREA:	480 sf (12'x 40')
HOURS OF OPERATION:	Day Shift/On Call (out on site) - Typical Facility Hours are from 7:30 am – 4:30 pm
FUNCTION:	Office Area for Radio Shop for (3) individual employee spaces
ADJACENCIES:	Crew Offices should be by Radio Repair Shop/Install Shop/Microwave Repair
FURNITURE, FIXTURES & EQUIPMENT:	Systems Furniture Counter/Desk Space (2) Large Monitors Kitchenette with Counter and Storage Cabinets Kitchen Equipment per District Standards
ARCHITECTURAL:	
FLOOR:	Concrete (Epoxy/Resilient Tile)
WALLS:	Concrete (Burnished/Paint)
CEILING:	Acoustical Ceiling
HEIGHT:	Min. of 8'-6"
DOORS/WINDOWS:	Std. Door with Sidelight Window(s) Looking into Repair Shop
ACOUSTICAL REQUIREMENT:	STC 45-48
LIGHTING:	Direct/Indirect LED Lay-In Fixtures Task Lighting at Work Surface Task Lighting at Kitchenette
MECHANICAL REQUIREMENTS:	Standard Air Distribution Hand Sink
ELECTRICAL REQUIREMENTS:	Standard Electrical Distribution Convenience Outlet
TECHNOLOGY REQUIREMENTS:	Voice/Data Distribution Direct Network Connection for Monitors (Additional to Standard Facility Data Distribution)
SPECIAL CRITERIA:	Network Connection (Exterior Satellite Tower)

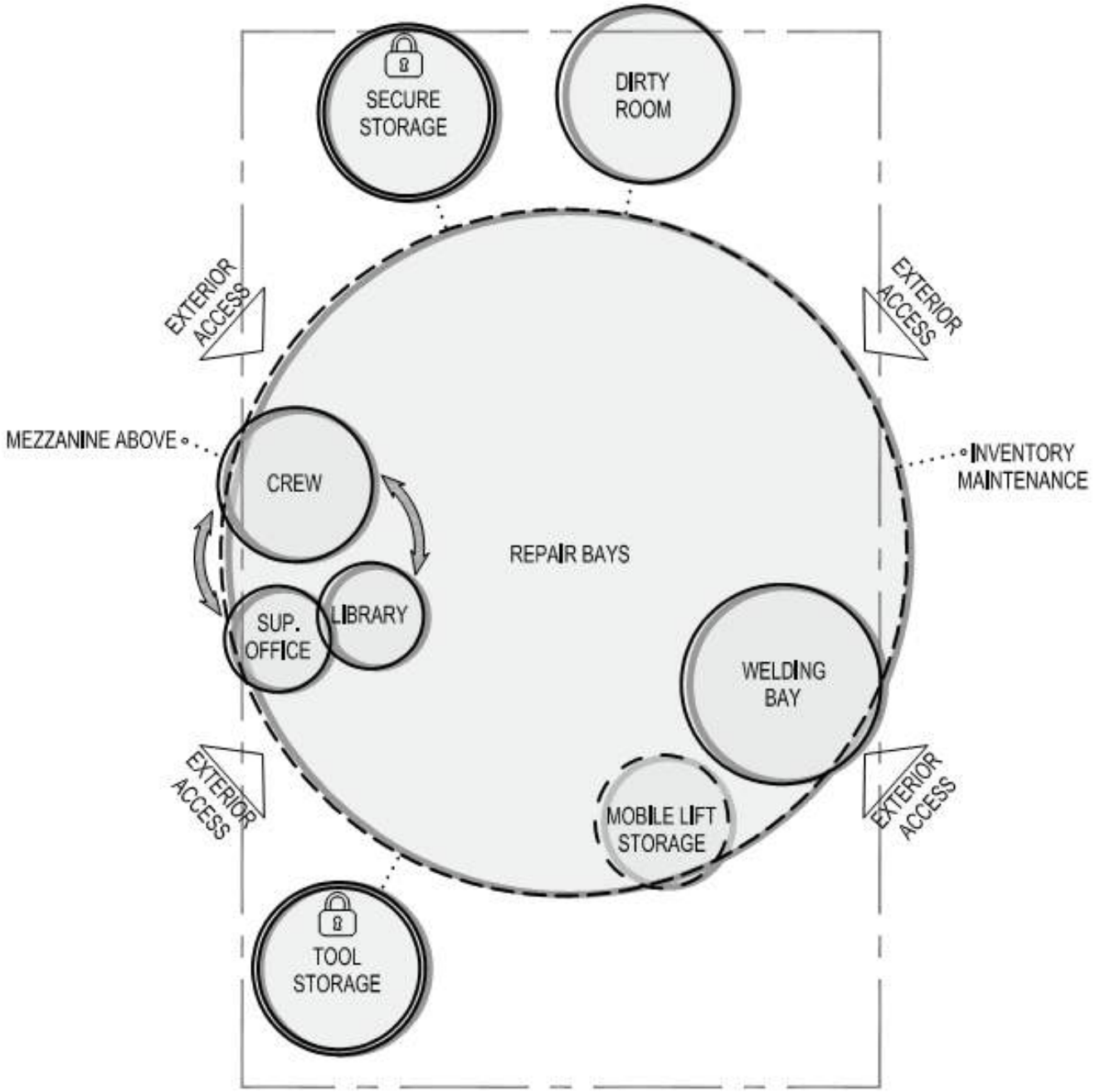
ROOM/SPACE NAME:	**Supervisor Office**
SQUARE FOOT AREA:	120 sf (10'x 12')
HOURS OF OPERATION:	Day Shift/On Call (out on site) - Typical Facility Hours are from 7:30 am – 4:30 pm
FUNCTION:	Private Office for (1) Employees
ADJACENCIES:	Consolidated Departmental Office Area
FURNITURE, FIXTURES & EQUIPMENT:	Systems Furniture (1) Large Monitor
ARCHITECTURAL:	
FLOOR:	Concrete (Carpet)
WALLS:	Steel Framing/Gypsum Board (Paint)
CEILING:	Acoustical Ceiling
HEIGHT:	Min. of 8'-6"
DOORS/WINDOWS:	Std. Door with Sidelight
ACOUSTICAL REQUIREMENT:	STC 52-55
LIGHTING:	Direct/Indirect LED Lay-In Fixtures Task Lighting at Work Surface
MECHANICAL REQUIREMENTS:	Standard Air Distribution
ELECTRICAL REQUIREMENTS:	Standard Electrical Distribution Convenience Outlet
TECHNOLOGY REQUIREMENTS:	Voice/Data Distribution Network Connection for Monitors (Additional to Standard Facility Data Distribution)
SPECIAL CRITERIA:	Network Connection (Exterior Satellite Tower)

ROOM/SPACE NAME:	**Radio Repair Shop**
SQUARE FOOT AREA:	800 sf (20'x 40')
HOURS OF OPERATION:	Day Shift/On Call (out on site) - Typical Facility Hours are from 7:30 am – 4:30 pm
FUNCTION:	Bench Repair/Work Area
ADJACENCIES:	Open to Install Shop, next to Office Crew
FURNITURE, FIXTURES & EQUIPMENT:	Work Bench, Dedicated Racks, Storage Cabinets
ARCHITECTURAL:	
FLOOR:	Concrete (Light Broom)
WALLS:	Concrete (Paint)
CEILING:	Open to Structure (Steel Joist & Deck)-Paint
HEIGHT:	Min. of 8'-6"
DOORS/WINDOWS:	Std. Door
ACOUSTICAL REQUIREMENT:	-
LIGHTING:	Ceiling Mounted LED Industrial Fixture
MECHANICAL REQUIREMENTS:	Standard Air Distribution Dedicated Exhaust (point of work) for soldering
ELECTRICAL REQUIREMENTS:	Standard Electrical Distribution Convenience Outlet
TECHNOLOGY REQUIREMENTS:	Voice/Data Distribution
SPECIAL CRITERIA:	Desktops Workstations Need Static Mats/Grounding on them

ROOM/SPACE NAME:	**Radio Install Shop**
SQUARE FOOT AREA:	1728 sf (32'x 54')
HOURS OF OPERATION:	Day Shift/On Call (out on site) - Typical Facility Hours are from 7:30 am – 4:30 pm
FUNCTION:	Garage Area for Radio Install
ADJACENCIES:	Open to Repair Shop, next to Office Crew
FURNITURE, FIXTURES & EQUIPMENT:	Work Bench, Storage Cabinets, Drill Press
ARCHITECTURAL:	
FLOOR:	Concrete (Light Broom)
WALLS:	Concrete (Paint)
CEILING:	Open to Structure (Steel Joist & Deck)-Paint
HEIGHT:	Min. of 20'-0"
DOORS/WINDOWS:	3" Insulated Overhead Doors at 16'x14' (standard) with (3) Rows of Vision Glazing
ACOUSTICAL REQUIREMENT:	-
LIGHTING:	Ceiling Mounted LED Industrial Fixture
MECHANICAL REQUIREMENTS:	Overhead Gas Fired Radiant Heat with Make-Up Air Units. 6" Wide Prefab. Trench Drains with Trash Bin Clean-Out Air and Water Reel Drop
ELECTRICAL REQUIREMENTS:	Standard Electrical Distribution Convenience Outlet Light and Power Reel Drops
TECHNOLOGY REQUIREMENTS:	
SPECIAL CRITERIA:	Need (2) Bays (large truck/passenger vehicle) to Accommodate Radio Install for Plows and Pick-up Vehicles

ROOM/SPACE NAME:	**Microwave Radio Repair Shop**
SQUARE FOOT AREA:	480 sf (16'x 30')
HOURS OF OPERATION:	Day Shift/On Call (out on site) - Typical Facility Hours are from 7:30 am – 4:30 pm
FUNCTION:	Work Area
ADJACENCIES:	Adjacent to Shop Areas/Office Crew
FURNITURE, FIXTURES & EQUIPMENT:	Work Bench, Dedicated Racks, Storage Cabinets
ARCHITECTURAL:	
FLOOR:	Concrete (Light Broom)
WALLS:	Concrete (Paint)
CEILING:	Open to Structure (Steel Joist & Deck)-Paint
HEIGHT:	Min. of 16'-0"
DOORS/WINDOWS:	3'-6"x 8'-0" Opening
ACOUSTICAL REQUIREMENT:	STC 45-48
LIGHTING:	Ceiling Mounted LED Industrial Fixture
MECHANICAL REQUIREMENTS:	Standard Air Distribution
ELECTRICAL REQUIREMENTS:	Standard Electrical Distribution Convenience Outlet
TECHNOLOGY REQUIREMENTS:	Voice/Data Distribution
SPECIAL CRITERIA:	Room should be isolated due to sound concerns from microwave radios

ROOM/SPACE NAME:	**Mezzanine**
SQUARE FOOT AREA:	1750 sf
HOURS OF OPERATION:	Day Shift/On Call (out on site) - Typical Facility Hours are from 7:30 am – 4:30 pm
FUNCTION:	Storage
ADJACENCIES:	Consolidated Area above Crew Room, Radio Repair Shop, and Microwave Radio Repair Shop
FURNITURE, FIXTURES & EQUIPMENT:	-
ARCHITECTURAL:	
FLOOR:	Concrete (Light Broom)
WALLS:	Concrete (Paint)
CEILING:	Open to Structure (Steel Joist & Deck)-Paint
HEIGHT:	Min. of 8’-6”
DOORS/WINDOWS:	-
ACOUSTICAL REQUIREMENT:	-
LIGHTING:	Ceiling Mounted LED Industrial Fixture
MECHANICAL REQUIREMENTS:	Standard Air Distribution
ELECTRICAL REQUIREMENTS:	Standard Electrical Distribution Convenience Outlet
TECHNOLOGY REQUIREMENTS:	Voice/Data Distribution
SPECIAL CRITERIA:	Area includes an 8’-8” room for microwave dish connection. This room is to include: -Dedicated HVAC -Dedicated data -Generator Hook-Up


SECURE STORAGE
DIRTY ROOM
EXTERIOR ACCESS
EXTERIOR ACCESS
MEZZANINE ABOVE
CREW
INVENTORY MAINTENANCE
REPAIR BAYS
SUP. OFFICE
LIBRARY
WELDING BAY
EXTERIOR ACCESS
MOBILE LIFT STORAGE
EXTERIOR ACCESS
TOOL STORAGE

Dept/Dedicated	Size	Usage	Count	Class	Vehicle Description
Repair Shop	Medium	Warm Storage	2	250	Field Truck
Repair Shop	Medium	Warm Storage	2	-	Motor Pool Vehicle

ROOM/SPACE NAME:	**Repair Bays (12)**
SQUARE FOOT AREA:	11,000 sf (100'x 110')
HOURS OF OPERATION:	Day Shift/On Call - Typical Facility Hours are from 7:30 am – 4:30 pm
FUNCTION:	Heavy Maintenance Bays for Fleet Vehicles
ADJACENCIES:	Welding Shop, Storage Areas, Office, Crew Room
FURNITURE, FIXTURES & EQUIPMENT:	Work Benches 5-ton bridge crane with separate 2- and 3-ton hoists (cranes to max. extents of repair bays) (1) 25,000# in-ground hoist, (1) 30,000/40,000# in-ground hoist, (2) 15,000# post lift, (2) full sets of mobile lifts
ARCHITECTURAL:	
FLOOR:	Concrete (Light Broom Finish)
WALLS:	Concrete
CEILING:	Open to Structure (Steel Joist & Deck)
HEIGHT:	Minimum Clearance of 20'-0"
DOORS/WINDOWS:	3" Insulated Overhead Doors at 18'x14' (standard) with (3) Rows of Vision Glazing
ACOUSTICAL REQUIREMENT:	
LIGHTING:	High Bay LED with Multi-Level Switching (no occupancy sensors) Task Lighting at Work Benches
MECHANICAL REQUIREMENTS:	In-Floor Radiant Heat with Make-Up Air Units Dedicated Vehicle Exhaust Reels (between bays) Gas Fired Unit Heaters at Overhead Doors CO2 and NO2 sensors 6" Wide Prefab. Trench Drains with Trash Bin Clean-Out Air, Water, and Oil Reels Utility Sink/Wash Fountain
ELECTRICAL REQUIREMENTS:	Standard Electrical Distribution Convenience Outlet Special Purpose Outlets at Equipment (220v outlet) Electric/Light Reels (2) outlets between each bay for mobile lift plug-in
TECHNOLOGY REQUIREMENTS:	Voice/Data Distribution
SPECIAL CRITERIA:	

ROOM/SPACE NAME:	**Welding Shop**
SQUARE FOOT AREA:	1,400 sf (40'x 60')
HOURS OF OPERATION:	Day Shift/On Call (out on site) - Typical Facility Hours are from 7:30 am – 4:30 pm
FUNCTION:	Dedicated Welding/Fabrication Bay for Facility
ADJACENCIES:	Exterior Access, Repair Bays
FURNITURE, FIXTURES & EQUIPMENT:	Work Benches, Material Storage Racks, Computer Work Station, 8 Ton Bridge Crane (3 & 5 Ton Hoists) Iron Worker, Hydraulic Press, Lathe, Drill Press, Grinder, Work Station for Computer
ARCHITECTURAL:	
FLOOR:	Concrete (Light Broom Finish)
WALLS:	Concrete
CEILING:	Open to Structure (Steel Joist & Deck)
HEIGHT:	Minimum Clearance of 20'-0"
DOORS/WINDOWS:	3" Insulated Overhead Doors at 16'x14' (standard) with (3) Rows of Vision Glazing (Exterior), 12'x12' Door Opening (Interior-Lined up with material storage racking)
ACOUSTICAL REQUIREMENT:	Provide noise isolation for room
LIGHTING:	High Bay LED with Multi-Level Switching (no occupancy sensors) Task Lighting at Work Benches
MECHANICAL REQUIREMENTS:	In-Floor Radiant Heat with Make-Up Air Units Gas Fired Unit Heaters at Overhead Doors 6" Wide Prefab. Trench Drains with Trash Bin Clean-Out Dedicated Welding Exhaust (Articulated Arm/Hood/Bench) Air & Water Reel
ELECTRICAL REQUIREMENTS:	Standard Electrical Distribution Convenience Outlet Special Purpose Outlets at Equipment Electric/Light Reels
TECHNOLOGY REQUIREMENTS:	Voice/Data Distribution
SPECIAL CRITERIA:	In-floor welding plates

ROOM/SPACE NAME:	**Tool Storage**
SQUARE FOOT AREA:	200 sf (20'x 20')
HOURS OF OPERATION:	Day Shift/On Call - Typical Facility Hours are from 7:30 am – 4:30 pm
FUNCTION:	Tool Storage for Mechanics
ADJACENCIES:	Repair Bays, Storage Areas
FURNITURE, FIXTURES & EQUIPMENT:	Industrial Shelving, Center Counter with Storage Below
ARCHITECTURAL:	
FLOOR:	Concrete (Light Broom Finish)
WALLS:	Concrete (Paint)
CEILING:	Open to Structure (Steel Joist & Deck)-Paint
HEIGHT:	Min. of 8'-6"
DOORS/WINDOWS:	8'-0"x 8'-0" Opening (Chain-Link Gate)
ACOUSTICAL REQUIREMENT:	
LIGHTING:	Ceiling Mounted LED Industrial Fixture
MECHANICAL REQUIREMENTS:	Standard Air Distribution
ELECTRICAL REQUIREMENTS:	Standard Electrical Distribution Convenience Outlet
TECHNOLOGY REQUIREMENTS:	
SPECIAL CRITERIA:	Area to be secure

ROOM/SPACE NAME:	**Dirty Room**
SQUARE FOOT AREA:	800 sf (20'x 40')
HOURS OF OPERATION:	Day Shift/On Call - Typical Facility Hours are from 7:30 am – 4:30 pm
FUNCTION:	Consolidated Noise, Fume, and Dust Operations
ADJACENCIES:	Repair Bays, Storage Areas, Welding Bay
FURNITURE, FIXTURES & EQUIPMENT:	Sandblaster, Parts Washer, Hose Bench with Crimper and Cut-Off Wheel, Chop Saw, Workbench
ARCHITECTURAL:	
FLOOR:	Concrete (Light Broom Finish)
WALLS:	Concrete (Paint)
CEILING:	Open to Structure (Steel Joist & Deck)-Paint
HEIGHT:	Min. of 8'-6"
DOORS/WINDOWS:	8'-0"x 8'-0" Opening (Double Door)
ACOUSTICAL REQUIREMENT:	
LIGHTING:	Ceiling Mounted LED Industrial Fixture Task Lighting at Workbench
MECHANICAL REQUIREMENTS:	Standard Air Distribution Dedicated Exhaust at Hose Bench & Parts Washer Air & Water Reels Floor Drain
ELECTRICAL REQUIREMENTS:	Standard Electrical Distribution Convenience Outlet Special Purpose Outlets at Equipment (Parts Washer,etc.)
TECHNOLOGY REQUIREMENTS:	
SPECIAL CRITERIA:	Area to be secure

ROOM/SPACE NAME:	**Secure Storage**
SQUARE FOOT AREA:	800 sf (20'x 40')
HOURS OF OPERATION:	Day Shift/On Call - Typical Facility Hours are from 7:30 am – 4:30 pm
FUNCTION:	Parts and Equipment Storage for Mechanics
ADJACENCIES:	Repair Bays, Tool Storage, Crew Room
FURNITURE, FIXTURES & EQUIPMENT:	Industrial Shelving, Pallet Storage
ARCHITECTURAL:	
FLOOR:	Concrete (Light Broom Finish)
WALLS:	Concrete (Paint)
CEILING:	Open to Structure (Steel Joist & Deck)-Paint
HEIGHT:	Min. of 10'-0"
DOORS/WINDOWS:	8'-0"x 8'-0" Opening (Double Door)
ACOUSTICAL REQUIREMENT:	
LIGHTING:	Ceiling Mounted LED Industrial Fixture
MECHANICAL REQUIREMENTS:	Standard Air Distribution
ELECTRICAL REQUIREMENTS:	Standard Electrical Distribution Convenience Outlet
TECHNOLOGY REQUIREMENTS:	
SPECIAL CRITERIA:	Area to be secure

ROOM/SPACE NAME:	**Mobile Lift Storage**
SQUARE FOOT AREA:	240 sf (10'x 24')
HOURS OF OPERATION:	Day Shift/On Call - Typical Facility Hours are from 7:30 am – 4:30 pm
FUNCTION:	Storage of Mobile Lifts
ADJACENCIES:	Repair Bays
FURNITURE, FIXTURES & EQUIPMENT:	Mobile Lifts, Floor Jacks, Jack Stands
ARCHITECTURAL:	
FLOOR:	Concrete (Light Broom Finish)
WALLS:	Concrete/ Paint
CEILING:	Open to Structure (Steel Joist & Deck or Precast Plank) /Paint
HEIGHT:	Minimum Clearance of 12'-0"
DOORS/WINDOWS:	
ACOUSTICAL REQUIREMENT:	
LIGHTING:	Ceiling Mounted LED Industrial Fixture
MECHANICAL REQUIREMENTS:	Standard Air Distribution
ELECTRICAL REQUIREMENTS:	Standard electrical distribution Dedicated Charging Area for Lifts
TECHNOLOGY REQUIREMENTS:	NA
SPECIAL CRITERIA:	Located in or immediately adjacent to the Repair Bays

ROOM/SPACE NAME:	**Supervisor Office**
SQUARE FOOT AREA:	140 sf (10'x 14')
HOURS OF OPERATION:	Day Shift/On Call - Typical Facility Hours are from 7:30 am – 4:30 pm
FUNCTION:	Private Office for (1) Employees
ADJACENCIES:	Crew Room, Repair Bays
FURNITURE, FIXTURES & EQUIPMENT:	Systems Furniture
ARCHITECTURAL:	
FLOOR:	Concrete (Tile/Epoxy)
WALLS:	Concrete (Burnished/Paint)
CEILING:	Acoustical Ceiling
HEIGHT:	Min. of 8'-6"
DOORS/WINDOWS:	Std. Door with Sidelight
ACOUSTICAL REQUIREMENT:	STC 52-55
LIGHTING:	Direct/Indirect LED Lay-In Fixtures Task Lighting at Work Surface
MECHANICAL REQUIREMENTS:	Standard Air Distribution
ELECTRICAL REQUIREMENTS:	Standard Electrical Distribution Convenience Outlet
TECHNOLOGY REQUIREMENTS:	Voice/Data Distribution
SPECIAL CRITERIA:	

ROOM/SPACE NAME:	**Library/Media**
SQUARE FOOT AREA:	192 sf (12'x 16')
HOURS OF OPERATION:	Day Shift/On Call - Typical Facility Hours are from 7:30 am – 4:30 pm
FUNCTION:	Consolidate Manual/Catalog Inventory
ADJACENCIES:	Crew Room, Office, Repair Bays
FURNITURE, FIXTURES & EQUIPMENT:	Systems Furniture, Countertop, Shelving, Copier, Printer
ARCHITECTURAL:	
FLOOR:	Concrete (Tile/Epoxy)
WALLS:	Concrete (Burnished/Paint)
CEILING:	Acoustical Ceiling
HEIGHT:	Min. of 8'-6"
DOORS/WINDOWS:	Std. Door with Sidelight
ACOUSTICAL REQUIREMENT:	STC 52-55
LIGHTING:	Direct/Indirect LED Lay-In Fixtures Task Lighting at Work Surface
MECHANICAL REQUIREMENTS:	Standard Air Distribution
ELECTRICAL REQUIREMENTS:	Standard Electrical Distribution Convenience Outlet
TECHNOLOGY REQUIREMENTS:	Voice/Data Distribution
SPECIAL CRITERIA:	

ROOM/SPACE NAME:	**Crew Room**
SQUARE FOOT AREA:	320 sf (16'x 20')
HOURS OF OPERATION:	Day Shift/On Call - Typical Facility Hours are from 7:30 am – 4:30 pm
FUNCTION:	Central Meeting Space for Mechanics
ADJACENCIES:	Locker Room, Office, Library
FURNITURE, FIXTURES & EQUIPMENT:	Movable Tables and Chairs Kitchenette with Counter and Storage Cabinets Kitchen Equipment per District Standards
ARCHITECTURAL:	
FLOOR:	Concrete (Tile/Epoxy)
WALLS:	Concrete (Burnished/Paint)
CEILING:	Acoustical Ceiling
HEIGHT:	Min. of 8'-6"
DOORS/WINDOWS:	Std. Door with Sidelight
ACOUSTICAL REQUIREMENT:	STC 45-48
LIGHTING:	Direct/Indirect LED Lay-In Fixtures Task Lighting at Kitchenette
MECHANICAL REQUIREMENTS:	Standard Air Distribution Dedicated Exhaust at Kitchen Equipment (As Requ.)
ELECTRICAL REQUIREMENTS:	Standard Electrical Distribution Convenience Outlet
TECHNOLOGY REQUIREMENTS:	Voice/Data Distribution Wall-Mounted Monitor AV Equipment for Training
SPECIAL CRITERIA:	

ROOM/SPACE NAME:	**Locker Room**
SQUARE FOOT AREA:	280 sf (14'x 20')
HOURS OF OPERATION:	Day Shift/On Call - Typical Facility Hours are from 7:30 am – 4:30 pm
FUNCTION:	Gear Storage for Staff (10 Lockers)
ADJACENCIES:	
FURNITURE, FIXTURES & EQUIPMENT:	2'-0"x 2'-0" Vented Lockers 2'-0" Wide Benches (1) 21"x42" Bench with Back per ADA Requ. (Min.)
ARCHITECTURAL:	
FLOOR:	Concrete (Tile)
WALLS:	Concrete (Paint)
CEILING:	Acoustical Ceiling
HEIGHT:	Min. of 8'-6"
DOORS/WINDOWS:	Std. Door
ACOUSTICAL REQUIREMENT:	STC 45-48
LIGHTING:	Direct/Indirect LED Lay-In Fixtures
MECHANICAL REQUIREMENTS:	Standard Air Distribution Dedicated Exhaust at Restroom
ELECTRICAL REQUIREMENTS:	Standard Electrical Distribution Convenience Outlet
TECHNOLOGY REQUIREMENTS:	NA
SPECIAL CRITERIA:	Provide 6 LF for Uniform Delivery Area

ROOM/SPACE NAME:	**Mezzanine**
SQUARE FOOT AREA:	2800 sf
HOURS OF OPERATION:	Day Shift/On Call - Typical Facility Hours are from 7:30 am – 4:30 pm
FUNCTION:	Seasonal Storage for Mechanics
ADJACENCIES:	Consolidated Area Above Storage, Office, Crew Room, etc.
FURNITURE, FIXTURES & EQUIPMENT:	Industrial Shelving
ARCHITECTURAL:	
FLOOR:	Concrete (Light Broom Finish)
WALLS:	Concrete (Paint)
CEILING:	Open to Structure (Steel Joist & Deck)-Paint
HEIGHT:	Min. of 8’-6”
DOORS/WINDOWS:	Std. Door
ACOUSTICAL REQUIREMENT:	STC 45-48
LIGHTING:	Ceiling Mounted LED Industrial Fixture
MECHANICAL REQUIREMENTS:	Standard Air Distribution
ELECTRICAL REQUIREMENTS:	Standard Electrical Distribution Convenience Outlet
TECHNOLOGY REQUIREMENTS:	NA
SPECIAL CRITERIA:	

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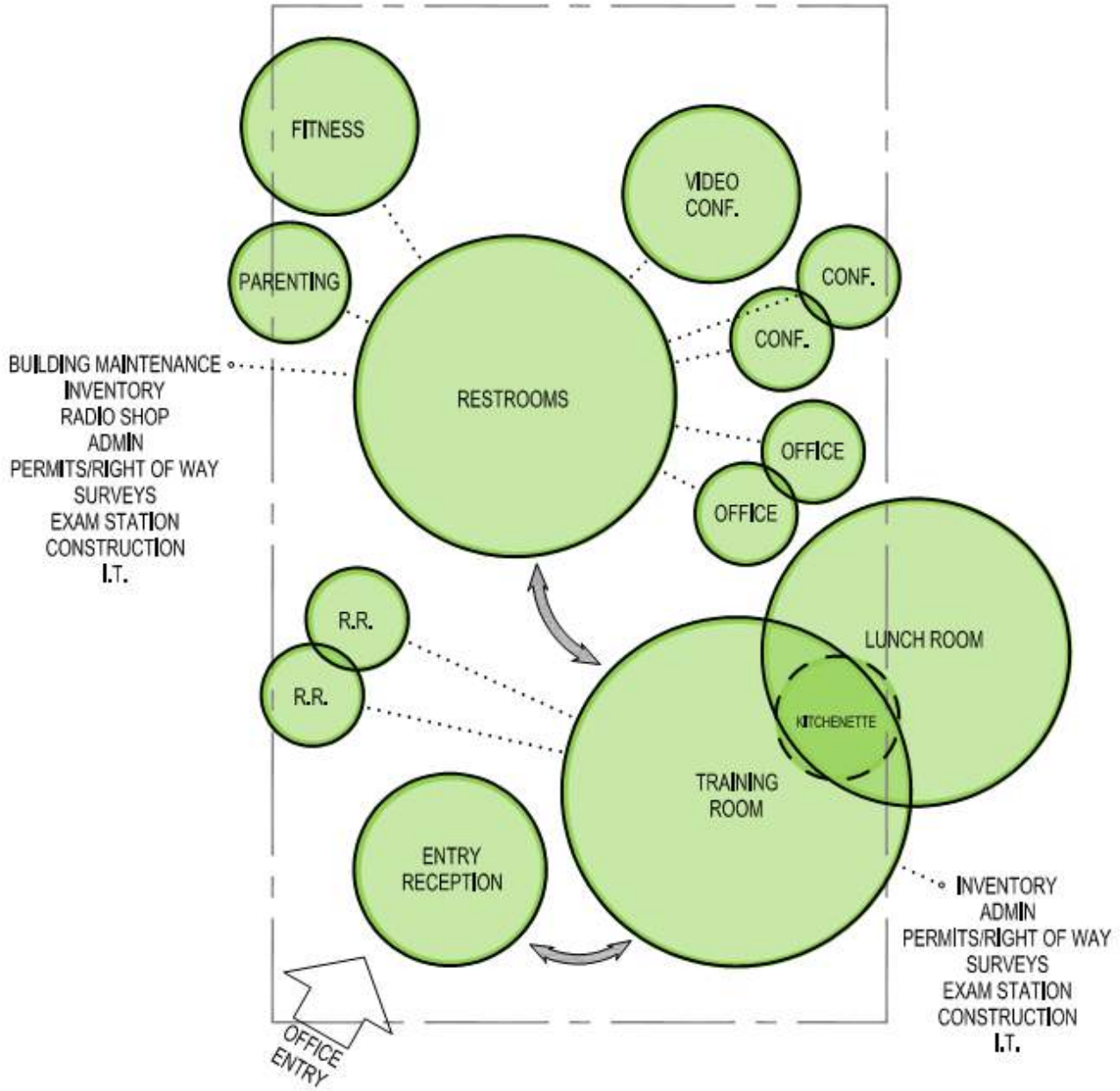
FITNESS
VIDEO CONF.
PARENTING
CONF.
CONF.
BUILDING MAINTENANCE
INVENTORY
RADIO SHOP
ADMIN
PERMITS/RIGHT OF WAY
SURVEYS
EXAM STATION
CONSTRUCTION
I.T.
RESTROOMS
OFFICE
OFFICE
R.R.
R.R.
LUNCH ROOM
KITCHENETTE
TRAINING ROOM
ENTRY RECEPTION
INVENTORY
ADMIN
PERMITS/RIGHT OF WAY
SURVEYS
EXAM STATION
CONSTRUCTION
I.T.
OFFICE ENTRY

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ROOM/SPACE NAME:	**Video Conferencing**
SQUARE FOOT AREA:	375 sf (15'x 25')
HOURS OF OPERATION:	Day Shift/On Call (out on site) - Typical Facility Hours are from 7:30 am – 4:30 pm
FUNCTION:	Shared Area for Video Conferences
ADJACENCIES:	
FURNITURE, FIXTURES & EQUIPMENT:	Conference Table/Chairs, Smart Board
ARCHITECTURAL:	
FLOOR:	Concrete (Carpet)
WALLS:	Steel Framing/Gypsum Board (Paint)
CEILING:	Acoustical Ceiling
HEIGHT:	Min. of 8'-6"
DOORS/WINDOWS:	Std. Door with Sidelight
ACOUSTICAL REQUIREMENT:	STC 52-55
LIGHTING:	Direct/Indirect LED Lay-In Fixtures
MECHANICAL REQUIREMENTS:	Standard Air Distribution
ELECTRICAL REQUIREMENTS:	Standard Electrical Distribution Convenience Outlet
TECHNOLOGY REQUIREMENTS:	Voice/Data Distribution Conference Call System Projector
SPECIAL CRITERIA:	

ROOM/SPACE NAME:	**Large Meeting Room**
SQUARE FOOT AREA:	560 sf (50'x 60')
HOURS OF OPERATION:	Day Shift/On Call (out on site) - Typical Facility Hours are from 7:30 am – 4:30 pm
FUNCTION:	Central Meeting/Training Space for Facility
ADJACENCIES:	
FURNITURE, FIXTURES & EQUIPMENT:	Movable Tables and Chairs
ARCHITECTURAL:	
FLOOR:	Concrete (Polish/Tile)
WALLS:	Steel Framing/Gypsum Board (Paint)
CEILING:	Acoustical Ceiling
HEIGHT:	Min. of 16'-0"
DOORS/WINDOWS:	Std. Door with Sidelight
ACOUSTICAL REQUIREMENT:	STC 52-55
LIGHTING:	Direct/Indirect LED Lay-In Fixtures
MECHANICAL REQUIREMENTS:	Standard Air Distribution
ELECTRICAL REQUIREMENTS:	Standard Electrical Distribution Convenience Outlet Floor Box Distribution AV Equipment Requirements
TECHNOLOGY REQUIREMENTS:	Voice/Data Distribution Floor Box Distribution Wall-Mounted Television(s) AV Equipment for Training/Presentation
SPECIAL CRITERIA:	Room should be divisible with operable partitions for added flexibility. Partitions to be min. STC of 50 to avoid potential conflicts.

ROOM/SPACE NAME:	**Reception**
SQUARE FOOT AREA:	300 sf (15'x 20')
HOURS OF OPERATION:	Day Shift/On Call (out on site) - Typical Facility Hours are from 7:30 am – 4:30 pm
FUNCTION:	Waiting and Break Out Area
ADJACENCIES:	
FURNITURE, FIXTURES & EQUIPMENT:	Benches, Chairs, Information Rack/Kiosk
ARCHITECTURAL:	
FLOOR:	Concrete (Polish/Tile)
WALLS:	Steel Framing/Gypsum Board (Paint)
CEILING:	Acoustical Ceiling
HEIGHT:	Min. of 8'-6"
DOORS/WINDOWS:	
ACOUSTICAL REQUIREMENT:	
LIGHTING:	Direct/Indirect LED Lay-In Fixtures
MECHANICAL REQUIREMENTS:	Standard Air Distribution
ELECTRICAL REQUIREMENTS:	Standard Electrical Distribution Convenience Outlet
TECHNOLOGY REQUIREMENTS:	Voice/Data Distribution
SPECIAL CRITERIA:	

ROOM/SPACE NAME:	**Flex Office (2)**
SQUARE FOOT AREA:	120 sf (10'x 12')
HOURS OF OPERATION:	Day Shift/On Call (out on site) - Typical Facility Hours are from 7:30 am – 4:30 pm
FUNCTION:	Private Office for (1) Employees
ADJACENCIES:	
FURNITURE, FIXTURES & EQUIPMENT:	Systems Furniture
ARCHITECTURAL:	
FLOOR:	Concrete (Carpet)
WALLS:	Steel Framing/Gypsum Board (Paint)
CEILING:	Acoustical Ceiling
HEIGHT:	Min. of 8'-6"
DOORS/WINDOWS:	Std. Door with Sidelight
ACOUSTICAL REQUIREMENT:	STC 52-55
LIGHTING:	Direct/Indirect LED Lay-In Fixtures Task Lighting at Work Surface
MECHANICAL REQUIREMENTS:	Standard Air Distribution
ELECTRICAL REQUIREMENTS:	Standard Electrical Distribution Convenience Outlet
TECHNOLOGY REQUIREMENTS:	Voice/Data Distribution
SPECIAL CRITERIA:	

ROOM/SPACE NAME:	**Flex Conference (2)**
SQUARE FOOT AREA:	120 sf (10'x 12')
HOURS OF OPERATION:	Day Shift/On Call (out on site) - Typical Facility Hours are from 7:30 am – 4:30 pm
FUNCTION:	Flexible Small Conference Room for All Staff
ADJACENCIES:	
FURNITURE, FIXTURES & EQUIPMENT:	Conference Table, Chairs, White Board
ARCHITECTURAL:	
FLOOR:	Concrete (Carpet)
WALLS:	Steel Framing/Gypsum Board (Paint)
CEILING:	Acoustical Ceiling
HEIGHT:	Min. of 8'-6"
DOORS/WINDOWS:	Std. Door with Sidelight
ACOUSTICAL REQUIREMENT:	STC 52-55
LIGHTING:	Direct/Indirect LED Lay-In Fixtures Task Lighting at Work Surface
MECHANICAL REQUIREMENTS:	Standard Air Distribution
ELECTRICAL REQUIREMENTS:	Standard Electrical Distribution Convenience Outlet
TECHNOLOGY REQUIREMENTS:	Voice/Data Distribution Conference Call Unit
SPECIAL CRITERIA:	

ROOM/SPACE NAME:	**Vestibule**
SQUARE FOOT AREA:	120 sf (10'x 12')
HOURS OF OPERATION:	Day Shift/On Call (out on site) - Typical Facility Hours are from 7:30 am – 4:30 pm
FUNCTION:	Primary Entry to Facility
ADJACENCIES:	
FURNITURE, FIXTURES & EQUIPMENT:	
ARCHITECTURAL:	
FLOOR:	Concrete (Traffic Mat)
WALLS:	Glass (Window)
CEILING:	Gypsum Board (Paint)
HEIGHT:	Min. of 10'-0"
DOORS/WINDOWS:	Window Entry System
ACOUSTICAL REQUIREMENT:	
LIGHTING:	Direct/Indirect LED Lay-In Fixtures
MECHANICAL REQUIREMENTS:	Standard Air Distribution Dedicated Unit Heater at Door
ELECTRICAL REQUIREMENTS:	Standard Electrical Distribution
TECHNOLOGY REQUIREMENTS:	Key/Fob Employee Access Security System
SPECIAL CRITERIA:	

ROOM/SPACE NAME:	**Garbage/Recycling**
SQUARE FOOT AREA:	500 sf (20'x 25')
HOURS OF OPERATION:	Day Shift/On Call (out on site) - Typical Facility Hours are from 7:30 am – 4:30 pm
FUNCTION:	Consolidated Collection for Facility Garbage and Recycling
ADJACENCIES:	
FURNITURE, FIXTURES & EQUIPMENT:	
ARCHITECTURAL:	
FLOOR:	Concrete (Light Broom)
WALLS:	Concrete
CEILING:	Open to Structure (Steel Joist & Deck)-Paint
HEIGHT:	Min. of 10'-0"
DOORS/WINDOWS:	8'-0"x 8'-0" Opening (Double Door)
ACOUSTICAL REQUIREMENT:	
LIGHTING:	Ceiling Mounted LED Industrial Fixture
MECHANICAL REQUIREMENTS:	Standard Air Distribution Dedicated Exhaust (If Located Inside)
ELECTRICAL REQUIREMENTS:	Standard Electrical Distribution
TECHNOLOGY REQUIREMENTS:	
SPECIAL CRITERIA:	Direct Access to Exterior

ROOM/SPACE NAME:	**Kitchenette**
SQUARE FOOT AREA:	560 sf (20'x 28')
HOURS OF OPERATION:	Day Shift/On Call (out on site) - Typical Facility Hours are from 7:30 am – 4:30 pm
FUNCTION:	Shared Food Storage and Prep Area with Dedicated Space for (8)-(10) Departments
ADJACENCIES:	
FURNITURE, FIXTURES & EQUIPMENT:	Counter Area, Upper and Lower Cabinetry Kitchen Equipment per District Standards
ARCHITECTURAL:	
FLOOR:	Concrete (Polish/Tile)
WALLS:	Concrete (Paint)
CEILING:	Acoustical Ceiling
HEIGHT:	Min. of 10'-0"
DOORS/WINDOWS:	Std. Door with Sidelight
ACOUSTICAL REQUIREMENT:	STC 45-48
LIGHTING:	Direct/Indirect LED Lay-In Fixtures Task Lighting at each Kitchenette
MECHANICAL REQUIREMENTS:	Standard Air Distribution Dedicated Exhaust at Kitchen Equipment (As Requ.)
ELECTRICAL REQUIREMENTS:	Standard Electrical Distribution Convenience Outlet Plug-Strip/Outlet Banks for Kitchen Equipment (Microwaves,etc.)
TECHNOLOGY REQUIREMENTS:	Voice/Data Distribution
SPECIAL CRITERIA:	

ROOM/SPACE NAME:	**Parenting**
SQUARE FOOT AREA:	80 sf (10'x 12')
HOURS OF OPERATION:	Day Shift/On Call (out on site) - Typical Facility Hours are from 7:30 am – 4:30 pm
FUNCTION:	Private Area for Staff
ADJACENCIES:	
FURNITURE, FIXTURES & EQUIPMENT:	Couch, Table
ARCHITECTURAL:	
FLOOR:	Concrete (Carpet)
WALLS:	Steel Framing/Gypsum Board (Paint)
CEILING:	Acoustical Ceiling
HEIGHT:	Min. of 8'-6"
DOORS/WINDOWS:	Std. Door with Sidelight
ACOUSTICAL REQUIREMENT:	STC 52-55
LIGHTING:	Direct/Indirect LED Lay-In Fixtures
MECHANICAL REQUIREMENTS:	Standard Air Distribution
ELECTRICAL REQUIREMENTS:	Standard Electrical Distribution Convenience Outlet
TECHNOLOGY REQUIREMENTS:	Voice/Data Distribution
SPECIAL CRITERIA:	

ROOM/SPACE NAME:	**Restroom (2)**
SQUARE FOOT AREA:	80 sf (8'x 10')
HOURS OF OPERATION:	Day Shift - Typical Facility Hours are from 7:30 am – 4:30 pm
FUNCTION:	Restrooms (Gender Neutral)
ADJACENCIES:	
FURNITURE, FIXTURES & EQUIPMENT:	Solid Surface Counter/Sink
ARCHITECTURAL:	
FLOOR:	Concrete (Tile)
WALLS:	Steel Framing/Gypsum Board (Tile/Paint)
CEILING:	Gypsum Board Ceiling
HEIGHT:	Min. of 8'-6"
DOORS/WINDOWS:	Std. Door (Lock) with Privacy Indicator
ACOUSTICAL REQUIREMENT:	STC 52-55
LIGHTING:	Direct/Indirect LED Lay-In Fixtures Vanity Lighting at Sink
MECHANICAL REQUIREMENTS:	Standard Air Distribution Dedicated Exhaust
ELECTRICAL REQUIREMENTS:	Standard Electrical Distribution Convenience Outlet
TECHNOLOGY REQUIREMENTS:	NA
SPECIAL CRITERIA:	Accommodate Employee Drug Testing

ROOM/SPACE NAME:	**Restroom (2)**
SQUARE FOOT AREA:	280 sf (10'x 28')
HOURS OF OPERATION:	Day Shift - Typical Facility Hours are from 7:30 am – 4:30 pm
FUNCTION:	Public Restrooms (Men's/Women's)
ADJACENCIES:	
FURNITURE, FIXTURES & EQUIPMENT:	Solid Surface Counter/Sink
ARCHITECTURAL:	
FLOOR:	Concrete (Tile)
WALLS:	Steel Framing/Gypsum Board (Tile/Paint)
CEILING:	Gypsum Board Ceiling
HEIGHT:	Min. of 8'-6"
DOORS/WINDOWS:	Std. Door
ACOUSTICAL REQUIREMENT:	STC 52-55
LIGHTING:	Direct/Indirect LED Lay-In Fixtures Vanity Lighting at Sink
MECHANICAL REQUIREMENTS:	Standard Air Distribution Dedicated Exhaust
ELECTRICAL REQUIREMENTS:	Standard Electrical Distribution Convenience Outlet
TECHNOLOGY REQUIREMENTS:	NA
SPECIAL CRITERIA:	Accommodate Employee Drug Testing

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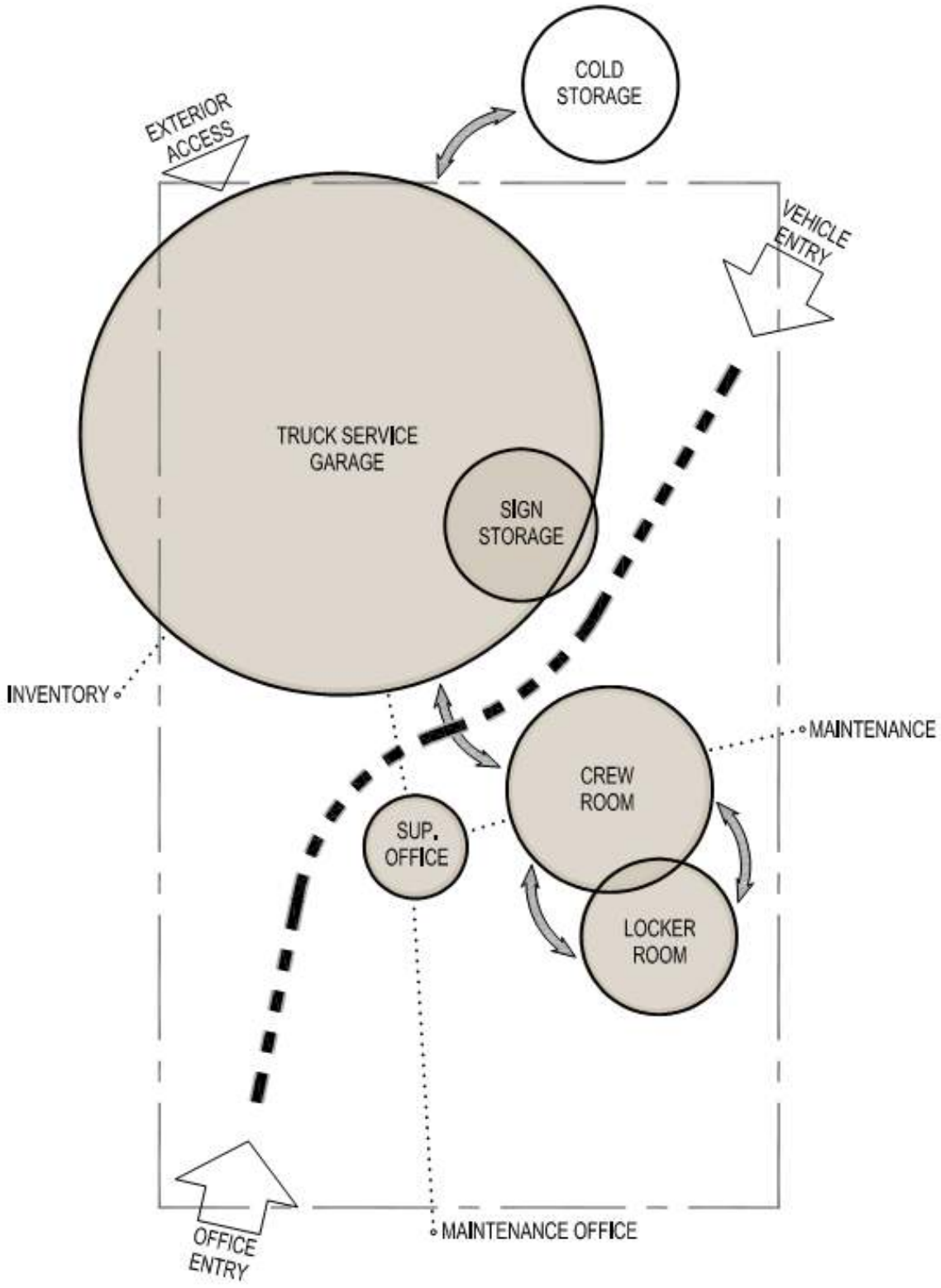
COLD STORAGE
EXTERIOR ACCESS
VEHICLE ENTRY
TRUCK SERVICE GARAGE
SIGN STORAGE
INVENTORY
MAINTENANCE
CREW ROOM
SUP. OFFICE
LOCKER ROOM
OFFICE ENTRY
MAINTENANCE OFFICE

Dept/Dedicated	Size	Usage	Count	Class	Vehicle Description
Sign Shop	Large	Warm Storage	1	320	Sign Truck
Sign Shop	Medium	Warm Storage	1	184	Pick Up
Sign Shop	Medium	Warm Storage	1	-	Guardrail Truck
Sign Shop	Medium	Warm Storage	1	-	Paint/Striping
Sign Shop	Large	Warm Storage	1	320	Sign Truck
Sign Shop	Medium	Warm Storage	1	184	Pick Up
Sign Shop	Medium	Warm Storage	1	-	Guardrail Truck
Sign Shop	Medium	Warm Storage	1	-	Paint/Striping

ROOM/SPACE NAME:	**Office**
SQUARE FOOT AREA:	120 sf (10'x 12')
HOURS OF OPERATION:	Day Shift/On Call (out on site) - Typical Facility Hours are from 7:30 am – 4:30 pm
FUNCTION:	Private Office for (1) Employee
ADJACENCIES:	Crew Room, Sign Storage, Traffic Services Truck Garage
FURNITURE, FIXTURES & EQUIPMENT:	Systems Furniture
ARCHITECTURAL:	
FLOOR:	Concrete (Tile/Epoxy)
WALLS:	Concrete Board (Burnished/Paint)
CEILING:	Acoustical Ceiling
HEIGHT:	Min. of 8'-6"
DOORS/WINDOWS:	Std. Door with Sidelight
ACOUSTICAL REQUIREMENT:	STC 52-55
LIGHTING:	Direct/Indirect LED Lay-In Fixtures Task Lighting at Work Surface
MECHANICAL REQUIREMENTS:	Standard Air Distribution
ELECTRICAL REQUIREMENTS:	Standard Electrical Distribution Convenience Outlet
TECHNOLOGY REQUIREMENTS:	Voice/Data Distribution
SPECIAL CRITERIA:	Space allowance for current adjustable desk configuration

ROOM/SPACE NAME:	**Crew Room**
SQUARE FOOT AREA:	320 sf (16'x 20')
HOURS OF OPERATION:	Day Shift/On Call (out on site) - Typical Facility Hours are from 7:30 am – 4:30 pm
FUNCTION:	Meeting Room/Lunch Room for (4) Employees
ADJACENCIES:	Office, Sign Storage, Traffic Services Truck Garage
FURNITURE, FIXTURES & EQUIPMENT:	Movable Tables and Chairs Kitchenette with Counter and Storage Cabinets Kitchen Equipment per District Standards Fixed Counter with Upper and Lower Storage Cabinets Space for (3) Computer Workstations
ARCHITECTURAL:	
FLOOR:	Concrete (Light Broom)
WALLS:	Concrete (Paint)
CEILING:	Open to Structure (Steel Joist & Deck)-Paint
HEIGHT:	Min. of 8'-6"
DOORS/WINDOWS:	Std. Door with Sidelight
ACOUSTICAL REQUIREMENT:	STC 45-48
LIGHTING:	Direct/Indirect LED Lay-In Fixtures
MECHANICAL REQUIREMENTS:	Standard Air Distribution Dedicated Exhaust at Kitchen Equipment (As Required)
ELECTRICAL REQUIREMENTS:	Standard Electrical Distribution Convenience Outlet Plug Strip
TECHNOLOGY REQUIREMENTS:	Voice/Data Distribution Wall-Mounted Television(s) AV Equipment for Training/Presentation
SPECIAL CRITERIA:	

ROOM/SPACE NAME:	**Sign Storage**
SQUARE FOOT AREA:	200 sf (10'x 20')
HOURS OF OPERATION:	Day Shift/On Call (out on site) - Typical Facility Hours are from 7:30 am – 4:30 pm
FUNCTION:	Consolidated Warm Storage for Signs
ADJACENCIES:	Traffic Services Truck Garage
FURNITURE, FIXTURES & EQUIPMENT:	Pallet Racking
ARCHITECTURAL:	
FLOOR:	Concrete (Light Broom)
WALLS:	Concrete (Paint)
CEILING:	Open to Structure (Steel Joist & Deck)-Paint
HEIGHT:	Min. of 10'-0"
DOORS/WINDOWS:	8'-0"x 8'-0" Opening (Double Door)
ACOUSTICAL REQUIREMENT:	
LIGHTING:	Ceiling Mounted LED Industrial Fixture
MECHANICAL REQUIREMENTS:	Standard Air Distribution
ELECTRICAL REQUIREMENTS:	Standard Electrical Distribution Convenience Outlet
TECHNOLOGY REQUIREMENTS:	
SPECIAL CRITERIA:	

ROOM/SPACE NAME:	**Locker Room**
SQUARE FOOT AREA:	280 sf (14'x 20')
HOURS OF OPERATION:	Day Shift/On Call (out on site) - Typical Facility Hours are from 7:30 am – 4:30 pm
FUNCTION:	Gear Storage/Restroom for Staff
ADJACENCIES:	Sign Shop Areas, Crew Room, Traffic Services Truck Garage
FURNITURE, FIXTURES & EQUIPMENT:	2'-0" x 2'-0" Vented Lockers 2'-0" Wide Benches (1) 21"x 42" Bench with Back per ADA Requ. (Min.)
ARCHITECTURAL:	
FLOOR:	Concrete (Epoxy/Tile/Resilient)
WALLS:	Concrete (Paint)
CEILING:	Acoustical Ceiling
HEIGHT:	Min. of 8'-6"
DOORS/WINDOWS:	Std. Door
ACOUSTICAL REQUIREMENT:	STC 45-48
LIGHTING:	Direct/Indirect LED Lay-In Fixtures
MECHANICAL REQUIREMENTS:	Standard Air Distribution Dedicated Exhaust at Restroom
ELECTRICAL REQUIREMENTS:	Standard Electrical Distribution Convenience Outlet
TECHNOLOGY REQUIREMENTS:	NA
SPECIAL CRITERIA:	

ROOM/SPACE NAME:	**Traffic Services Truck Garage**
SQUARE FOOT AREA:	2080 sf (40'x 52')
HOURS OF OPERATION:	Day Shift/On Call (out on site) - Typical Facility Hours are from 7:30 am – 4:30 pm
FUNCTION:	Garage/Storage Area for Sign Department
ADJACENCIES:	Sign Shop Areas, Crew Room, Traffic Services Truck Garage
FURNITURE, FIXTURES & EQUIPMENT:	Work Bench Storage Cabinets
ARCHITECTURAL:	
FLOOR:	Concrete (Light Broom)
WALLS:	Concrete (Paint)
CEILING:	Open to Structure (Steel Joist & Deck)-Paint
HEIGHT:	Min. of 20'-0"
DOORS/WINDOWS:	3" Insulated Overhead Doors at 28'x14' (standard) with (3) Rows of Vision Glazing
ACOUSTICAL REQUIREMENT:	-
LIGHTING:	Ceiling Mounted LED Industrial Fixture
MECHANICAL REQUIREMENTS:	High-Efficiency Unit Heaters with Make-Up Air Units. 6" Wide Prefab. Trench Drains with Trash Bin Clean-Out Air Reel Drop
ELECTRICAL REQUIREMENTS:	Standard Electrical Distribution Convenience Outlet Light and Power Reel Drops
TECHNOLOGY REQUIREMENTS:	
SPECIAL CRITERIA:	Guard Rail Truck and Sign Truck Parking

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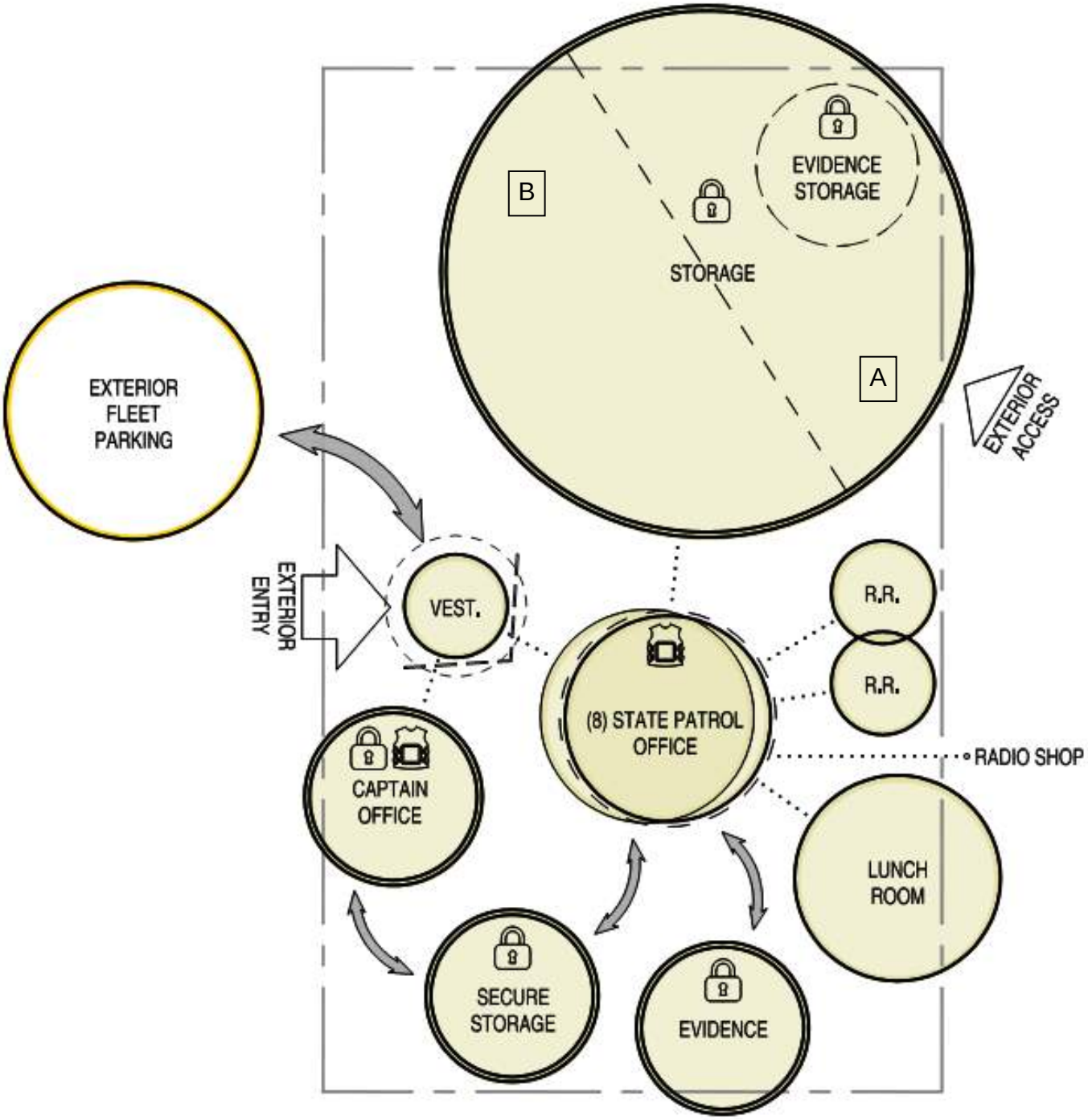

B
EVIDENCE STORAGE
STORAGE
A
EXTERIOR ACCESS
EXTERIOR FLEET PARKING
EXTERIOR ENTRY
VEST.
R.R.
R.R.
(8) STATE PATROL OFFICE
RADIO SHOP
CAPTAIN OFFICE
LUNCH ROOM
SECURE STORAGE
EVIDENCE

Dept/Dedicated	Size	Usage	Count	Class	Vehicle Description
State Patrol	Medium	Warm Storage	2	-	Patrol Car
State Patrol	Medium	Exterior	8	-	Patrol Car

ROOM/SPACE NAME:	**Office (8)**
SQUARE FOOT AREA:	80 sf (8'x 10')
HOURS OF OPERATION:	
FUNCTION:	Shared Office/Work Area for Troopers
ADJACENCIES:	Evidence Room, Storage, Lunch/Meeting
FURNITURE, FIXTURES & EQUIPMENT:	Systems Furniture
ARCHITECTURAL:	
FLOOR:	Concrete (Carpet)
WALLS:	Steel Framing/Gypsum Board (Paint)
CEILING:	Acoustical Ceiling
HEIGHT:	Min. of 8'-6"
DOORS/WINDOWS:	Std. Door with Sidelight
ACOUSTICAL REQUIREMENT:	STC 52-55
LIGHTING:	Direct/Indirect LED Lay-In Fixtures Task Lighting at Work Surface
MECHANICAL REQUIREMENTS:	Standard Air Distribution
ELECTRICAL REQUIREMENTS:	Standard Electrical Distribution Convenience Outlet
TECHNOLOGY REQUIREMENTS:	Voice/Data Distribution
SPECIAL CRITERIA:	Secure Room

ROOM/SPACE NAME:	**Captain Office**
SQUARE FOOT AREA:	256 sf (16'x 16')
HOURS OF OPERATION:	
FUNCTION:	Dedicated Office for (1) Person
ADJACENCIES:	Private Office with Meeting Area and Storage
FURNITURE, FIXTURES & EQUIPMENT:	Systems Furniture Movable Table and Chairs Cabinet Storage
ARCHITECTURAL:	
FLOOR:	Concrete (Carpet)
WALLS:	Steel Framing/Gypsum Board (Paint)
CEILING:	Acoustical Ceiling
HEIGHT:	Min. of 8'-6"
DOORS/WINDOWS:	Std. Door with Sidelight
ACOUSTICAL REQUIREMENT:	STC 55+
LIGHTING:	Direct/Indirect LED Lay-In Fixtures Task Lighting at Work Surface
MECHANICAL REQUIREMENTS:	Standard Air Distribution
ELECTRICAL REQUIREMENTS:	Standard Electrical Distribution Convenience Outlet
TECHNOLOGY REQUIREMENTS:	Voice/Data Distribution
SPECIAL CRITERIA:	Secure Room

ROOM/SPACE NAME:	**Vestibule (2)**
SQUARE FOOT AREA:	120 sf (10'x 12')
HOURS OF OPERATION:	
FUNCTION:	Primary Entry for State Trooper Office Area
ADJACENCIES:	
FURNITURE, FIXTURES & EQUIPMENT:	
ARCHITECTURAL:	
FLOOR:	Concrete (Traffic Mat)
WALLS:	Glass (Window)
CEILING:	Gypsum Board (Paint)
HEIGHT:	Min. of 10'-0"
DOORS/WINDOWS:	Window Entry System
ACOUSTICAL REQUIREMENT:	
LIGHTING:	Direct/Indirect LED Lay-In Fixtures
MECHANICAL REQUIREMENTS:	Standard Air Distribution Dedicated Unit Heater at Door
ELECTRICAL REQUIREMENTS:	Standard Electrical Distribution
TECHNOLOGY REQUIREMENTS:	Key/Fob Employee Access Security System
SPECIAL CRITERIA:	

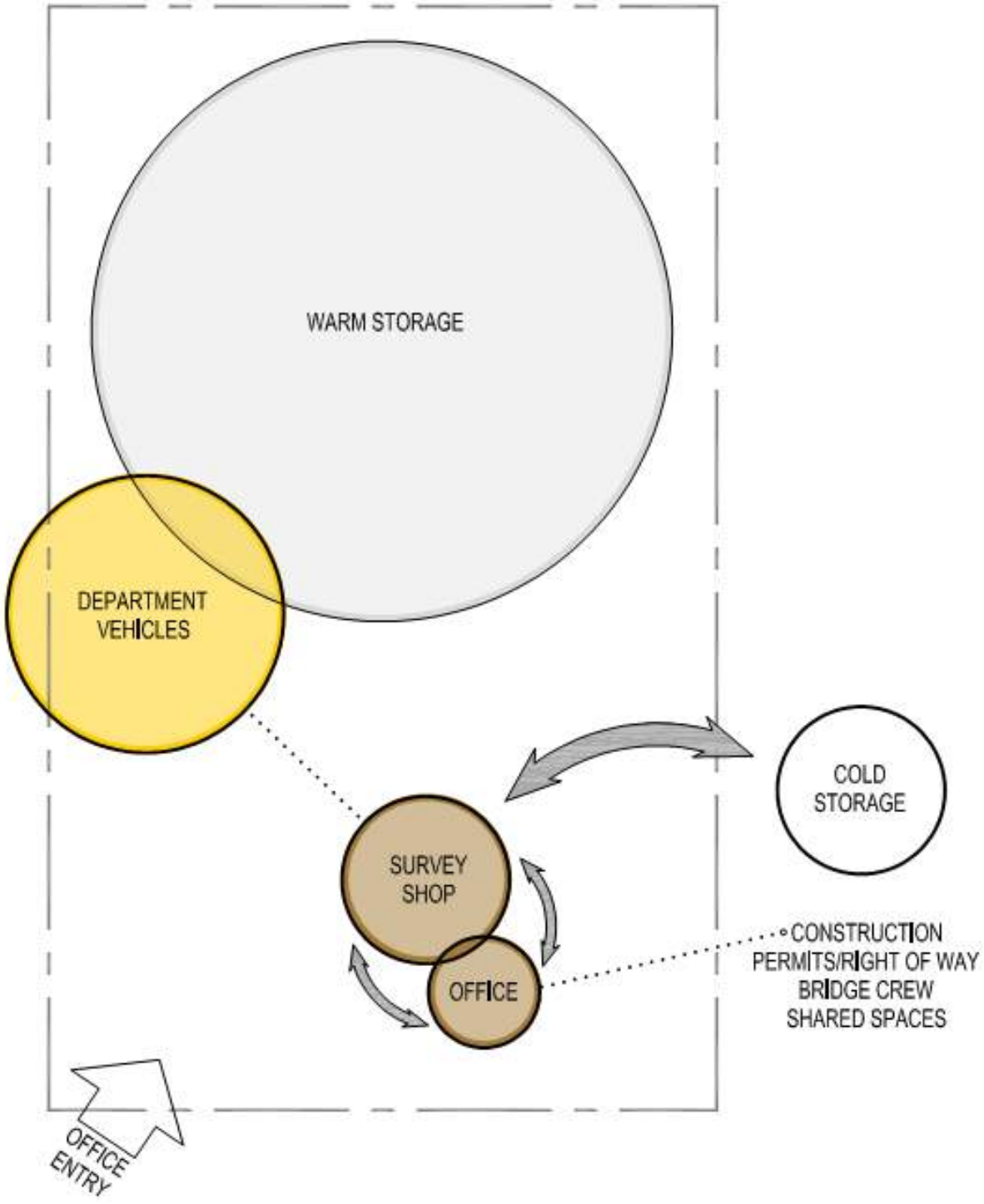
ROOM/SPACE NAME:	**Restroom (2)**
SQUARE FOOT AREA:	96 sf (8'x 12')
HOURS OF OPERATION:	
FUNCTION:	Public Restrooms (Men's, Women's, Universal)
ADJACENCIES:	
FURNITURE, FIXTURES & EQUIPMENT:	Solid Surface Counter/Sink
ARCHITECTURAL:	
FLOOR:	Concrete (Tile)
WALLS:	Steel Framing/Gypsum Board (Tile/Paint)
CEILING:	Gypsum Board Ceiling
HEIGHT:	Min. of 8'-6"
DOORS/WINDOWS:	Std. Door (Lock) with Privacy Indicator
ACOUSTICAL REQUIREMENT:	STC 52-55
LIGHTING:	Direct/Indirect LED Lay-In Fixtures Vanity Lighting at Sink
MECHANICAL REQUIREMENTS:	Standard Air Distribution Dedicated Exhaust
ELECTRICAL REQUIREMENTS:	Standard Electrical Distribution Convenience Outlet
TECHNOLOGY REQUIREMENTS:	NA
SPECIAL CRITERIA:	

ROOM/SPACE NAME:	**Lunch/Meeting**
SQUARE FOOT AREA:	144 sf (12'x 12')
HOURS OF OPERATION:	
FUNCTION:	Break Room for Staff
ADJACENCIES:	
FURNITURE, FIXTURES & EQUIPMENT:	Movable Tables and Chairs Kitchenette with Counter and Storage Cabinets
ARCHITECTURAL:	
FLOOR:	Concrete (Polish/Tile)
WALLS:	Concrete (Burnish/Paint)
CEILING:	Acoustical Ceiling
HEIGHT:	Min. of 8'-6"
DOORS/WINDOWS:	Std. Door with Sidelight
ACOUSTICAL REQUIREMENT:	STC 45-48
LIGHTING:	Direct/Indirect LED Lay-In Fixtures Task Lighting at Kitchenette
MECHANICAL REQUIREMENTS:	Standard Air Distribution Dedicated Exhaust at Kitchen Equipment (As Requ.)
ELECTRICAL REQUIREMENTS:	Standard Electrical Distribution Convenience Outlet
TECHNOLOGY REQUIREMENTS:	Voice/Data Distribution Wall-Mounted Monitor
SPECIAL CRITERIA:	

ROOM/SPACE NAME:	**Small Storage Room**
SQUARE FOOT AREA:	144 sf (12'x 12')
HOURS OF OPERATION:	
FUNCTION:	Small Storage Room for State Trooper
ADJACENCIES:	Evidence Room, Offices
FURNITURE, FIXTURES & EQUIPMENT:	Flexible Storage Shelving
ARCHITECTURAL:	
FLOOR:	Concrete (Light Broom)
WALLS:	Concrete (Paint)
CEILING:	Open to Structure (Steel Joist & Deck)-Paint
HEIGHT:	Min. of 10'-0"
DOORS/WINDOWS:	Std. Door
ACOUSTICAL REQUIREMENT:	
LIGHTING:	Ceiling Mounted LED Industrial Fixture
MECHANICAL REQUIREMENTS:	Standard Air Distribution
ELECTRICAL REQUIREMENTS:	Standard Electrical Distribution Convenience Outlet
TECHNOLOGY REQUIREMENTS:	Voice/Data Distribution
SPECIAL CRITERIA:	Secure Room

ROOM/SPACE NAME:	**Large Storage Room (A/B)**
SQUARE FOOT AREA:	1440 sf (36'x 40')
HOURS OF OPERATION:	
FUNCTION:	Large Storage Room for State Trooper
ADJACENCIES:	Access from Exterior, Evidence Room, Small Storage Room, Office Area
FURNITURE, FIXTURES & EQUIPMENT:	Fence/Caged area for overflow evidence storage
ARCHITECTURAL:	
FLOOR:	Concrete (Light Broom)
WALLS:	Concrete (Paint)
CEILING:	Open to Structure (Steel Joist & Deck)-Paint
HEIGHT:	Min. of 10'-0"
DOORS/WINDOWS:	3" Insulated Overhead Doors at 16'x14' (standard) with (3) Rows of Vision Glazing
ACOUSTICAL REQUIREMENT:	
LIGHTING:	Ceiling Mounted LED Industrial Fixture
MECHANICAL REQUIREMENTS:	Gas Fired Unit Heaters at Overhead Doors 6" Wide Prefab. Trench Drains with Trash Bin Clean-Out Utility Sink Water Drop Dedicated Make-Up Air Units
ELECTRICAL REQUIREMENTS:	Standard Electrical Distribution Convenience Outlet Light and Power Reel Drops
TECHNOLOGY REQUIREMENTS:	Voice/Data Distribution
SPECIAL CRITERIA:	Secure Room Area needs to accommodate long-term vehicle storage Exterior door needs to be within a secure fenced area Space is separated into (2) bays with (1) secure bay and (1) bay used for periodic vehicle testing and certification

ROOM/SPACE NAME:	**Evidence Room**
SQUARE FOOT AREA:	120 sf (10'x 12')
HOURS OF OPERATION:	
FUNCTION:	Dedicated Secure Storage for Evidence
ADJACENCIES:	Office Area, Storage
FURNITURE, FIXTURES & EQUIPMENT:	Secure Locker
ARCHITECTURAL:	
FLOOR:	Concrete (Light Broom)
WALLS:	Concrete (Paint)
CEILING:	Gypsum Board Ceiling-Paint
HEIGHT:	Min. of 8'-6"
DOORS/WINDOWS:	Std. Door
ACOUSTICAL REQUIREMENT:	
LIGHTING:	Ceiling Mounted LED Industrial Fixture
MECHANICAL REQUIREMENTS:	Dedicated Air Distribution/Exhaust
ELECTRICAL REQUIREMENTS:	Standard Electrical Distribution Convenience Outlet
TECHNOLOGY REQUIREMENTS:	Security Camera Monitoring
SPECIAL CRITERIA:	Air seals at doors


WARM STORAGE
DEPARTMENT VEHICLES
COLD STORAGE
SURVEY SHOP
OFFICE
CONSTRUCTION PERMITS/RIGHT OF WAY BRIDGE CREW SHARED SPACES
OFFICE ENTRY

Dept/Dedicated	Size	Usage	Count	Class	Vehicle Description
Survey	Small	Cold Storage	1	-	Boat/Trailer
Survey	Medium	Warm Storage	2	-	Pick Up
Survey	Small	Warm Storage	2		Snowmobile/Trailer
Survey	Medium	Warm Storage	1		ATV/Trailer

ROOM/SPACE NAME:	**Office**
SQUARE FOOT AREA:	192 sf (12'x 16')
HOURS OF OPERATION:	Day Shift/On Call (out on site) - Typical Facility Hours are from 7:30 am – 4:30 pm
FUNCTION:	Private Office/Work Area
ADJACENCIES:	Survey Shop
FURNITURE, FIXTURES & EQUIPMENT:	Fixed U-Shaped Continuous Counter with Upper Storage and Center Island Table
ARCHITECTURAL:	
FLOOR:	Concrete (Tile Epoxy)
WALLS:	Concrete (Burnished/Paint)
CEILING:	Acoustical Ceiling
HEIGHT:	Min. of 8'-6"
DOORS/WINDOWS:	Std. Door with Sidelight
ACOUSTICAL REQUIREMENT:	STC 52-55
LIGHTING:	Direct/Indirect LED Lay-In Fixtures Task Lighting at Work Surface
MECHANICAL REQUIREMENTS:	Standard Air Distribution
ELECTRICAL REQUIREMENTS:	Standard Electrical Distribution Convenience Outlet
TECHNOLOGY REQUIREMENTS:	Voice/Data Distribution
SPECIAL CRITERIA:	

ROOM/SPACE NAME:	**Survey Shop**
SQUARE FOOT AREA:	448 sf (16'x 28')
HOURS OF OPERATION:	Day Shift/On Call (out on site) - Typical Facility Hours are from 7:30 am – 4:30 pm
FUNCTION:	Equipment Storage/Staging for Survey Department
ADJACENCIES:	Survey Office
FURNITURE, FIXTURES & EQUIPMENT:	Flammable Cabinets
ARCHITECTURAL:	
FLOOR:	Concrete (Light Broom)
WALLS:	Concrete (Paint)
CEILING:	Open to Structure (Steel Joist & Deck)-Paint
HEIGHT:	Min. of 10'-0"
DOORS/WINDOWS:	3" Insulated Overhead Doors at 10'x10' with (3) Rows of Vision Glazing
ACOUSTICAL REQUIREMENT:	
LIGHTING:	Ceiling Mounted LED Industrial Fixture
MECHANICAL REQUIREMENTS:	Standard Air Distribution
ELECTRICAL REQUIREMENTS:	Standard Electrical Distribution Convenience Outlets Electrical Charging Station
TECHNOLOGY REQUIREMENTS:	Voice/Data Distribution
SPECIAL CRITERIA:	Provide (4) 2'-0"x 2'-0" Vented Lockers for Gear and Seasonal Storage

BUILDING PROGRAM

DEPARTMENT OF TRANSPORTATION

OERTEL ARCHITECTS

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ROOM	SQ.FT.	SIZE (rough dim)	#	TOTAL	ADJACENCIES	NOTES
OFFICE AREA						
Supervisor Office	120	10'x12'	1	120	Repair Shop, Work with all departments	Building Maintenance
Janitor Service Area	120	10'x12'	1	120		Building Maintenance
Crew Room	320	16'x20'	1	320		Building Maintenance
Carpentry Shop	1200	30'X40'	1	1200		Building Maintenance
Building Maintenance Shop	4800	60'x80'	1	4800		Building Maintenance
Cubicles	64	8'x8'	3	192	Exterior Access (Isolated), Repair Shop	Inventory
Inventory Center	4800	60'x80'	1	4800		Inventory- Secure Storage Required, 16' clear with racking
Office/Crew Room	480	12'x40'	1	480	IT Department	Radio Shop
Radio Repair Room	800	20'x40'	1	800		Radio Shop
Radio Install Shop	1728	32'x54'	1	1728		Radio Shop-(2) Vehicle Bays
Supervisor Office	120	10'x12'	1	120		Radio Shop
Microwave Radio Room	480	16'x30'	1	480		Radio Shop
Mezzanine	1760		1	1760		Radio Shop - Includes 8'x8' room for Micro. Dish Connection
Office	80	8'x10'	8	640	Maintenance (Wash Bay), Radio Shop, Isolated	State Trooper-Includes Interview Room, Bullet Resistent Glass
Captain Office	256	16'x16'	1	256		State Trooper-Secure Room
Small Storage Room	144	12'x12'	1	144		State Trooper-Secure Storage
Large Storage Room A	1440	18'x40'	1	1440		State Trooper-Secure Storage with Evidence Area
Large Storage Room B	1440	18'x40'	1	1440		Combined with A. Shared use for periodic OFCVO Inspection
Evidence Room	120	10'x12'	1	120		State Trooper-Secure Storage
Break/Lunch Room	144	12'x12'	1	144		State Trooper
Vestibule	80	8'x10'	2	160		State Trooper
Restroom	96	8'x12'	2	192		State Trooper
Supervisor Office	120	10'x12'	1	120	Front Entry, Lunch/Training/Conference	Admin-Office for (2) People
Open Office	320	16'x20'	1	320		Admin
Copy/Mail Room	392	14'x28'	1	392		Admin
Office	120	10'x12'	1	120	Bridge Maintenance, Maintenance	Sign
Crew Room	320	16'x20'	1	320		Sign
Locker Room	240	12'x20'	1	240		Sign-2'x2' Lockers for (4-6) people
Sign Storage	200	10'x20'	1	200		Sign
Truck Services Garage	2080	40'x52'	1	2080		Sign
Supervisor Office	120	10'x12'	1	120	Admin	Permits/Right of Way
Office	100	10'x10'	2	200		Permits/Right of Way
Archival Storage	120	10'x12'	1	120		Permits/Right of Way
Office	192	12'X16'	1	192	Construction, Permits	Survey-Office for (2) People
Survey Shop	448	16'x28'	1	448		2'x2' Lockers for (4-6) people
Supervisor Office	120	10'x12'	2	240	Front Entry (Public), Lunch/Training	Exam
Shared Office	256	16'x16'	2	512	Front Entry (Public), Lunch/Training	Exam
Storage Room	48	6'x8'	1	48		Exam
Exam Area	750	25'x30'	1	750		Exam
Counter Area	192	8'x24'	1	192		Exam-High Counter for (4) People with ADA Access
Office	120	10'x12'	3	360	Survey, Permits	Construction
Manager's Office	168	12'x14'	1	168	Survey, Permits	Construction
Cubicles	64	8'x8'	16	1024		Construction
Materials Testing Lab	400	20'x20'	1	400		Construction
Secure Storage	240	12'x20'	1	240		Construction
Storage Room	240	12'x20'	1	240		Construction
File Room	240	12'x20'	2	480		Construction
Equipment Lockers	280	14'x20'	1	280		Construction-2'x2' Lockers for (17) people
Office	80	8'x10'	2	160		Bridge Crew
Crew Room	560	20'x28'	1	560	Repair Shop	Bridge Crew
Locker Room	280	14'x20'	1	280		Bridge Crew
Storage Room	384	16'x24'	1	384		Bridge Crew
Computer Work Station	48	6'x8'	4	192		Bridge Crew
Bridge Crew Shop	2000	40'x50'	1	2000	Repair Shop	Bridge Crew
Supervisor Office	120	10'x12'	2	240		Maintenance
Cubicles	64	8'x8'	3	192		Maintenance
Crew Room	100	20'x50'	1	100		Maintenance-50sf/Employee
Locker Room	100	14'x20'	1	100		Maintenance-2'x2' Lockers for (12-15) people
Office/Workroom	192	12'x16'	1	192	Remote (Away from Entry)	IT
Storage Room	144	12'x12'	1	144		IT
Server Room	168	12'x14'	1	168		IT-Dedicated HVAC

Kitchenette	384	12'X32'	1	384		Shared (8)-(10) Departments
Vestibule	80	8'x10'	1	80		Shared
Reception	300	15'x20'	1	300		Shared
Parenting Room	120	10'x12'	1	120		Shared Private, Lockable
Exercise Room	960	24'x40'	1	960		Shared - Provide (1)Restroom/(2) Changing Areas
Restroom	280	10'x28'	2	560		Men's, Women's
Restroom	80	8'x10'	2	160		Gender Neutral
Video Conference	300	15'x25'	1	300		Shared
Large Meeting/Training Room	3000	50'x60'	1	3000		Shared 50sf/Employee (Sized for .5 of all employees)
Flex Office	120	10'x12'	2	240		Shared
Small Conference	120	10'x12'	2	240		Shared
Recycling Area	550	25'x22'	1	550		Shared
OFFICE AREA				40988	*DOES NOT INCLUDE CIRCULATION*	
				49186	*DOES INCLUDE CIRCULATION (20% Max.)*	

WARM STORAGE - MAINTENANCE

Large Spaces	672	16'x42'	30	20160		
Standard Spaces	240	10'x24'	67	16080	PARKING SPACES AREA ONLY!!!	
Oversized	1080	18'x60'	4	4320		
VEHICLE PARKING SUBTOTAL	71208					Area number from previous page - 60 degree parking
DOUBLE TRAFFIC LANE STORAGE INCREASE	18024			89232		
Wash Bay	1536	32'x48'	2	3072	Repair Shop	
Oil/Grease Bay	2400	40'x60'	1	2400		
Mobile Lift Storage	128	8'x16'	1	128		
Bulk Oil Storage	480	16'x30'	1	480		
Small Tool Storage	720	24'x30'	1	720		Secure Storage
Herbicide/Pesticide Storage	120	10'x12'	1	120		Hazmat Storage
TOTAL WARM STORAGE SUBTOTAL				96152	*INCLUDES CIRCULATION*	

COLD STORAGE - MULTI-DEPARTMENT

Building Maintenance	4800	60'x80'	1	4800		BM-Chem. Storage Cabinets
Inventory Storage	250	50'x50'	1	250		INV-Plow Blades, etc.
Inventory Haz Mat Storage	400	20'x20'	1	400		INV
Radio Shop Storage	240	40'x60'	1	240		RS
Sign Storage	400	20'x20'	1	400		S
Bridge Storage	500	20'x25'	1	500		BM-Chem. Storage Cabinets
Large Spaces	672	16'x42'	2	1344		BM-Chem. Storage Cabinets
Standard Spaces	240	10'x24'	31	7440		BM-Chem. Storage Cabinets
TOTAL COLD STORAGE SUBTOTAL				15374	*DOES NOT INCLUDE CIRCULATION*	

REPAIR SHOP

SEE VEHICLES PAGE Large Maintenance Bay	900	18'x50'	12	10800	Warm Storage, Inventory, Located at end of building	5-Ton Bridge Crane(2T+3T)
SEE VEHICLES PAGE Small Maintenance Bay	648	18'x36'	2	1296		
Welding Shop	2400	40'x60'	1	2400		8-Ton Bridge Crane(3T+5T)
Supervisor Office	120	10'x12'	1	120		
Crew Room	320	16'x20'	1	320		
Locker Room	280	14'x20'	1	280		
Library/Media Room	120	12'x16'	1	120		
Tool Storage	400	20'x20'	1	400		Secured
Dirty Room	800	20'x40'	1	800		Secured
Secured Storage	800	20'x40'	1	800		
Mobile Lift Storage	192	8'x24'	1	192		Space for (4) Units with Charging Station
Restroom	96	8'x12'	2	192		
Mezzanine	2800		1	2800		
REPAIR SHOP SUBTOTAL	17720	MIN. REQ'D AREA				
Double Bay Maintenance Subtotal	13704				DOUBLE MAINTENANCE BAYS ARE 24'x96' FOR LARGE BAYS	
Maintenance Support Spaces Subtotal	8424					
REPAIR SHOP TOTAL SUBTOTAL	31806				*INCLUDES CIRCULATION (DRIVE LANE AT 1.55)*	

DEPARTMENTAL SHOPS						
DEPARTMENTAL SHOPS SUBTOTAL					*INCLUDED IN OFFICE AREA BY DEPARTMENT FOR CLARITY*	

EXTERIOR FLEET PARKING	NOT INCLUDED IN BUILDING TOTAL					
Medium Space	288	12'x24'	9	2592		
Small Space	80	8'x10'	0	0		
Total	2592					

BUILDING PROGRAM TOTALS				TOTAL		
SUB-TOTAL				184320		
CIRCULATION @ 35%				11272		Circulation for programmatic elements that don't include circulation as noted
TOTAL				195592		

SITE PROGRAM REQUIREMENTS						
SALT/SAND BUILDING***	17600	110'x160'	1	17600	Existing Building	provide min. 8' tall barrier walls and cover for mixing
8'-0" wide perimeter apon Mt. Iron - (1) salt/sand bin MnDOT - (2) bins (salt/sand separate)	***Salt building size determined by salt pile, full width of building, and within/ 10' min. of length of building for pile overage. Min. pile height is assumed 12' tall. Area calculated by tons required of salt					
STAFF PARKING SPACES	200	10'x20'	159	31875		# of employees (1.25)
ADDITIONAL PARKING	200	10'X20'	30	6000		
IMPOUND LOT	18000	120'X150'	1	18000		
CLASS D TESTING AREA	630	18'X35'	1	630		
MOTORCYCLE TESTING AREA	2250	30'X75'	1	2250		
BRIDGE CREW MATERIALS	9600	80'X120'	1	9600		
MATERIAL STORAGE BINS	400	20'x20'	10	4000		Sweeping,Milling,Class5,G.Rail,Stacker,Cold Mix,Culvert
OUTDOOR EMPLOYEE AREA	400	20'x20'	1	400		
GENERATOR	600	30'x20'	1	600		
RADIO TOWER	144	12'X12'X80'	1	144		
DISH ANTENNAS	3600	60'X60'	1	3600		
STORM WATER RETENTION	67867	As Requ.	1	67867		1" rain on impervious programmed area, 1' deep average depth w/ 25% overage for slope
BRINE BUILDING	720	24'x30'	1	720		
TRASH/RECYCLING AREA	640	16'x40'	1	640		enclosed dumpster area
SUB-TOTAL				163926		
SITE CIRCULATION @ 150%				245889		
TOTAL				409815	rec	

SITE AREA TOTALS						
MAIN BUILDING	195592					
BLDG TOTALS	195592					
25% GREEN SPACE	102454					
SITE AREA TOTALS	409815					
GRAND TOTAL SITE AREA NEEDED	707862	21.13		*Total squarefootage and acreage, plus added 30% of programmed acreage for drainage paths, easements, setbacks, etc.*		

PROPOSED PROGRAM

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Department Vehicles (Warm Storage)					
Name	Large 16x42	Medium 10x24 or equivalent space	attachments for general storage		
See Vehicle List for Breakdown	31	71	0		
	0	0	0		
	0	0	0		
	0	0	0		
	0	0	0		
Facility Storage Subtotal	31	71	0		
Add'nl Vehicles Reg'ing Service	0	0	0		

Staff - Full Time

Department	Current	% Increase per 10 years	No. Years for Planning	Projected Staff		
Building Maintenance	6	5	50	7.5		
Inventory	4	5	50	5.0		
Radio Shop	4	5	50	5.0		
State Patrol	14	5	50	17.5		
Administration	2	5	50	2.5		
Sign Shop	5	5	50	6.3		
Permits/RW	2	5	50	2.5		
Survey	4	5	50	5.0		
Exam Station	4	5	50	5.0		
Construction	20	5	50	25.0		
Bridge Crew	7	5	50	8.8		
Repair Shop	10	5	50	12.5		
Maintenance	12	5	50	15.0		
IT	1	5	50	1.3		
				0.0		
				0.0		
Total	95	men to women 4-1		119	projected men to women 3-1	0.75

Staff - Part Time

Department	Current	% Increase per 10 years	No. Years for Planning	Projected Staff		
Bridge Crew	4	5	50	5.0		
Maintenance	3	5	50	3.8		
	0			0.0		
	0			0.0		
	0			0.0	projected men to women 3-1	0.75
	0			0.0		
Total	7	men to women 4-1		9		

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Dept/Dedicated	Size	Useage	Count	Class	Vehicle Description
Bridge Crew	Large	Cold Storage	1	482	Construction Trailer
Bridge Crew	Large	Warm Storage	1	372	Boom Truck
Bridge Crew	Medium	Warm Storage	1	190	Pick Up
Bridge Crew	Large	Warm Storage	1	255	Tool Truck
Bridge Crew	Large	Warm Storage	1	254	Dump Truck
Bridge Crew	Small	Warm Storage	1	458	Welder
Bridge Crew	Medium	Warm Storage	2	484	Sign Trailer
Bridge Crew	Small	Warm Storage	1	665	Skyjack Lift
Bridge Crew	Medium	Warm Storage	1	-	Signal Light Trailer
Building Maint.	Medium	Warm Storage	1	184	Pick Up
Building Maint.	Medium	Warm Storage	1	250	Repair Truck
Building Maint.	Medium	Warm Storage	1	250	Electrician Truck
Building Maint.	Small	Warm Storage	2	-	Moblie Man Lift
Building Maint.	Medium	Warm Storage	1	-	Pick Up (Plow and Lift Gate)
Construction	Medium	Exterior	16	-	Pick Up
Construction	Medium	Warm Storage	4	-	Pick Up
Inventory	Medium	Warm Storage	1	-	Pick Up
Inventory	Small	Warm Storage	1	-	Small Forklift
Maintenance	Small	Cold Storage	2	-	Rollers
Maintenance	Small	Cold Storage	7	-	Skidsteer Attachments
Maintenance	Medium	Cold Storage	1	-	Culvert Crew Trailer
Maintenance	Medium	Cold Storage	2	-	Scorpion Trailer
Maintenance	Medium	Cold Storage	1	-	Auto Flaggers
Maintenance	Medium	Cold Storage	2	-	Sign Trailer
Maintenance	Small	Cold Storage	8	-	Attachments
Maintenance	Small	Cold Storage	1	-	Compaction Breaker
Maintenance	Small	Cold Storage	1	-	Swing Mowers
Maintenance	Medium	Cold Storage	1	-	3 Tilt Bed Trailers
Maintenance	Medium	Cold Storage	1	-	Batwing Mower
Maintenance	Small	Cold Storage	3	-	Mower Attachments
Maintenance	Small	Cold Storage	1	-	Chipper
Maintenance	Large	Cold Storage	1	-	Plow Wing Storage
Maintenance	Small	Cold Storage	1	-	Trench Box Trailer
Maintenance	Small	Cold Storage	1	-	Garbage Truck
Maintenance	Medium	Warm Storage	1	254	Herbicide Truck
Maintenance	Large	Warm Storage	1	770	Motor Grader
Maintenance	Large	Warm Storage	2	-	Sno-Go
Maintenance	Medium	Warm Storage	1	-	Elgin Sweeper
Maintenance	Small	Warm Storage	2	-	Culvert Steamer
Maintenance	Large	Warm Storage	1	320	Tanker Truck
Maintenance	Medium	Warm Storage	1	-	Vactor Trailer
Maintenance	Large	Warm Storage	1	760	Loader 4x4
Maintenance	Oversized	Warm Storage	1	352	Semi Tractor Trailer
Maintenance	Small	Warm Storage	1	-	Rosco Sweeper
Maintenance	Large	Warm Storage	1	310	Guardrail Truck
Maintenance	Medium	Warm Storage	1	721	Rubber Tire Backhoe
Maintenance	Medium	Warm Storage	2	425	Mower Tractors
Maintenance	Medium	Warm Storage	1	320	Slurry Tractor
Maintenance	Large	Warm Storage	1	346	Distributor Truck
Maintenance	Oversized	Warm Storage	1	346	Water Tanker
Maintenance	Large	Warm Storage	1	346	Water Truck
Maintenance	Small	Warm Storage	1	727	Skidsteer
Maintenance	Small	Warm Storage	1	668	Air Compressor Trailer
Maintenance	Oversized	Warm Storage	2	-	Future Tow Plows
Maintenance	Medium	Warm Storage	1	-	Loader Tractor
Maintenance	Medium	Warm Storage	1	-	Plow Blade Storage
Maintenance	Large	Warm Storage	1	-	TM215649 Trackless
Maintenance	Large	Warm Storage	7	330	Single Axle Plow Trucks
Maintenance	Large	Warm Storage	6	350	Tandem Axle Plow Trucks
Maintenance	Small	Warm Storage	1	-	Tennent Sweeper
Maintenance	Small	Warm Storage	1	-	Forklift
Maintenance	Medium	Warm Storage	4	184	Pick Up
Maintenance	Large	Warm Storage	1	-	1 Ton Six Pack Truck
Maintenance	Large	Warm Storage	1	-	Excavator
Maintenance	Medium	Warm Storage	1	-	Patch Trailer

Permit/RW	Medium	Warm Storage	2	-	Pick Up
Radio Shop	Medium	Exterior	1	-	7 ton Trailer
Radio Shop	Medium	Warm Storage	1	152	Minivan
Radio Shop	Medium	Warm Storage	1	184	Pick Up
Radio Shop	Medium	Warm Storage	1	-	ATV/Trailer
Repair Shop	Medium	Warm Storage	2	250	Field Truck
Repair Shop	Medium	Warm Storage	2	-	Motor Pool Vehicle
Sign Shop	Large	Warm Storage	1	320	Sign Truck
Sign Shop	Medium	Warm Storage	1	184	Pick Up
Sign Shop	Medium	Warm Storage	1	-	Guardrail Truck
Sign Shop	Medium	Warm Storage	1	-	Paint/Striping
Sign Shop	Large	Warm Storage	1	320	Sign Truck
Sign Shop	Medium	Warm Storage	1	184	Pick Up
Sign Shop	Medium	Warm Storage	1	-	Guardrail Truck
Sign Shop	Medium	Warm Storage	1	-	Paint/Striping
State Patrol	Medium	Warm Storage	2	-	Patrol Car
State Patrol	Medium	Exterior	8	-	Patrol Car
Survey	Small	Cold Storage	1	-	Boat/Trailer
Survey	Medium	Warm Storage	2	-	Pick Up
Survey	Small	Warm Storage	2		Snowmobile/Trailer
Survey	Medium	Warm Storage	1		ATV/Trailer
	Small	*Cold Storage*	30		
	Medium	*Cold Storage*	8		
	Large	*Cold Storage*	2		
	Small	*Warm Storage*	17	8.5	
	Medium	*Warm Storage*	61		
	Large	*Warm Storage*	26		
	Small	*Exterior*			
	Medium	*Exterior*	16		
	Large	*Exterior*			
	Oversized	*Warm Storage*	3		
Cold Storage		*Total Vehicle*	160		
Warm Storage		*Total Vehicle*	163		

PROOF OF CONCEPT

DEPARTMENT OF TRANSPORTATION

OERTEL ARCHITECTS

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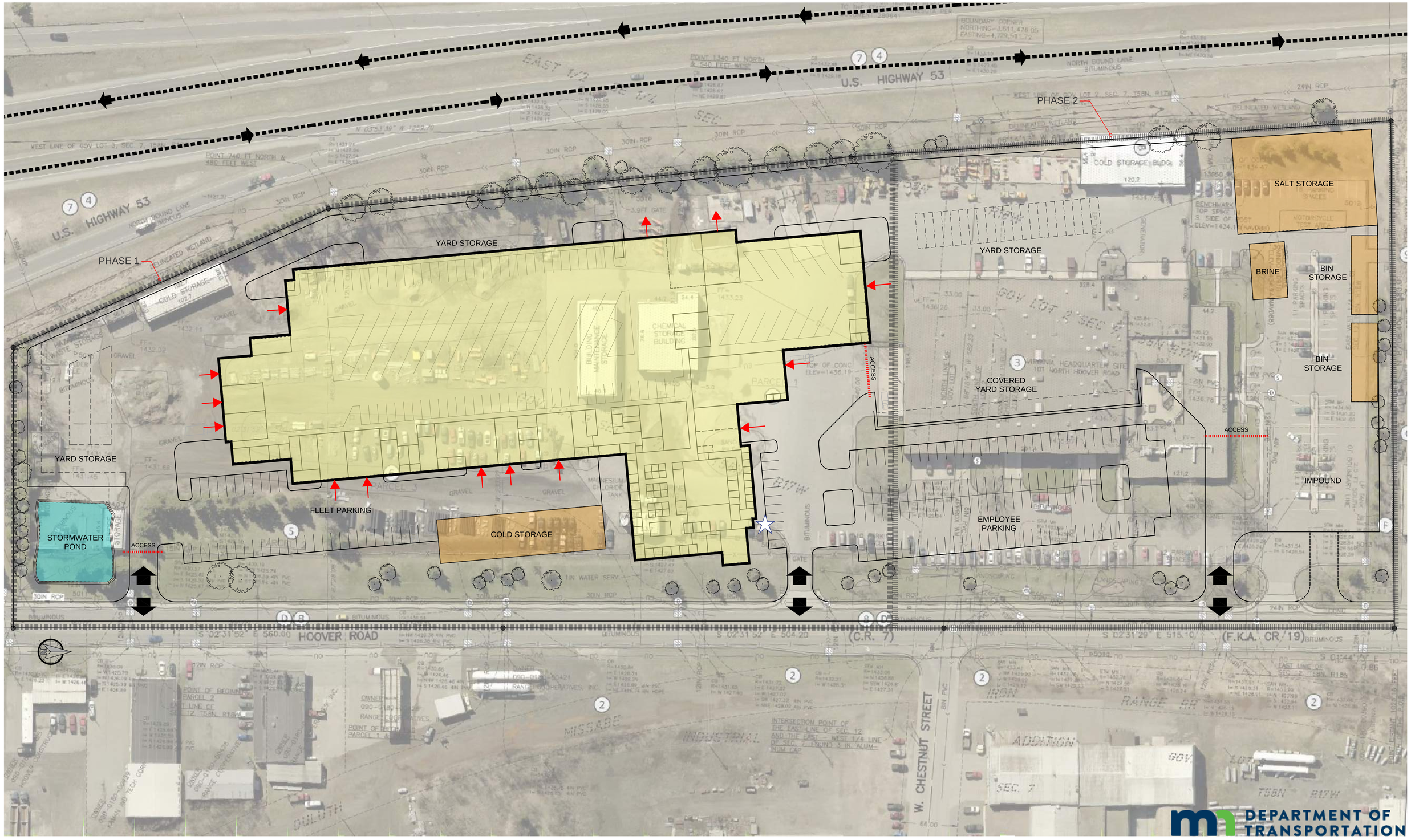
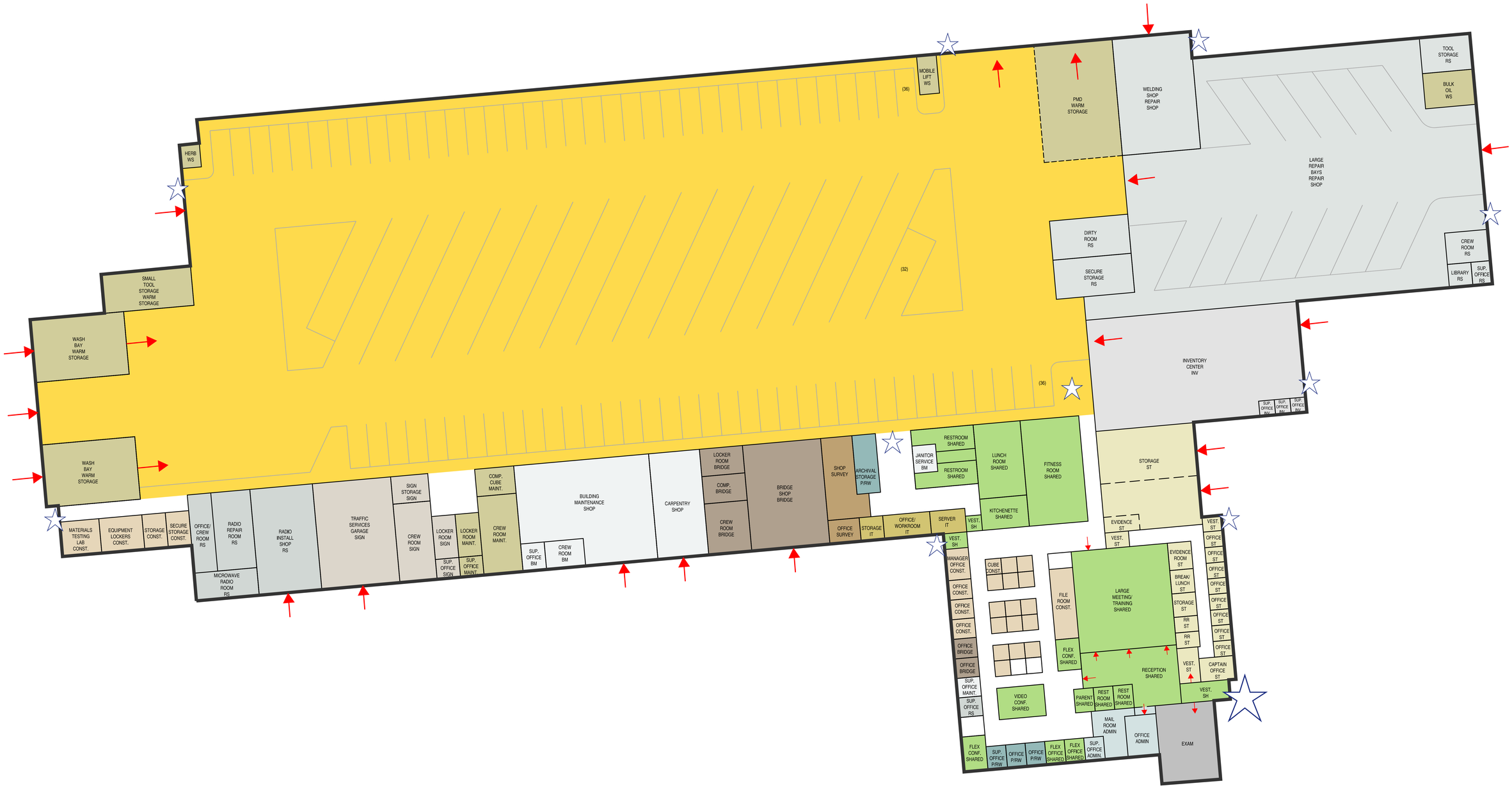


DEPARTMENT OF TRANSPORTATION

Site Diagram - C

DEPARTMENT OF TRANSPORTATION

Adjacency Diagram - C



General Planning Strategies and Organizing Principles:

- Maintain Base Level of Operations On-Site During Construction

- Separate Operational and Public/Passenger Vehicle Traffic

- Allow for Flexibility in Final Yard Layout and Design

- Maintain Proper Directional Exposure for Building Elements

- Facilitate Dedicated Delivery Sequence

- Provide Consolidated Building Entry for Four Primary Agencies (Truck Station, State Patrol, Exam, Training/Public)

- Central Service Hub (Restrooms, Lunch Room, Fitness, Mud Room)

- Building is Separated into Three Primary Areas:

    a. Consolidated Office Area
    b. Consolidated Departmental Shops
    c. Vehicle Areas

Specific Strategies in this Option:

- Cold Storage and Departmental Shop "Service Corridor"

- Separate Covered Yard Storage Area

- Direct Connection from State Patrol to Truck Station Office Area

- Drive-Thru Ability at Inventory

- Angled Parking Lot Allows Additional Room for Landscape Buffer on Hoover

Staff Comments – 08/10/18:

Site Plan Comments:

- Difficult to Maneuver around Cold Storage and Access with Extended Trailers (Survey, Bridge)
    - Lots of Traffic between Cold Storage and Shops (Accidents)
- Staff Prefers to Parking in Controlled Areas
- At Duluth, 53'-0" trailers make deliveries 3-4 times/day
- CDL Trailer Testing (53'-0"), 3-4/day, 3 days/week. Requires Temporary Parking and Drive.

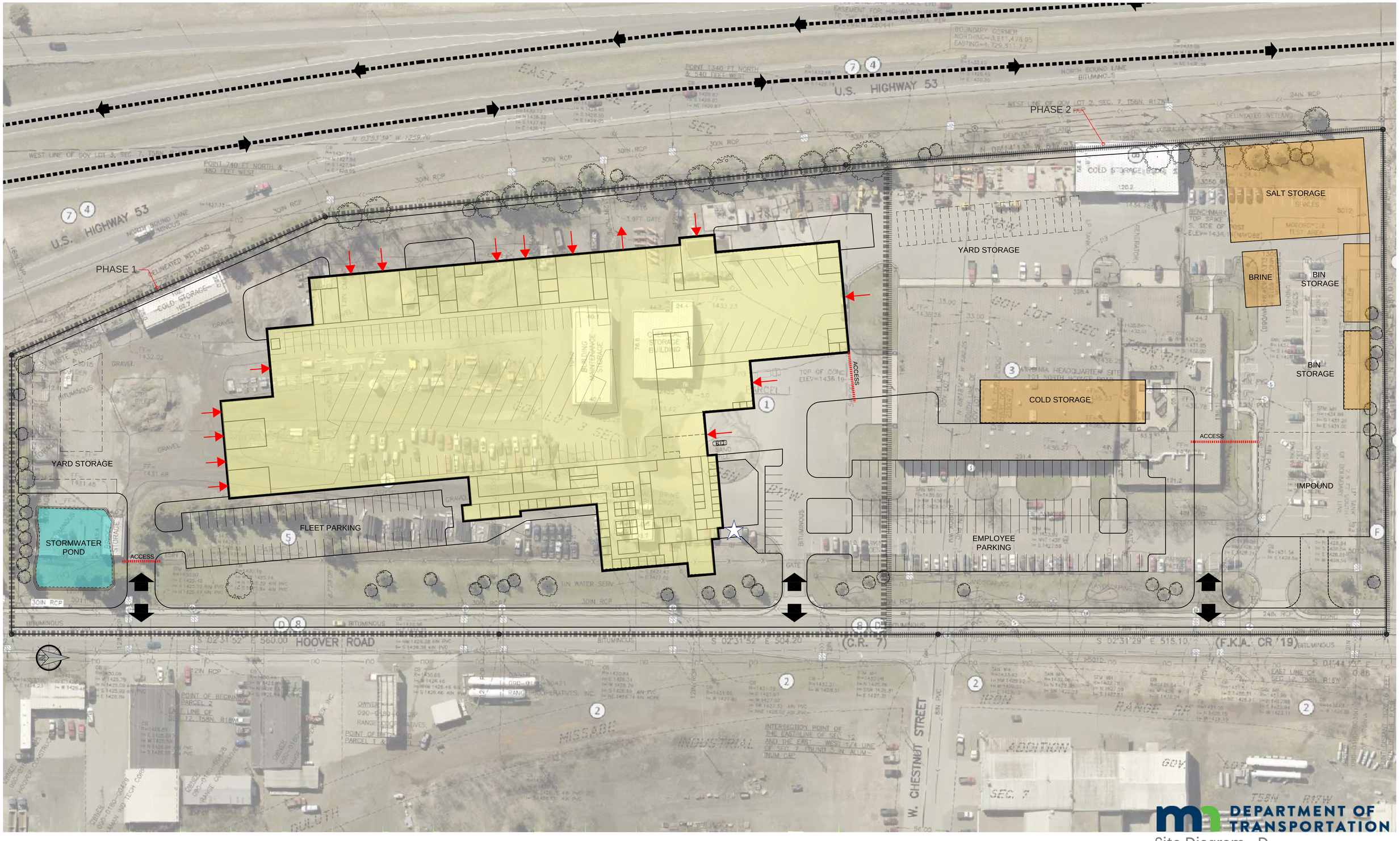
Floor Plan Comments:

- Provide access to Survey Shop for forklift
- Verify Turning Radius
- Like Hallway from Inventory & Repair Bays
- Inventory and State Patrol Storage Garage Provide Good Sound Buffer From Large Repair Bays
- Provide Covered Exterior Loading Area at Inventory

Post Meeting Comments:

08/13/18

- Prefer This Option for the Flow In and Out of Warm Storage
- Prefer (1) In Door and (2) Wash Bays
- Prefer Brine Location in This Option
- South Entry Should Be Where the Pond is Shown
- Provide Two-Way Operations Traffic on the West Side of the Building



Site Diagram - D

DEPARTMENT OF TRANSPORTATION

Adjacency Diagram - D

General Planning Strategies and Organizing Principles:

- Maintain Base Level of Operations On-Site During Construction

- Separate Operational and Public/Passenger Vehicle Traffic

- Allow for Flexibility in Final Yard Layout and Design

- Maintain Proper Directional Exposure for Building Elements

- Facilitate Dedicated Delivery Sequence

- Provide Consolidated Building Entry for Four Primary Agencies (Truck Station, State Patrol, Exam, Training/Public)

- Central Service Hub (Restrooms, Lunch Room, Fitness, Mud Room)

- Building is Separated into Three Primary Areas:

    a. Consolidated Office Area
    b. Consolidated Departmental Shops
    c. Vehicle Areas

Specific Strategies in this Option:

- Separate Cold Storage Building Adjacent to Yard and Delivery

- Consolidated Shop Area on West Side of Building

- Consolidated Construction Department Near Office Area

- Wash Bays are Separated by Bypass Lane Which Can Become a “Flex” Bay

- Drive-Thru Capability at State Patrol Garage

Staff Comments – 08/10/18:

Site Plan Comments:

- Train and Highway Noise is Very Loud on West Side of Site
- Will Snow Accumulate on North Side of the Site at Building
- Prefer Frontage Road in Option “E”

Floor Plan Comments:

- Layout Requires Long Cabling Runs Across Garage Area
- Verify Radio Shop Has Sink/Kitchen
- Man Doors Into All Shops
- Overhead Door to Pull Through Welding to Repair Shop
- Move Survey Office Away From Primary Exit/Entry Due to Noise and Vehicle Access
- Survey Too Far Away from Construction
- Provide “Mini-Room” with Door from Exterior at Welding
- Crew Room for Repair Shop needs Locker/Wash/Restroom
    - Shared Restrooms Too Far Away
- Bulk Oil Good (Preferred) with Exterior Access for Delivery
- Welding/Repair Shop should have (2) Hoists on One Track
- Is It Possible to Cool Welding/Repair Shop?
- Wash Bay Too Far Away from Repair Shop
- Is it Possible to Have an Entry to Exam from the Outside?
- Don’t Forget the Mounting of the Radio Shop Antenna!
- Not Liked
- Shop Guys Will Destroy Office Areas
- Double Wash Bay is a Big Bonus
- Plan Requires a lot of Foot Traffic Through Garage Area
- Prefer Offices and Shops Towards Hoover Road (Train & Freeway Noise)

Post Meeting Comments:

08/13/18

- New Building Is Maybe Too Close to the Old Building for Operations During Construction

VIRGINIA HEADQUARTERS SITE
ST. LOUIS COUNTY, MINNESOTA

U.S. HIGHWAY 53

PHASE 1

PHASE 2

COVERED YARD STORAGE

CHEMICAL STORAGE BUILDING

BUILDING MAINTENANCE STORAGE

COLD STORAGE

SALT STORAGE

BRINE

BIN STORAGE

BIN STORAGE

YARD STORAGE

STORMWATER POND

FLEET PARKING

PUBLIC PARKING

EMPLOYEE PARKING

PUBLIC PARKING

TEST AREA

IMPOUND

ACCESS

ACCESS

ACCESS

HOOVER ROAD

(C.R. 7)

(F.K.A. CR 19)

CHESTNUT STREET

MISSABE INDUSTRIAL ADDITION

IRON RANGE RR

DEPARTMENT OF TRANSPORTATION

Site Diagram - E

DEPARTMENT OF TRANSPORTATION

Adjacency Diagram - E

General Planning Strategies and Organizing Principles:

- Maintain Base Level of Operations On-Site During Construction

- Separate Operational and Public/Passenger Vehicle Traffic

- Allow for Flexibility in Final Yard Layout and Design

- Maintain Proper Directional Exposure for Building Elements

- Facilitate Dedicated Delivery Sequence

- Provide Consolidated Building Entry for Four Primary Agencies (Truck Station, State Patrol, Exam, Training/Public)

- Central Service Hub (Restrooms, Lunch Room, Fitness, Mud Room)

- Building is Separated into Three Primary Areas:

    a. Consolidated Office Area
    b. Consolidated Departmental Shops
    c. Vehicle Areas

Specific Strategies in this Option:

- Consolidated Building Entry and Public Parking Area on East Side of Building with Drive-Thru Capability

- Primary Operational Truck Flow reversed (North to South) Including Wash Bays

- Secondary Exterior Entry to Welding Shop

- Brine Area Not Directly Adjacent to Salt Storage

- Covered Storage Attached to Building on West Side

- Periodic Maintenance Bay at End of Large Vehicle Parking

- Consolidated Construction Office Shop Area

- Dedicated Exam/Test Area Indicated

- Parking Lot Separated Into Public/Employee Areas

- Deliveries are Restricted from Entering the Yard

Staff Comments – 08/10/18:

Site Plan Comments:

- Is Backyard One-Way or Two-Way?
- Check Turn Radius for Tandem (Tow Plow)
- Like Double Access to Welding
- Provide Cold Storage at West Edge of Site (Near Salt Storage)
- Brine at West Edge
- Provide Fence at Inventory Like Other Schemes
- Trailer Delivery for Inventory (Maneuvering)
- Need Turning/Maneuvering at Survey for Buses and Tractor Trailers (Testing/Inspection)
- Extend Test Area East and West to Parking Edge
- Explore Options for Off-Site Impound`

Floor Plan Comments:

- How About An Automated Car/Truck Wash for Smaller Vehicles with Under Body Wash.
- Noise at Train Tracks
    - Less Noise on East Side of Building
- Check Turning Radius into Wash Bays
- Welding/Repair Shop Restrooms, Locker
- Provide Access to Repair Shop From Welding Shop (Double Entry) with Forklift Access
- Curved or Snowplow Shaped North End for Snow Deflection
- Crew Room Offices on East Side
- Repair Shop Distance to Restrooms
- Like Drive-Thru from Repair Shop to Warm Storage
- Need to Control Noise from Repair Shop to Office Areas
- Concerned About Inventory Layout Possibilities with Narrower Configuration
- Like Entry off of Hoover Road
- Shops Being Close to Office Eliminates Long Cable Runs
- Less Protrusions is Best for Snow Removal and Energy Usage for HVAC
- Provide a Restroom on the South Side of the Building
- Spot Shown for PMD is Maybe Best used for Parking (Prime Real Estate)

Post Meeting Comments:

08/13/18

- Do Not Like Operational Flow
- Like Building Layout if Flows Can Match Option C

VIRGINIA HEADQUARTERS SITE
ST. LOUIS COUNTY, MINNESOTA

U.S. HIGHWAY 53

PHASE 1

PHASE 2

COVERED YARD STORAGE

GEN

BRINE

SALT STORAGE

BIN STORAGE

COLD STORAGE

ACCESS

CDL TESTING (INSPECTION PARKING)

EMPLOYEE PARKING

TEST AREA

PUBLIC PARKING

IMPOUND

STORM WATER POND

STORM WATER POND

ACCESS

FLEET PARKING

ACCESS

PUBLIC PARKING

HOOVER ROAD

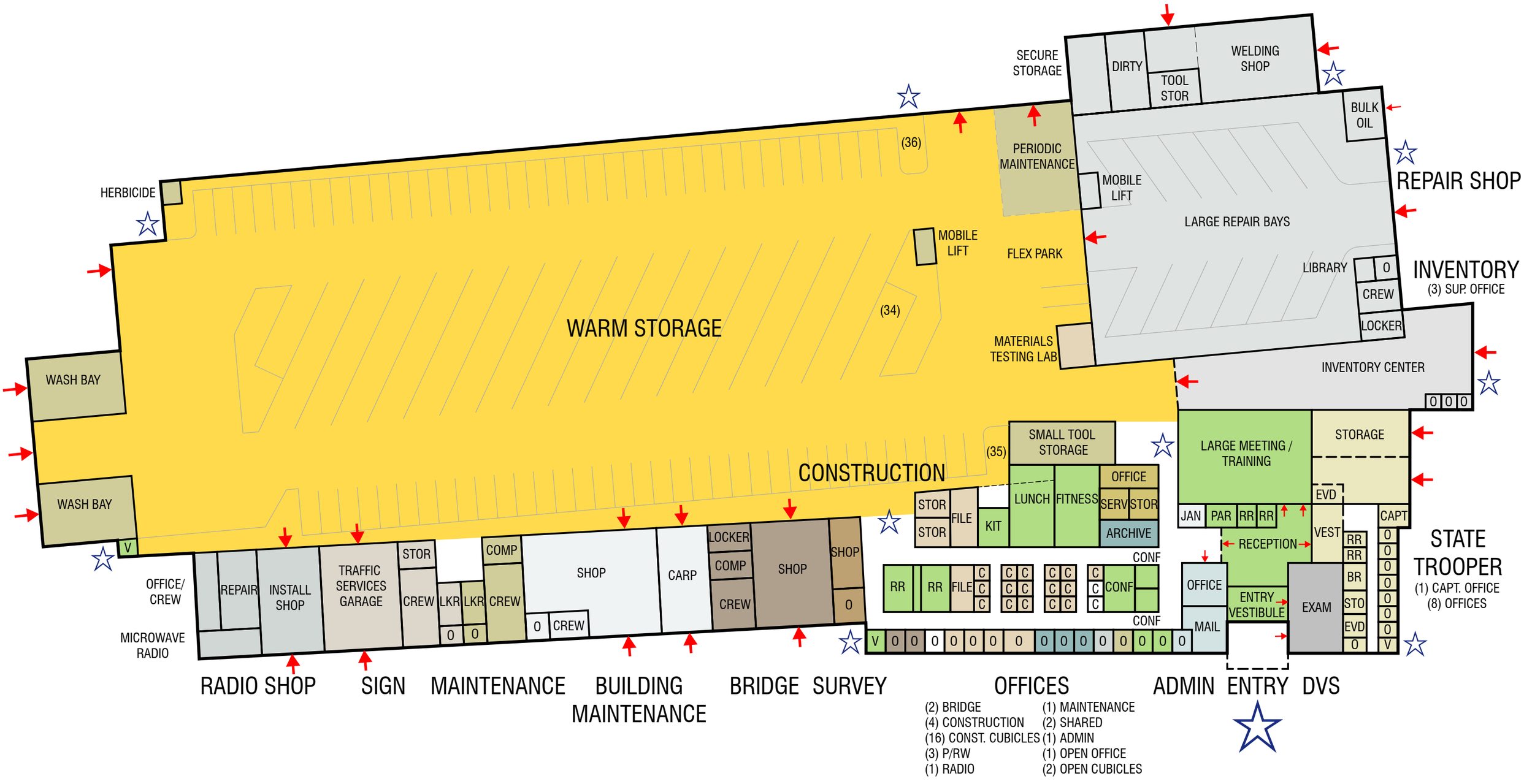
CHESTNUT STREET

DEPARTMENT OF TRANSPORTATION

Site Diagram - E-R.1

DEPARTMENT OF TRANSPORTATION

Adjacency Diagram - E-R.1



CODE REVIEW

DEPARTMENT OF TRANSPORTATION

OERTEL ARCHITECTS

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Applicable Codes

2015 Minnesota Building Code

2015 Minnesota Energy Code

2015 Minnesota Fire Code

2015 Minnesota Accessibility Code

2015 Minnesota Mechanical and Fuel Gas Code

2015 Minnesota State Plumbing Code

NFPA 70 – 2014 National Electrical Code

2006 International Fire Code (with state amendments)

Use / Occupancy Class

B: Office / Support Area

S-1: Vehicle Areas / Equipment Storage /Maintenance

Construction Type

II-B

No Occupancy Separation Required Between Type B and S-1 (Table 508.3.3)

Fire Resistance Requirement (Table 602)

Structural Frame	0
Bearing Walls (Exterior and Interior)	0
Non-Bearing Walls (Exterior and Interior)	0
Floor Assemblies	0
Roof Assemblies	0

*Building is Minimum of 10’-0” From All Property Lines

Fire Suppression

Given the size and function of the building - full fire suppression is anticipated and recommended.

Allowable Area and Height:

Occupancy Group: B

Construction Type: II-B

Base Tabular Allowable: (Table 503)

Maximum Height = 55 feet

Maximum Stories = 3

Maximum Gross Floor Area = 23,000 SF

Height/Area Modification:

Sprinkler Increase (Height)(504.2):

Height = 75 feet

Maximum Stories = 4

Frontage Increase (506.2): $I_f = [652/1944 - .25]30/30$

$I_f = .09$

Sprinkler Increase (506.3): $I_s = 2$ (Multi-Story)

$I_s = 3$ (Single-Story)

Maximum Gross Floor Area: $A_a = \{23,000 + [23,000 \times .09] + [23,000 \times 3]\}$

$A_a = 94,070$ SF

Occupancy Group: S-1

Construction Type: II-B

Base Tabular Allowable: (Table 503)

Maximum Height = 55 feet

Maximum Stories = 2

Maximum Gross Floor Area = 17,500 SF

Height/Area Modification:

Sprinkler Increase (Height)(504.2):

Height = 75 feet

Maximum Stories = 3

Frontage Increase (506.2): I_f = [1292/1944 - .25]30/30

I_f = .41

Sprinkler Increase (506.3): I_s = 2 (Multi-Story)

I_s = 3 (Single-Story)

Maximum Gross Floor Area: A_a = {17,500 + [17,500 x .41] + [17,500 x 3]}

A_a = 77,175 SF

Proposed Square Footage:

B: 42,000 SF

S-1: 124,000 SF

Proposed building square footage for type S-1 occupancy exceeds maximum gross floor area. Refer to section 507.3 and 507.5 for exceptions to maximum allowable gross floor area.

Total Occupancy: (Table 1004.1.2)

B: 42,000/100 = 420 occupants

S-1: 124,000/200 = 620 occupants

Total: 1,040 occupants

Minimum Plumbing Count: (Table 2902.1)

B:

Water Closet = 9.4

Lavatory = 6.25

Drinking fountain = .42

Service Sink = 1

S-1:

Water Closet = 6.2

Lavatory = 6.2

Drinking fountain = .62

Service Sink = 1

Totals:

Water Closet = 15.6 (16)

Lavatory = 12.45 (13)

Drinking fountain = 1.04 (2)

Service Sink = 2 (2)

Required Parking: (Per City Ordinance)

Exit Access Travel Distance (1016.2):

B: 300 feet

S-1: 250 feet

Common Path of Travel (1014.3):

B: 100 feet

S-1: 100

Exit Width (1018.2):

Minimum Corridor Width = 44 inches

Recycling Space:

Parking (.001/SF) 40,500 = 45 SF

Office (.0025/SF) 42,000 = 105 SF

Total Space Required = 150 SF

Unique Code Requirements:

Fluid Storage:

Consolidated fluid storage will require a containment area equal to the largest tank in the room plus 20 minutes of fire suppression

Flammable Waste Trap:

Areas used for the parking, storage, or maintenance of vehicles will require floor drains and a flammable waste trap

Emergency Eye Wash:

An emergency eye wash will be required within 10 seconds or 55 feet of any hazard

Hazardous Materials:

Hazardous material storage (herbicide, pesticide, fuel, etc.) needs to comply with Table 307.1 for Maximum Allowable Quantities

Electrical separation is required between B and S-1 occupancies through one of the following:

1. Mechanical de-classification
2. Vestibule
3. Floor height separation of 18”

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BASE DESIGN GUIDELINES

DEPARTMENT OF TRANSPORTATION

OERTEL ARCHITECTS

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ARCHITECTURAL:

Building Materials

Interior and exterior walls within the vehicle areas are typically architectural precast concrete wall panels or concrete block. These products provide both a durable interior surface and a maintenance friendly exterior finish. Precast and block also allows for various systems and equipment to be attached to the walls both during initial construction and over time as the building changes and adapts.

Construction within the office area varies depending on size and layout but often includes gypsum board finishes with stud framing, modular walls, and systems furniture as they allow for a greater degree of reconfiguration and adaptability over the lifespan of the building.

Structural Systems

The most typical system includes load-bearing precast wall panels or concrete block with long-span steel joists and deck. Precast hollow core plank is often used selectively at office or shop areas that require additional clearance or areas that include a storage or equipment mezzanine above. Office areas often include a steel beam and column system with steel joists and deck to allow for greater fenestration and wall systems that easily allow for concealed mechanical, electrical, and low-voltage systems integration.

Building Fenestration

Interior daylighting has rightly become a critical design component over the last 20 years. As previously discussed, the vehicle areas require large expanses of solid wall for storage and equipment purposes. A common solution is to provide clerestory windows at or above 16’-0” a.f.f. Due to the size and depth of the vehicle areas, the perimeter upper window is often balanced by using skylights towards the interior of the building.

The office design has evolved over the years to maximize interior daylight with a special emphasis on common areas such as conference rooms, training rooms, and shared open office. Recently, several agencies have become increasingly concerned with security and exposure of staff at office windows, particularly in the evening. In some cases, clients have selected to using mirrored or other obscured glass at select offices along with placement strategies that reduce the view into office.

Roof System

Roofing systems vary greatly based on overall design. Typically, EPDM membrane style low-pitch roofing systems are utilized throughout the building due to the long rise to run. Another common option is to utilize standing seam or similar metal roofing at select areas.

Interior Elements/Finishes

Building interior finishes within the facility require a high degree of durability, maintainability and resiliency. Staff frequently moves back and forth between shop/vehicle areas and office areas. Current examples of common strategies include:

1. Floor finishes typically include hard tile, resilient tile, or epoxy within the office areas. Use of carpet is limited to select areas and carpet tile is preferred as it is easier to selectively replace. Floor finishes in the vehicle areas are light broom concrete per agency standards, typical.

2. Consider the use of burnished concrete block in lieu of gypsum board for walls within office, crew, or lunch areas.

3. Allow for transitional spaces between office and vehicle areas within the design. These transitional areas often include wash fountains, wet lockers, boot racks, etc. and provide staff with a common and accessible way to manage gear, dirt and grease/oil.

4. Locker and restrooms in particular require a high degree of durability. For example, there are a number of lower cost options for counters and partitions but history has shown that finishes such as plastic laminate counters and cabinets have a short lifespan and require replacement, nullifying most if not all of the first cost value.

MECHANICAL:

General Mechanical Requirements

1. B3 Guidelines – Currently B3 requirements are required for any construction projects utilizing general obligation bond funding from the State of Minnesota. Verify with MnDOT Project Manager if they will be utilizing these funds and guidelines.

2. Coordinate with local utilities for any rebates available and provide information to Owner.

3. Coordinate all mechanical equipment with overhead crane locations.

Fire Suppression Systems

1. Verify fire suppression water service requirements with appropriate fire official or local authority having jurisdiction in addition to State Fire Marshal Office.
2. Obtain street water main pressure and flow test results from local water utility. Make arrangements for testing should existing data not be available or available data is more than three years old.

3. Verify fire department connection requirements with appropriate fire official or local authority having jurisdiction.

4. Design Vehicle Lubrication Bulk Storage Room for extra hazard occupancy.

Plumbing Systems

1. Provide concrete housekeeping pads for plumbing equipment and protective bollards where exposed in traffic areas.

2. In areas with hard water, provide water softening equipment to soften all facility water except interior water hose reels, hose bibbs, and exterior wall hydrants. Water serving Wash Bay pressure washers should be softened.

3. Provide sensor activated water closet and urinal flush valves and lavatory faucets unless directed otherwise by MnDOT Project Manager.

4. Typically, vehicle areas are provided with ¾-inch water hose reels served by 1-inch branch lines in lieu of hose bibbs. Provide isolation valve and code approved backflow prevention.

5. An overhead 4-inch tanker fill water line with ball valve shutoff and shock absorber is typically installed in the Wash Bay.

6. Verify locations for ice machines. Provide a water service line with ball type isolation valve, code compliant backflow prevention, and water filter for each ice machine.

7. Consider providing a 3-foot wide by 15-foot long by 3-foot deep trench drain with cast iron grate in the Wash Bay for wash water drainage and sand collection.

Wash Bay Equipment

1. Provide dual gas-fired pressure washers to serve the Wash Bay. Verify approved pressure washer manufacturers with MnDOT project manager. Typically, AaLadin is the MnDOT preferred manufacturer, with Hotsy and Alkota accepted alternates when approved by MnDOT.

2. Verify pressure washer accessory requirements. Typically, a trolley cable system with hoses and wash wands is provided.

3. Provide a remote pressure washer control panel and associated auto start/stop kit.

4. Piping downstream of the pressure washer shall consist of schedule 80 seamless galvanized steel pipe.

5. All Wash Bay devices and components must be NEMA 4 rated.

Compressed Air Systems

1. Verify air compressor sizing criteria. Typically, minimum pressure requirement is 150 psig.

2. Typically, vehicle areas are provided with compressed air hose reels with quick disconnect couplers in lieu of compressed air pipe drops. Provide isolation valve, pressure regulator, pressure gauge, and drainable drip leg. Tap compressed air branch line off top of main to prevent transfer of pipe sediment.

Vehicle Lubrication Systems

1. Verify lubrication fluids and storage capacity requirements. MnDOT preferred equipment manufacturer is Graco, but alternate manufacturers may also be approved by MnDOT.

2. Provide a primary storage tank with an environmental tank enclosure for each vehicle lubrication fluid. Storage tank and environmental tank enclosure shall comply with MnDOT requirements.

3. Verify gauge package for each vehicle storage tank.

Heating, Ventilating, & Air Conditioning Systems

1. Typically, hydronic in-floor radiant heat for vehicle maintenance, wash bay, and office perimeter is provided. Typically, the intent is to locate radiant heat tubing below concrete floor slab to allow for future slab replacement in vehicle areas. Note that additional heating capacity may be required to accommodate tubing location.

2. Typically, Vehicle Storage areas are heated utilizing gas-fired make-up air units and unit heaters in lieu of gas-fired overhead radiant heaters. A minimum of six

air-changes-per-hour of outdoor air ventilation is provided. Exhaust fans and make-up air units activate based on either carbon dioxide (CO) or nitrogen dioxide (NO2) detector activation or by manual activation of a timed-on switch or button.

3. Design vehicle spaces to operate at a negative building pressure with respect to adjacent office spaces. Balance exhaust and make-up airflow quantities to avoid excessively negative or positive spaces.

4. Offices are typically conditioned and ventilated by an indoor air handling unit with hydronic heat and DX cooling, and utilize a variable air volume (VAV) zoning system. Toilet facilities and locker rooms are exhausted based on a minimum of 2 CFM/SF. Provide energy recovery when required by code.

5. Vehicle Bulk Lubrication Storage Rooms should be exhausted at a minimum of six air-changes-per-hour. Exhaust should be both high and low within the room.

6. The Welding Bay is typically provided with a 14-foot exhaust extraction arm assembly with associated exhaust fan and additional 14-foot exhaust extraction arm extension.

7. Vehicle Maintenance is typically provided with overhead vehicle fume extraction hose reels with motorized control. Verify quantity and locations with MnDOT Project Manager.

8. Provide boiler emergency shutoff switch as required by code.

9. Provide adequate exhaust for the Air Compressor Room to prevent overheating of equipment.

Building Automation, Energy Management & Control Systems

1. MnDOT has specific building automation system (BAS) requirements and continually updates their master BAS specification. Coordinate with the MnDOT Project Manager to connect with the MnDOT Project Mechanical Engineer and the MnDOT Control Manager regarding project BAS requirements.

2. Verify approved BAS manufacturers and installers with MnDOT Project Manager. These may vary based on the project.

3. Verify approved BAS control sequences and control point lists with MnDOT Project Mechanical Engineer and MnDOT Control Manager. Sequences and control points should be based on MnDOT master specification requirements.

4. The requirement of a BAS Pre-Construction Meeting is typically specified in the design documents and is usually scheduled to occur just prior to the beginning of building construction. The meeting should be coordinated with and include the MnDOT Control Manager and the District's MnDOT BAS Inspector.

5. BAS checkout and commissioning in accordance with MnDOT requirements are also typically specified in the design documents. Verify specifics with MnDOT Project Mechanical Engineer and MnDOT Control Manager.

6. Control wiring is required to be run in conduit in all areas of the building.

7. Heating water system boilers are typically required to be controlled through a MnDOT approved Boiler Management System. Verify exact requirements with MnDOT Project Manager.

ELECTRICAL:

General Electrical Requirements

1. B3 Guidelines – Currently B3 requirements are required for any construction projects utilizing general obligation bond funding from the State of Minnesota. Verify with MnDOT project manager if they will be utilizing these funds and guidelines.

2. Coordinate with local utilities for any rebates available and provide information to Owner.

Lighting Systems

1. If there is not an emergency generator provided under the project, consider a UL924 inverter of minimum size required for emergency lighting in lieu of separately mounted battery units, interior and exterior remote heads.

2. LED lighting is preferred source with a 3500K color temperature.

3. Provide building wide control systems as required per latest edition of the Minnesota energy code or as identified as part of an accepted bundle from a utility energy rebate analysis.

Power Systems

1. For vehicle storage and maintenance areas, group general exhaust starters by zone at an accessible location.

2. Provide concrete housekeeping pads for electrical equipment and protective bollards where exposed in traffic areas.

3. Verify generator requirements with project manager. At a minimum, provide portable docking station with manual transfer switch and bypass. Equipment on standby power typically includes phone/data, card access, overhead doors, fuel dispensers & pumps, motorized gate operators, unit heaters, boilers and circulating pumps and elevators.

4. Verify if alternative energy systems such as photovoltaic or wind turbine systems are required. Typically, these systems are not required unless B3 guidelines apply.

5. Provide TVSS for main service and emergency panel.

Conduits/Outlets

1. Within the building, it is preferred to route conduits overhead, however, due to cost, if conduits below slab may be allowed by MnDOT. Verify with Project manager if an alternate/deduct to allow underground conduits is desired for the project.

2. Where allowed, any conduits run underground must be located below (not within) the floor slab. Conduits emerging from the floor slab are to be PVC coated rigid steel continuous without couplings to a minimum of 30” AFF.

3. Maximum of 6 current carrying conductors (phase & neutral) per raceway/home run.

4. Outlets and raceways are to be installed exposed in unfinished areas, e.g. vehicle storage areas, shop areas, and mechanical rooms. Conduits routed horizontally are to be installed at the bottom of the top chord of steel bar joist. For precast tee structure route conduit as high as is practicable and may be installed at the bottom of tees where perpendicular. Conduits are not to be routed horizontally on walls and are to drop vertically to equipment/devices.

5. Verify which areas are Class I, Division 2 hazardous areas from the floor to 18” AFF. They typically include: Vehicle Storage, Wash Bay, Mechanics Area, Bulk Oil, Parts/Tools & Mechanics Office/Parts. In addition, verify areas are Class I,

Division 2 hazardous areas from the ceiling deck to 18" below the ceiling which typically include the Mechanics Area. Wiring Methods are to comply with National Electrical Code Articles 501 & 511. For adjacent spaces, provide separations as required by code utilizing height differentials or mechanical ventilation/pressurization. Note it is not efficient to ventilate the Mechanics bays 24 hours, 7 days a week.

6. Provide flush mount outlets and concealed raceways in finished areas, e.g. office areas, corridors and areas with suspended ceilings.

7. Exterior outlets are to be recessed flush, coordinate with General contractor/pre-cast panel supplier, as required

8. Exterior conduit below grade may be PVC, 1-1/2" diameter minimum.

9. Elbows for conduit below grade are to be PVC coated steel for runs greater than 100 feet or for runs with 2 or more bends.

10. Provide a separate neutral conductor for each 120 volt and 277 volt circuit. Multiwire branch circuits with shared neutrals are not acceptable.

11. Each receptacle location designated GFI/GFCI is to be provided with a GFCI type receptacle. GFCI feed through wiring is not acceptable. Exception: Light Cord Reels mounted at 96" are to feed through from GFCI receptacle below.

12. Provide seal-offs for conduits to/from fuel island. Provide emergency shut off switch which disconnect all conductors that run in/through/under the rated areas of the fuel island (including neutrals).

Panelboards

1. Provide flush mount panelboards in finished areas, e.g. office areas, corridors and areas with suspended ceilings.

2. Provide TVSS for main service equipment and emergency panels.

Low Voltage Systems

1. Fire alarm – Verify code requirements. At a minimum, provide a fire alarm control panel with auto-dialer to monitor the Fire Protection System (Sprinklers). System to include connections to tamper switches, flow switches, exterior horn/strobe, duct smoke detectors, fire/smoke dampers, cabling and connections as per

standard practices and the Minnesota State Fire Code. Notification system and manual initiation system to be provided only if required by code.

2. Security – Provide security at all doors, minimally a door positon switch and request to exit device. Interface to disable overhead doors radio control (interior pushbuttons always active) on time schedule with exterior pedestrian doors. Exterior pedestrian doors, overhead doors and motorized gates (if applicable) for positon. Electrically operated locksets/exit devices will be required on exterior doors. Verify if any other systems such as CCTV or intrusion detection and duress are required. Verify if Owner has existing system at remote facilities that will require integration with any new systems being provided.

3. Voice/Data – Project will include Rough-in for a structured cabling system. A double-gang box, with a single gang mud-ring, will be provided with a 1"C stubbed to accessible ceiling space. Service conduits and dedicated wall space will be provided for cabling and termination by local utility. Plywood backboards, ladder racking, cable management accessories, 19" four-post rack, and receptacles will be provided for mounting of equipment. A telecommunications grounding bar will be provided in room. All components within the telecommunications room will be bonded to the telecommunications grounding bar to provide an equipotential plane within the room. All active components including: hardware, software, handsets, PC's, PoE devices, local power supplies, and programming to be provided by Owner's vendor(s) under separate contract.

4. A/V – Provide rough-in (conduit & boxes) for cabling and devices provided by Owner's vendor(s) under separate contract.

5. Paging- A zoned public address (P/A) system will be provided throughout the building. Typical zones include: Vehicle Maintenance, Vehicle Storage, Multi-Purpose Room, Office Area (Excluding private offices), exterior yard. P/A system will include components necessary for background music including a CD player, Auxiliary Input Jack (MP3 players), & AM/FM radio and phone interface.

6. TV distribution - A complete cable distribution system including cabling and jacks will be provided to a small number of select rooms.

7. Lightning protection system – perform risk assessment and present to Owner for review and final decision.

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SUSTAINABILITY

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Sustainability Goals and Strategies:

Sustainable or "green" design and environmental analysis is an essential element to any built project, not only as a means of preserving the natural environment but also as a best practice in terms of energy and expense conservation. As the project moves forward, we would recommend that the project team follow one of three sustainability design tracts:

TRACT 1 - Sustainability Baseline:

Through our own work and in coordination with the Xcel Energy Design Initiative, we have the identified the following systems and strategies as a baseline for all buildings:

- LED or high efficiency lighting fixtures

As the lighting industry has worked to standardize both the fixtures and testing surrounding LED technologies over the past 5-10 years, we have started to recommend the use of LED light fixtures at all interior and exterior locations of the building.

- Photocells at exterior light fixtures

Automated diurnal control of exterior light fixtures is a simple and maintainable energy and cost saving strategy.

- Vacancy and occupancy sensors

Vacancy and occupancy sensors prolong lamp and fixture life while providing additional safety and security benefits. Sensors will be used in all locations with a few exceptions based on the specific requirements of the facility.

- Multi-Level switching for light fixtures

Providing varying light intensities is less critical in low occupancy facilities such as the water treatment plant. However, based on shared-use feasibility, multi-level switching will be considered for all proposed functions.

- Effective and wisely located daylighting strategies to off-set artificial lighting
-

Wall and skylight fenestration for daylighting will be used in all areas not negatively affected or restricted by internal use and function.

- Orientation of the building to the prevailing winter air
-

Building entry and large openings such as overhead door openings will be located as to avoid the direction of the prevailing winter wind. In addition, the design team will use high-efficiency unit heaters at critical locations to supplement the heating system.

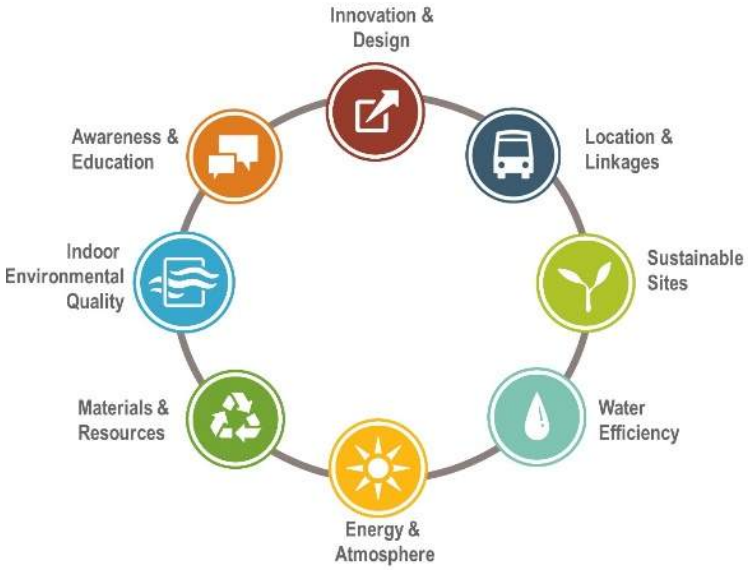
- Energy recovery units in combination with HVAC systems

The design team will explore opportunities to extract latent energy from exhaust, water supply, and other sources to supplement the heating and cooling of the facility.

- VFD (variable frequency drive) type motors

VFD's on pumps, fans, and motors have a very short and proven payback and will be used wherever possible.

- Low E and tinted glass, specified by location and sun orientation



Glass and film technology is advancing rapidly. The design team will select glazing and panels based on the unique requirements of each space and its location within the building

- Insulation values greater than code where it is practical

A careful cost/benefit analysis will be done on the wall and roofing systems to identify proper insulation values.

- Low-flow and dual flush plumbing fixtures

Dual flush lavatories and urinals are a simple water-saving measure that allows flexibility and practicality in use. In addition, flush and faucet sensors are recommended to prevent accidental and unmonitored overuse.

- Local materials/suppliers/manufacturers

Using local materials eliminates much of the energy required to transport the product or material from the manufacturer to the jobsite. In addition, the use of local suppliers provides a benefit to the local economy and in some cases, reduces lead times and delays associated with overseas manufacturing.

- Sensor Control of HVAC

Sensor control of interior air quality and occupancy control of ventilation air are (2) very effective strategies for reducing the energy used by the building's HVAC system

- Renewable/Recycled materials

The industry as a whole has recognized the benefit of renewable and recycled materials and many manufacturers and suppliers have implemented programs that are an integral part of their overall operations. Building materials will be accessed and chosen based on their first cost and overall life-cycle costs.

- Storm water management

The project team will work with the watershed to identify best practices for storm water containment, retention, and rate control based on the development parameters.

- Low-Maintenance landscaping

Low or no maintenance landscaping provides a water and resource saving environment that can be easily maintained by city staff without adding significantly to the department workload. These strategies were selected based on current industry standards, anticipated financial payback, and best practices and it is our recommendation that they should be included on every project. In our experience, a building project that follows these strategies will perform well in terms of first cost and on-going life cycle costs in comparison to a code compliance based building model.

***TRACT 2 - Sustainability Equivalency**:*

Often, the project team will choose to follow LEED, B3 (Minnesota Sustainability Guidelines), or another accredited guideline during project development without formal application and enrollment in the program. This method provides an outline for design with verifiable metrics while allowing the flexibility to use best practices, strategy trade-offs specific to the project, or alternate methods of meeting guideline intent. This tract also allows the owner to mitigate costs associated with project registration, tracking/management, and advanced commissioning and modeling.

TRACT 3 - Sustainability Certification:

Some projects are required to follow a third-party verification program such as LEED due to the funding mechanism or policy mandate. Privately funded projects can realize tax incentives and unique advantages in their marketplace by achieving certification. On publicly funded projects, certain entities sometimes choose to select high-visibility civic buildings as "leadership

buildings". These projects serve as a prominent display of sustainability stewardship or as a means of educating or aiding the uptake of green building technology within the community. Certification also provides an independent third-party verification process that can be important from a marketing or perception standpoint.

It is difficult to predict the potential financial impact of equivalency or certification on the construction budget. Most long-range studies put the construction premium of LEED at 2%-10% dependent on which level certification the project is hoping to achieve.

In the end, we believe that sustainability and limiting energy usage is a combination of proven applications, reasonable payback, reduced maintenance, department guidelines, and common sense. Throughout the process, the design team should analyze multiple sustainable options and the initial cost compared to value and cost/energy recovery in an attempt to maximize short-term and long-term sustainability for whichever tract the project chooses to pursue

CONSTRUCTION PHASING BUDGET ESTIMATE

DEPARTMENT OF TRANSPORTATION

OERTEL ARCHITECTS

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CONSTRUCTION PHASING

The Proof of Concept plans confirm that there is an opportunity to maintain a baseline of operations on-site during construction. The current site is separated north/south with the main facility on the north and site related functions such as salt storage, exterior storage, brine, etc. located on the south. The underlying strategy would be to flip the site by constructing the new building on south while the existing building remains operational. This would require the displacement of critical site functions that would need to be relocated off site or accomplished on-site using temporary means during construction.

The salt building is a critical piece of infrastructure that needs to be coordinated. The construction of the new salt shed could be left for a summer construction window. If planned properly, the demolition/construction can begin in April/May and complete by August in advance of snow and ice season. Alternatively, working with staff, there might be an opportunity to construct the brine building and the salt building in their proposed location in advance of Phase 1 construction of the main facility. This would necessitate closing off major traffic flow out of the west side of the building to the north. While not ideal, this option would keep one of the critical functions of the facility continuously on-site and under agency control.

Contractor parking, access, storage, and staging area would be limited to the south end of the site and the east side (Hoover Road) of the proposed new main facility. It would be beneficial to plan for the early construction of proposed southernmost curb cut or to provide dedicated temporary access for the contractor in this location to limit their use of the two existing curb cuts, which will be dedicated to the operational flow of the facility.

After the new main facility is completed, the existing facility would be demolished and the support building and remaining site improvements would be constructed on the south side of the site.

Some critical components of the construction phasing will include:

Existing Services – Water, Gas, Electric

As the existing operation is to remain on site, temporary shut-offs and permanent switch-over will need to be carefully planned and coordinated between the department and the contractor.

Delivery Times / Working Restrictions:

The site and Hoover Road in particular will be very active. Project material deliveries, primary contacts, and construction/operational timelines should be established in advance of commencing construction activities.

Construction Scheduling:

An overall construction schedule should be completed and reviewed by the entire team. Review of the timeline should anticipate weather delays and construction/operational conflicts in order to provide a realistic roadmap to project completion.

BUDGET ESTIMATE

The budget estimate at the master plan stage of the project relies primarily on historic data and area calculations. The estimates were refined using a partial breakdown by bid division with anticipated architectural, structural, mechanical, and electrical systems and equipment. The building was separated into four primary space types: Cold Storage, Office/Shop, Vehicle Parking, and Vehicle Repair to reflect the differing building massing, interior and exterior finish, and building system needs inherent in each area. Individual soft costs (overhead and profit, fees, testing, etc.) are included within each section.

Basic Cost Breakdown:

Cold Storage (15,250 SF)	$2,180,000
Office/Shop (50,000 SF)	$8,971,000
Vehicle Parking (96,200 SF)	$13,855,000
Vehicle Repair (30,000 SF)	$8,904,000
Support Structures	$1,220,000
▪ Salt Building	
▪ Brine Building	
▪ Storage Bins	
Total:	$35,130,000

Summary

Project Component	Area	Budget Estimate
Cold Storage	15250	$ 2,179,399.16
Office/Shop	50000	$ 8,970,933.22
Vehicle Parking	96200	$ 13,854,960.68
Vehicle Repair	30000	$ 8,903,742.67
Totals	191450	$ 33,909,035.73

Project Name			$ 1,877,174.13	Subtotal
COLD STORAGE			$ -	Site
SF			$ 150,173.93	OH&P
			$ 152,051.10	Fees/Testing
			$ 2,179,399.16	PROJECT TOTAL

190.625	Length	Building Geometry
80	Depth	
15250	sf	

Wall Height			18	
Perimeter	LF		541.25	
Architectural Precast	SF		9742.5	
	$/sf		$ 32.00	
			$ 311,760.00	
Floor		15250	$ 6.00	SF
			$ 91,500.00	
Roofing		15250	$ 7.50	Sf
			$ 114,375.00	
Overhead Doors		6	$ 12,000.00	per
			$ 72,000.00	
Structural Steel		47.58	$ 4,500.00	Ton
			$ 214,110.00	
Metal Decking		15250	$ 6.50	SF
			$ 99,125.00	
Misc Metals		0.25	$ 35,000.00	Allowance
			$ 8,750.00	
Carpentry		15250	$ 2.50	SF
			$ 38,125.00	
Mechanical		15250	$ 18.00	Sf
			$ 274,500.00	
Electrical		15250	$ 15.00	SF
			$ 228,750.00	
Plumbing		15250	$ 12.00	SF
			$ 183,000.00	
Fire Protection		15250	$ 2.50	SF
			$ 38,125.00	
Doors/Frames/Hardware		4	$ 3,250.00	per
			$ 13,000.00	
Windows/Glass		208.525	$ 65.00	SF
			$ 13,554.13	
Equipment		1	$ 24,000.00	Allowance
			$ 24,000.00	
Finishes		15250	$ 10.00	SF
			$ 152,500.00	

M/E/P/FP	$	724,375.00	
	$	47.50	per SF
Arch Shell	$	75.59	per SF

Site		0	$ 5.00	SF
			$ -	

Project Name			$	7,696,902.00	Subtotal		
OFFICE / SHOP			$	30,000.00	Site		
50000 SF			$	618,152.16	OH&P		
			$	625,879.06	Fees/Testing		
			$	8,970,933.22	PROJECT TOTAL		

500	Length	Building Geometry
100	Depth	
50000	sf	

Wall Height				18			
Perimeter	LF			1200			
Architectural Precast	SF			21600			
	$/sf		$	50.00			
			$	1,080,000.00			
Floor		50000	$	6.25	SF		
			$	312,500.00			
Roofing		50000	$	7.50	Sf		
			$	375,000.00			
Overhead Doors		9	$	12,000.00	per		
			$	108,000.00			
Structural Steel		124.8	$	4,500.00	Ton		
			$	561,600.00			
Metal Decking		50000	$	6.50	SF		
			$	325,000.00			
Misc Metals		0.5	$	35,000.00	Allowance		
			$	17,500.00			
Carpentry		50000	$	4.50	SF		
			$	225,000.00			
Mechanical		50000	$	22.50	Sf		
			$	1,125,000.00			
Electrical		50000	$	18.75	SF		
			$	937,500.00			
Plumbing		50000	$	16.50	SF		
			$	825,000.00			
Fire Protection		50000	$	2.50	SF		
			$	125,000.00			
Doors/Frames/Hardware		70	$	3,250.00	per		
			$	227,500.00			
Windows/Glass		850.8	$	65.00	SF		
			$	55,302.00			
Equipment		1	$	147,000.00	Allowance		
			$	147,000.00			
Finishes		50000	$	25.00	SF		
			$	1,250,000.00			
						M/E/P/FP	$ 3,012,500.00
							$ 60.25 per SF
						Arch Shell	$ 93.69 per SF
Site		6000	$	5.00	SF		
			$	30,000.00			

Project Name			$	11,933,644.00	Subtotal		
VEHICLE PARKING			$	-	Site		
96000 SF			$	954,691.52	OH&P		
			$	966,625.16	Fees/Testing		
			$	13,854,960.68	PROJECT TOTAL		
	520	Length	Building Geometry				
	185	Depth					
	96200	sf					
Wall Height				24			
Perimeter		LF		1410			
Architectural Precast		SF		33840			
		$/sf	$	50.00			
			$	1,692,000.00			
Floor		96200	$	6.50	SF		
			$	625,300.00			
Roofing		96200	$	7.50	Sf		
			$	721,500.00			
Overhead Doors		5	$	12,000.00	per		
			$	60,000.00			
Structural Steel		129.792	$	4,500.00	Ton		
			$	584,064.00			
Metal Decking		96200	$	6.50	SF		
			$	625,300.00			
Misc Metals		1.75	$	35,000.00	Allowance		
			$	61,250.00			
Carpentry		96200	$	2.50	SF		
			$	240,500.00			
Mechanical		96200	$	20.00	Sf		
			$	1,924,000.00			
Electrical		96200	$	18.00	SF		
			$	1,731,600.00			
Plumbing		96200	$	16.50	SF		
			$	1,587,300.00			
Fire Protection		96200	$	2.50	SF		
			$	240,500.00			
Doors/Frames/Hardware		4	$	3,250.00	per		
			$	13,000.00			
Windows/Glass		2682	$	65.00	SF		
			$	174,330.00			
Equipment		1	$	210,000.00	Allowance		
			$	210,000.00			
Finishes		96200	$	15.00	SF		
			$	1,443,000.00		M/E/P/FP	$ 5,483,400.00
							$ 57.00 per SF
						Arch Shell	$ 67.05 per SF
Site			$	5.00	SF		
			$	-			

Project Name		$	5,242,594.00	Subtotal
VEHICLE REPAIR		$	2,426,435.00	Site
30000 SF		$	613,522.32	OH&P
		$	621,191.35	Fees/Testing
		$	8,903,742.67	PROJECT TOTAL

300	Length	Building Geometry
100	Depth	
30000	sf	

Wall Height				26	
Perimeter	LF			800	
Architectural Precast	SF			20800	
	$/sf		$	40.00	
			$	832,000.00	
Floor		30000	$	7.50	SF
			$	225,000.00	
Roofing		30000	$	7.50	Sf
			$	225,000.00	
Overhead Doors		3	$	12,000.00	per
			$	36,000.00	
Structural Steel		74.88	$	4,500.00	Ton
			$	336,960.00	
Metal Decking		30000	$	6.50	SF
			$	195,000.00	
Misc Metals		1	$	35,000.00	Allowance
			$	35,000.00	
Carpentry		30000	$	3.00	SF
			$	90,000.00	
Mechanical		30000	$	25.00	Sf
			$	750,000.00	
Electrical		30000	$	20.00	SF
			$	600,000.00	
Plumbing		30000	$	18.00	SF
			$	540,000.00	
Fire Protection		30000	$	2.50	SF
			$	75,000.00	
Doors/Frames/Hardware		12	$	3,250.00	per
			$	39,000.00	
Windows/Glass		1563.6	$	65.00	SF
			$	101,634.00	
Equipment		1	$	562,000.00	Allowance
			$	562,000.00	
Finishes		30000	$	20.00	SF
			$	600,000.00	

M/E/P/FP	$	1,965,000.00	
	$	65.50	per SF
Arch Shell	$	109.25	per SF

Site		485287	$	5.00	SF
			$	2,426,435.00	

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VIRGINIA HEADQUARTERS SITE
ST. LOUIS COUNTY, MINNESOTA

PHASE ONE CONSTRUCTION

PHASE TWO CONSTRUCTION

PRE-PHASE ONE ALTERNATE CONSTRUCTION

CONTRACTOR ACCESS

CONTRACTOR STAGING

AGENCY ACCESS

AGENCY ACCESS

HOOVER ROAD

(C.R. 7)

(F.K.A. CR 19)

CHESTNUT STREET

DEPARTMENT OF TRANSPORTATION

Phasing Diagram

APPENDIX

MEETING MINUTES

SITE SURVEY

PHASE I

PHASE II

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MEETING MINUTES

DEPARTMENT OF TRANSPORTATION

OERTEL ARCHITECTS

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OERTEL ARCHITECTS
1795 ST. CLAIR AVENUE, ST. PAUL, MN 55105
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Project Timeline

11.22.17 – Project Kick Off Meeting

- Project Introduction
- Staff Interviews
- Information Gathering

12.19.17 – Preliminary Submission

- Documented Meeting Minutes from Staff Interviews
- Created Preliminary Building Program with all known spaces
- Created "Departmental Snapshots" for requirement and needs tracking
- Conformed individual space sizes to current Truck Station Standards

Additional Revisions:

- ✓ Increased size of Sign Office from 8'x10' to 10'x12' (SIGN)
- ✓ Added (1) 8'x12' Computer Work Stations (SIGN)
- ✓ Added (2) 8'x10' Parenting Rooms (SHARED)
- ✓ Added (3) 8'x10' Public Restrooms (SHARED -Men's, Women's, Universal)
- ✓ Verified Survey Vehicle Parking Requirements (SURVEY)
- ✓ Added 12'x20' Locker Room at Repair Shop (REPAIR SHOP)
- ✓ Added second Supervisor Office at Maintenance (MAINTENANCE)
- ✓ Changed Exam offices from (1) Supervisor Office and (1) Office to (2) Supervisor Offices (EXAM)
- ✓ Added 6'x8' Storage Room to Exam (EXAM)
- ✓ Correct Size of Small Tool Storage on Department Snapshot (WARM STORAGE)
- ✓ Increase Bridge Cold Storage to 500 sf +/- (BRIDGE)
- ✓ Increase Bridge Lunch Room to 16'x28' based on 50sf/employee (BRIDGE)
- ✓ Increase Construction Locker Room to 14'x30' based on case study layout (CONSTRUCTION)
- ✓ Changed Maintenance Break Room to 20'x50' based on 50sf/employee (MAINTENANCE)
- ✓ Removed Shop from Survey Departmental Snapshot as it was included under Departmental Shops already (SURVEY)

01.15.18 – Preliminary Submission 2

- Documented Meeting Minutes from Staff Interviews
- Created Preliminary Building Program with all known spaces
- Created "Departmental Snapshots" for requirement and needs tracking

- Conformed individual space sizes to current Truck Station Standards

    - Revisions (As Noted Above)
    - Individual Space Breakdowns for Departmental Snapshots
    - Site Analysis

01.24.18 – Project Progress Meeting

- Continuing Staff Interviews
- Information Gathering
- Initial Site Plan Concepts

02.01.18/02.08.18 – Video Conference Updates

- Continuing Staff Interviews
- Information Gathering

Revisions:

- ✓ Add Mezzanine Storage area for microwave dish connection. This area includes a CAT5 connection, dedicated HVAC, and generator connection (RADIO)
- ✓ Add Hand Sink to Office/Crew (RADIO)
- ✓ Lower Ceiling in Radio Repair Shop to 8'-6" (RADIO)
- ✓ Provide a standard door in Radio Repair Shop (RADIO)
- ✓ Provide a water reel in Radio Install Shop (RADIO)
- ✓ Add Drill Press to equipment in Radio Install Shop (RADIO)
- ✓ Lower Ceiling to 8'-6" at Microwave Radio Repair Shop (RADIO)
- ✓ Change Door Opening to 3'-6"x 8'-0" (RADIO)
- ✓ Provide Washer/Dryer with 220v connection at Vehicle Parking (WARM STORAGE)
- ✓ Oil/Grease Bay is also known as Periodic Maintenance Bay and Service Bay
- ✓ Eliminate Tire Mounting from Oil/Grease Bay (WARM STORAGE)
- ✓ Add vice to work bench (WARM STORAGE)
- ✓ Add note for no occupancy sensors at Oil/Grease Bay (WARM STORAGE)
- ✓ (3) oil drop/reels required at Oil/Grease (WARM STORAGE)
- ✓ Add a wash fountain/gang wash (WARM STORAGE)
- ✓ Add trouble light at electric reel at Oil/Grease Bay (WARM STORAGE)
- ✓ Note that platform should be galvanized in Wash Bays (WARM STORAGE)
- ✓ Provide apron down to 12'-0" A.F.F. in Wash Bay (WARM STORAGE)
- ✓ Overhead doors to be polycarbonate in Wash Bay (WARM STORAGE)
- ✓ Provide clean out at sand interceptor pit in Wash Bay (WARM STORAGE)
- ✓ Truck fill to be 2" in Wash Bay (WARM STORAGE)

- ✓ Provide high/low wall mounted light fixtures in the Wash Bay (WARM STORAGE)
- ✓ FFE in Small Tool Storage to include: shelving, cabinets (WARM STORAGE)
- ✓ Change ceiling height in Small Tool Storage to 8'-6" (WARM STORAGE)
- ✓ Door into Small Tool Storage can be fence/gate (WARM STORAGE)
- ✓ Note that Small Tool Storage is a secure room (WARM STORAGE)
- ✓ Change size of Herbicide Storage to 8'x12' (WARM STORAGE)
- ✓ Herbicide Storage to be located on an outside wall (WARM STORAGE)
- ✓ Provide (1) Supervisor Office in Consolidated Office Area and (1) Supervisor Office by Crew Room (MAINTENANCE)
- ✓ Provide (4) cubicles (MAINTENANCE)
- ✓ Provide Crew Room for (12)-(15) people that includes counter/kitchenette/work stations similar to other crew rooms (MAINTENANCE)
- ✓ Floors in Crew Room to be light broom (MAINTENANCE)
- ✓ Provide articulated welding arm at Bridge Shop (BRIDGE)
- ✓ Provide utility sink at Bridge Shop (BRIDGE)
- ✓ Create Crew Room (BRIDGE)
- ✓ Do not need to store all concrete jersey barriers on site (BRIDGE)
- ✓ Provide (3) oil drops/reels at Repair Bays (REPAIR SHOP)
- ✓ Provide utility sink/wash fountain at Repair Bays (REPAIR SHOP)
- ✓ Change Welding Bay to 40'-0"x60'-0" (REPAIR SHOP)
- ✓ Welding Shop to have exterior access and be located by Repair Bays (REPAIR SHOP)
- ✓ Welding Shop FFE includes: work station for computer, Iron Worker, Hydraulic Press, Lathe, Drill Press, Grinder, (8) ton bridge with (5) and (3) ton hoists, crane to max extents (REPAIR SHOP)
- ✓ Welding Shop to have 12'-0"x12'-0" rolling door at interior (REPAIR SHOP)
- ✓ No occupancy sensors in Welding Shop (REPAIR SHOP)
- ✓ Air/Water reels at Welding Bay (REPAIR SHOP)
- ✓ Vented welding benches at Welding Bay (REPAIR SHOP)
- ✓ Add trouble light to electric reel at Welding Bay (REPAIR SHOP)
- ✓ Tool Storage to be 20'-0"x20'-0" (REPAIR SHOP)
- ✓ Equipment at Tool Storage to include: Island Storage with tabletop counter, perimeter storage cabinets (to be reused?) (REPAIR SHOP)
- ✓ Change height of Tool Storage to 8'-6" (REPAIR SHOP)
- ✓ Chain-link fence/gate door at Tool Storage (REPAIR SHOP)
- ✓ Change Equipment Storage to Dirty Room (REPAIR SHOP)
- ✓ Equipment at Dirty Room includes: sandblaster, parts washer, hose bench, crimper, cutting wheel, chop saw, workbench (REPAIR SHOP)
- ✓ Ceiling height at Dirty Room to be 8'-6" (REPAIR SHOP)
- ✓ Provide task lighting at work bench in Dirty Room (REPAIR SHOP)
- ✓ Provide air/water drops at Dirty Room (REPAIR SHOP)

- ✓ Provide dedicated exhaust at hose bench and parts washer at Dirty Room (REPAIR SHOP)
- ✓ Provide floor drain at Dirty Room (REPAIR SHOP)
- ✓ Provide special purpose outlets as required at Dirty Room (REPAIR SHOP)
- ✓ Change material Storage to Secured Storage (REPAIR SHOP)
- ✓ Secured Storage adjacencies include: Repair Bays (REPAIR SHOP)
- ✓ FFE at Secured Storage include: wall hung storage, industrial shelving, pallet storage (REPAIR SHOP)
- ✓ Height in Secured Storage to be 10'-0" (REPAIR SHOP)
- ✓ Move restrooms to Locker Room (REPAIR SHOP)
- ✓ Eliminate Parts Storage (REPAIR SHOP)
- ✓ Eliminate Parts Wash (REPAIR SHOP)
- ✓ Library to include employee media component including: copier, countertop for (2) work stations, and shelving (REPAIR SHOP)
- ✓ Change size of Library to 12'-0"x16'-0" (REPAIR SHOP)
- ✓ Provide Crew Room for Mechanics (see other Crew Room specs) (REPAIR SHOP)
- ✓ Carpentry Shop to include: layout table, sawdust collection, air drop, lumber rack, jointer, table saw, ban saw, miter saw, drill press (BUILDING MAINTENANCE)
- ✓ Building Maintenance Shop to include: dedicated exhaust, work bench, shelving, utility sink (BUILDING MAINTENANCE)
- ✓ Building Maintenance Shop ceiling to be 12'-0" (BUILDING MAINTENANCE)

03.16.18 – Progress Submission

- o Documented Meeting Minutes from Staff Interviews
- o Updated Building Program
- o Updated Department Snapshots
- o Updated Sustainability
- o Updated Site Analysis
- o Created Code Review Analysis
- o Created Budget Estimate Tracker for Facility
- o Created (2) Site/Floor Plan Concept Drawings
- o Created Executive Summary/Introduction

OERTEL ARCHITECTS

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Date: November 22, 2017 (Updated 12/04/2017)

RE: MnDOT - Virginia Headquarters Facility Needs Study

Meeting Minutes from interviews with department heads.

Interview Kick-off

- Original building – 1960's
- Holistic/general thinking approach
- Focus on Trends and where things are going
- Goal of the department worksheets is to migrate them into one master document that fully captures the needs of the MnDOT Virginia Headquarters Facility needs

Maintenance Operations Department

Attendees:

Holly Johnson (MnDOT Virginia)

Chris Cheney (MnDOT Virginia)

Brian Jussila (MnDOT Virginia)

Andrew Johnson (MnDOT Virginia)

Dave Schilling(MnDOT)

Chris Moates (MnDOT)

Tom Stromsodt (Oertel Architects)

Daniel Englund (Oertel Architects)

- Are there any updates to the programming worksheets?
  - Need more maintenance space and shared warm storage
  - Size of trucks and equipment vs. facility size and space

- Which (2) departments do you feel are most critical in terms of adjacency and operational flow?
  - Maintenance and traffic services work together/share spaces
  - Would like to be adjacent to maintenance shops and traffic services

- Do you foresee any significant changes within the industry or the agency over the next 10 - 20 year that will impact how you do business?

- More tow plows, dual wing plows, longer trucks/equipment, and tandem plows
- More non-chloride liquid. Would like to move to a chlorine free operation in the future
  - Trucks/plows might also carry only liquid in the future (tanker plows?)
  - Investigation into alternative chemicals/liquids
- In looking forward current truck sizes should be used as a starting point
  - Need to have a % of flex space built into maintenance/storage areas
  - Don't want to store tow plows outside
- There will still be a need for smaller vehicles (single axel plows) that are more nimble for getting into tighter spaces
- Need to consider fleet ratio and fleet size over the next 75 years (plan for expansion)
  - Smaller trucks staying at same fleet size. Larger trucks/special vehicles will see the expansion
- More wash stations – (2) wash areas to get trucks cleaned and into storage faster
  - 'Pull through" wash bay style

- Are there any specific mechanical/electrical/equipment/access demands that drive the operation and location of the department?
  - In-plow simulator plug-in
    - Simulator training is done in the warm storage for about a week or so at a time.
    - The simulator travels around the state
  - Bituminous is held in a plug-in container to keep at a steady temp
  - Would like (2) portable vehicle lifts as most times all trucks needs servicing at the same time
    - Small service is done in service bays which are separate from mechanics bays
  - Would like a crane/lifts in warm storage

Mechanics/Shop Repair

Attendees:

Mike Bukvich (MnDOT Virginia)

Chris Vest (MnDOT Virginia)

Brian Jussila (MnDOT Virginia)

Andrew Johnson (MnDOT Virginia)

Dave Schilling(MnDOT)

Chris Moates (MnDOT)

Tom Stromsodt (Oertel Architects)

Daniel Englund (Oertel Architects)

- Are there any updates to the programming worksheets?
  - Current facility – 6 in-shop mechanics and 2 field mechanics
    - 1 mechanic does all stainless steel welding. Separate space with a crane
    - 2 field mechanics are sometimes at main facility and take up parking
    - There are service bays in the barn (warm vehicle storage) and then mechanics bays for larger more extensive repairs
    - Currently have (2) in-floor lifts, a post lift, and (2) sets of mobile lifts. Mobile lifts get used all the time (storage is a problem though)
  - They would like 2 bays per mechanic plus a flex bay
  - Don't want all in-floor lifts and all lifts to be the same
    - Only need (1) 15,000 pound post lift
    - Only need (1) for tandem plows and (1) for single axels (in-floor)

- Which (2) departments do you feel are most critical in terms of adjacency and operational flow?
  - Want the mechanics shop to be located on the end of the building
    - Don't want everyone having to walk through shop (not a corridor)
  - Would like to be adjacent to warm storage (separated from maintenance operations) and inventory/parts storage.

- Do you foresee any significant changes within the industry or the agency over the next 10 - 20 year that will impact how you do business?

- (2) in-floor lifts would be good for moving forward and anticipate expanding with mobile lifts in the future
- Full span crane – aligned to maintenance bays for picking items off trucks to work on.
- Double loaded mechanics bays

- Are there any specific mechanical/electrical/equipment/access demands that drive the operation and location of the department?

Bridge Maintenance

Attendees:

Dan Perkins (MnDOT Virginia)

Brian Jussila (MnDOT Virginia)

Andrew Johnson (MnDOT Virginia)

Dave Schilling(MnDOT)

Chris Moates (MnDOT)

Tom Stromsodt (Oertel Architects)

Daniel Englund (Oertel Architects)

- Are there any updates to the programming worksheets?
  - Each department has their own break room with a computer station
  - Need their own area for shop/fabrication work
    - Would like an overhead crane in shop area for large fabricated pieces
  - Currently lockers and drive in area is all one space
    - Don't really do any work on the truck/vehicles
    - Bridge workers have (2) lockers that are 2'-0" wide each – bridge department built them to hold all their gear and safety equipment
  - Parking? Is the bridge department separate from main facility with its own parking?
  - Would like a consolidated bulk fluids location that can be pumped throughout the facility to the different departments
  - The bridge department stores a lot of materials/forms on-site. Some items need to be kept warm and inside while others can be stored outside
    - Wooden forms can be stored outside
  - Would like to be able to drive truck crane into a pull through bay (can be cold storage) Almost never gets unhooked during the summer. In the winter it is stored.
  - Currently have to pull out truck to use shop space for fabrication.

- Which (2) departments do you feel are most critical in terms of adjacency and operational flow?
  - They collaborate on a lot of project with the mechanics
  - Would like to be adjacent to the mechanics/repair shop and separated from the rest of the main facility (Bridge Department island)

- Do you foresee any significant changes within the industry or the agency over the next 10 - 20 year that will impact how you do business?
    - High angle rescue – conduct rope training in warm storage once a month
        - They would like some weight rated hooks to conduct their rope safety training. (space can be shared)
        - Open to the idea of training off-site
    - Facility fitness center with separate entrance
        - For employees and families to use.

- Are there any specific mechanical/electrical/equipment/access demands that drive the operation and location of the department?

Construction

Attendees:

Jeff Tillman (MnDOT Virginia)

Brian Jussila (MnDOT Virginia)

Andrew Johnson (MnDOT Virginia)

Dave Schilling(MnDOT)

Chris Moates (MnDOT)

Tom Stromsodt (Oertel Architects)

Daniel Englund (Oertel Architects)

- Are there any updates to the programming worksheets?
  - Currently (15) employees (might be shifting to more consultants)
    - Mix of offices and cubes
    - Cubes are used primarily in the winter
  - Require minimum 3 to 4 parking spots in warm storage
  - Currently have 16 parking spots in cold storage (half of construction parks outside)
  - There is a shared print room that construction uses the majority of the time
  - More locker space is required
    - Cold storage for all tools and other small equipment
    - Needs to be lockable and separate from rest of storage
  - Would also like (2) file storages. Currently only have (1)
    - Active (warm and secure) and Inactive (cold and secure)
  - There are opportunities for a better testing lab. The lab space should be isolated
  - Would like both open and secure warm storage for equipment and testing.
    - Concrete cylinder testing could be placed in cold storage
  - 'Shared spaces'
    - Several meeting rooms
    - Lunch room
    - One large meeting room

- Which (2) departments do you feel are most critical in terms of adjacency and operational flow?
  - File (active) storage room
  - Cube area could be shared with survey and permits department

- Like the idea of cube farm with offices at perimeter. Allow for flexibility in the future.

- Do you foresee any significant changes within the industry or the agency over the next 10 - 20 year that will impact how you do business?
  - Next 'resident' will most likely be based at the Virginia facility (will need an office)
    - Some positions switch between stationed at Duluth or Virginia
  - Vehicles will continue to be small trucks and pick-ups (don't see any change)
  - Number of full time employees and consultants will change as everything become more specialized.

- Are there any specific mechanical/electrical/equipment/access demands that drive the operation and location of the department?

Driver's License

Attendees:

Joshua Sipola (MnDOT Virginia)

Brian Jussila (MnDOT Virginia)

Andrew Johnson (MnDOT Virginia)

Dave Schilling(MnDOT)

Chris Moates (MnDOT)

Tom Stromsodt (Oertel Architects)

Daniel Englund (Oertel Architects)

- Are there any updates to the programming worksheets?
  - Current department square footage is roughly 700 sf.
  - Only place in Virginia for vehicle test/exam
  - Most day to day operations are outside
  - The current exam area needs to be doubled
    - It is congested and part of the parking lot
    - Separate exam area
    - Motorcycles and straight back up tests are done at the facility
    - Road test is done on public roads in Virginia
    - There are (3) parts to the vehicle test/exam. They need space on site for the pre-test (adjusting seat, checking mirrors, lights, etc.)
  - Need a better counter with high visibility of written testing area
  - Would like separate restrooms for the public (customer)
  - Need better parking for drive ups (most front door business department at the facility)

- Which (2) departments do you feel are most critical in terms of adjacency and operational flow?
  - Front entry (would be nice if they were the first door as they get the highest public traffic)
  - Break room
  - Currently by the state troopers

- Do you foresee any significant changes within the industry or the agency over the next 10 - 20 year that will impact how you do business?

- Will need more parking/exam space. Might need to move off site since this will take up a significant amount of space
- Space for CDL back in maneuvers (everyone will use this space too)
- IT. Will evolve with changing technology but mainly the same
  - Possibly more tests issued
- Staffing numbers could change as well. Currently (4) staff but could grow to (5) or (6) in the foreseeable future.

- Are there any specific mechanical/electrical/equipment/access demands that drive the operation and location of the department?
  - Secondary exit for staff security
  - Custom counter (separate from office and faces the public)
    - 4 workstations (1 ADA compliant)
  - (2) offices – supervisor and oral exam space

Survey's

Attendees:

Kevin Sutherland (MnDOT Virginia)

Tony Newman (MnDOT Virginia)

Keith Bengston (MnDOT Virginia)

Brian Jussila (MnDOT Virginia)

Andrew Johnson (MnDOT Virginia)

Dave Schilling(MnDOT)

Chris Moates (MnDOT)

Tom Stromsodt (Oertel Architects)

Daniel Englund (Oertel Architects)

- Are there any updates to the programming worksheets?
  - Currently they have one parking space for a van (warm storage)
  - Would like additional spots for (2) trucks and (2) survey rigs (warm storage) ATV, z boat, and snowmobiles (cold storage)
  - Charging rack for battery powered equipment
  - Calibration space. Most calibration of equipment is done outside
  - Traditionally they have (2) staff plus summer interns
    - Would like office space for potentially (4) people
    - Currently they have (1) office.
    - Phone calls are usually loud in nature and therefore need separate office spaces
    - Office/cube spaces need to be on the larger side since staff work with large format drawings

- Which (2) departments do you feel are most critical in terms of adjacency and operational flow?
  - Collaborate a lot with the construction department
  - Permits department
  - They are currently next to bridge maintenance

- Do you foresee any significant changes within the industry or the agency over the next 10 - 20 year that will impact how you do business?

- Possibility of adding a second crew at the Virginia facility
- The 'design squad' will likely go away in the future
- They would like enough space to be able to adjust in the future based on the department size and needs
  - Addition of new equipment. Drone? Drone piolet?
- A satellite connection to the Duluth facility? Many times supervisor jobs are back at the Duluth facility. Flexibility and communication between both facilities
- Fire storage cabinet (oil storage etc.)

- Are there any specific mechanical/electrical/equipment/access demands that drive the operation and location of the department?

Sign Shop

Attendees:

Mitzi Lanier (MnDOT Virginia)

Brian Jussila (MnDOT Virginia)

Andrew Johnson (MnDOT Virginia)

Dave Schilling(MnDOT)

Chris Moates (MnDOT)

Tom Stromsodt (Oertel Architects)

Daniel Englund (Oertel Architects)

- Are there any updates to the programming worksheets?
  - Currently have (4) staff but are pushing for (6) staff. Typical growth
  - Require a large area for storing guard rails and signs
  - Just ordered (2) new work trucks. A sign truck and a guard rail truck. Also have a 6 pack and a ½" ton pick-up that are stored outside
    - Sign and guard rail truck will be in warm storage for hydraulic hook up
  - Current sign shop
    - 2 work desk setup (for assembly)
    - Do very few one-off signs
    - Don't use/need layout table anymore
    - Lots of rack storage
    - Sign storage needs to be warm for best adhesion of sign stickers
  - They would like to be able to lock up signs (inventory item)
  - Signs are already finished
  - They have a kitchenette space that is shared with bridge maintenance
  - They have a fire storage cabinet (don't have much fire storage needs)

- Which (2) departments do you feel are most critical in terms of adjacency and operational flow?
  - Signs are part of inventory
  - They collaborate with bridge maintenance and maintenance operations a lot. Pull from these two departments for help.

- Do you foresee any significant changes within the industry or the agency over the next 10 - 20 year that will impact how you do business?

- They aren't making signs anymore… just storing them. Storage is most important
- Would like covered storage for outside sign and guard rail storage (especially in winter with the snow)
- Will need to deal with cone and barrel storage
- Stripping machine needs to be kept in warm storage
- Crash cushions are kept in maintenance
- Message boards are currently kept in cold storage
  - Could these be moved off-site?
  - Some items need to be in warm storage
- Also have a trailered compressor
- Equipment all over current facility and site.

- Are there any specific mechanical/electrical/equipment/access demands that drive the operation and location of the department?
  - Need ADA office with bathrooms
  - More outlets.

Permits

Attendees:

Jeff Swenson (MnDOT Virginia)

Brian Jussila (MnDOT Virginia)

Andrew Johnson (MnDOT Virginia)

Dave Schilling(MnDOT)

Chris Moates (MnDOT)

Tom Stromsodt (Oertel Architects)

Daniel Englund (Oertel Architects)

- Are there any updates to the programming worksheets?
  - Currently (3) staff – the supervisor goes between Duluth and Virginia
  - Need 2 spots of warm storage for pick-up vehicle parking
  - A lot of their time is spent on the phone so cubicals are not desired
  - Would like a common space for interacting with the public
  - Use scanners and printers in the shared print room
    - Admin usually manages the print room

- Which (2) departments do you feel are most critical in terms of adjacency and operational flow?
  - Prefer to be up closer to the front entry (use shared conference rooms)
  - Office area/Admin

- Do you foresee any significant changes within the industry or the agency over the next 10 - 20 year that will impact how you do business?
  - Everything is going electronic
  - More summer work (can put in cubical farm)

- Are there any specific mechanical/electrical/equipment/access demands that drive the operation and location of the department?
  - Computer driven (need network connection)
  - Everyone wants a window (daylight will be a major component in the master plan)

Admin

Attendees:

Denise Baublitz (MnDOT Virginia)

Barb Nelson (MnDOT Virginia)

Brian Jussila (MnDOT Virginia)

Andrew Johnson (MnDOT Virginia)

Dave Schilling(MnDOT)

Chris Moates (MnDOT)

Tom Stromsodt (Oertel Architects)

Daniel Englund (Oertel Architects)

- Are there any updates to the programming worksheets?
  - Currently (2) staff
  - What they have right now works.
  - Rotating office up front between admin/inventor/HR plus a flex office (used 3x a week)
    - Flex office is used a lot on top of just 3x a week.
    - Current layout is (2) offices (2) flex
  - Admin manages large conference (accessible after hours and to the public) and video room (employees only and secure)
  - Looking for a large conference space (more than 50) with movable partitions to divide into smaller rooms
    - For large meetings they usually go off-site and rent a large space
  - Would like an alternate entry for drivers license vs. admin
  - Need an assembly area in print/copy room
  - Current bathroom count – (3) stalls women's, (1) urinal (3) stalls men's (keep current fixture count)

- Which (2) departments do you feel are most critical in terms of adjacency and operational flow?
  - Mail room/copy room
  - Front entry
  - Keep large conference room in close proximity to admin (help direct people when they first arrive)

- (1) conference room that is secure for internal use
- (1) large conference room that is for public use and can be open after hours
- Additional smaller meeting rooms (flex spaces) – (1) of each for secure/public conference rooms

- Do you foresee any significant changes within the industry or the agency over the next 10 - 20 year that will impact how you do business?
  - No anticipated expansion. By keeping things general and flexible they can adapt for future departmental needs
    - Flex conference spaces are key

- Are there any specific mechanical/electrical/equipment/access demands that drive the operation and location of the department?

State Patrol

Attendees:

Captain Silcox (MnDOT Virginia)

Brian Jussila (MnDOT Virginia)

Andrew Johnson (MnDOT Virginia)

Dave Schilling(MnDOT)

Chris Moates (MnDOT)

Tom Stromsodt (Oertel Architects)

Daniel Englund (Oertel Architects)

- Are there any updates to the programming worksheets?
  - Current staff is (7) troopers and (7) office staff (total of (14) staff at the facility)
    - Troopers spend a good portion of their time not at the facility
  - What they have right now is bare minimum
  - Currently no warm or cold storage (need both)
    - (6) vehicle spots in warm storage
    - (1) space to hold vehicles after accidents (needs to be secure)
    - (2) cold storage (needs to be secure, wall off) – currently they have no secure storage
  - There is no security at the facility
  - There are usually +20 cars in the impound lot. This does not necessarily need to be on site but needs to be secure
  - Currently no separation between evidence storage and office area
    - Drug evidence can be smelt throughout office area
    - Would like separate evidence storage. Best if off warm storage space
  - Would like ventilation separation between vehicle storage and office area
  - Interview room is small
  - Lunch room is too big
  - There are no bathrooms in the state patrol department (use the public restrooms)
    - There is no need for a locker room
  - Current office list (all offices should have doors)
    - Evidence
    - Open storage
    - (5) offices
    - Interview room

- Secure storage

- Which (2) departments do you feel are most critical in terms of adjacency and operational flow?
  - State patrol storage/office area/vehicle storage
  - Work with radio shop some of the time
  - Wash cars in truck bays
  - There are strong adjacencies within the department

- Do you foresee any significant changes within the industry or the agency over the next 10 - 20 year that will impact how you do business?
  - Soil contamination from siting vehicles in the impound lot. Need to plan for sitting vehicles. Right now bill will fall on MnDOT to cleaned up
    - Open to the idea of smaller impound lot that temporarily holds vehicles until they are processed, then moves them off-site
  - More technology driven
    - Servers, wiring, and cabling
    - Body cameras
    - Lots of data storage needed
    - They are just now starting to move forward in technology
  - Security is an important part of the mater plan
  - Bullet resistant class and a transaction window for entire state patrol department (don't want a bunker in the middle of the facility)
    - Control interaction with public
    - Also consider at the MnDOT side of things… in the office area

- Are there any specific mechanical/electrical/equipment/access demands that drive the operation and location of the department?
  - Mechanical system for more technology (ie. Cooling for server rooms)

Radio Shop

Attendees:

Mike Grand (MnDOT Virginia)

Brian Jussila (MnDOT Virginia)

Andrew Johnson (MnDOT Virginia)

Dave Schilling(MnDOT)

Chris Moates (MnDOT)

Tom Stromsodt (Oertel Architects)

Daniel Englund (Oertel Architects)

- Are there any updates to the programming worksheets?
  - Currently (4) staff
  - (2) vehicle spots (ATV and snowmobile in the future)
  - Technician space (3) is a little crowded
  - Need connection to network tower – currently their connection is a pole/dish on the side of the building
  - Would like (2) microwave dishes/tower
    - Could use a recycled tower?
  - They need this connection to the network to do their job **(important)**

- Which (2) departments do you feel are most critical in terms of adjacency and operational flow?
  - IT. Department
  - Currently Mikes office is not by the radio shop. Needs to be quiet and doesn't necessarily need to be in the radio shop

- Do you foresee any significant changes within the industry or the agency over the next 10 - 20 year that will impact how you do business?
  - Virginia is the last area in the state to be built-out for communications
    - Currently the best set up in the state
  - Radio install shop needs to be larger
    - Separate shop space for working on the radios in the trucks/plows
  - A mezzanine layout would work best to store radio network items in a conditioned space

- Need a garage shop (24x48 min.) with mezzanine above and then a repair room/workshop

- Are there any specific mechanical/electrical/equipment/access demands that drive the operation and location of the department?
  - The repair room/workshop needs access to outside to bring vehicles in to work on their radios
  - Radio equipment room needs to be conditions (currently located on mezzanine)

Inventory

Attendees:

Pat Burke (MnDOT Virginia)

Brian Jussila (MnDOT Virginia)

Andrew Johnson (MnDOT Virginia)

Dave Schilling(MnDOT)

Chris Moates (MnDOT)

Tom Stromsodt (Oertel Architects)

Daniel Englund (Oertel Architects)

- Are there any updates to the programming worksheets?
  - Currently (4) staff – supervisor only at the facility 1 or 2 times a week
    - Uses flex office space at admin.
  - Hazmat storage outside and at the back of the site
  - Have space at cold storage/slat storage for blade and vertical storage
  - Cold vs. warm storage is working for the department
  - Would like inventory all on one level – Currently half of inventory is on the mezzanine
    - Ok with vertical storage
  - Would like a separate entry for deliveries and freight (daily drop-offs)
    - Inventory is stuck being the gate keeper for all activity that comes in and out
    - Most of this should be monitored with security

- Which (2) departments do you feel are most critical in terms of adjacency and operational flow?
  - External access
  - They work a lot with the mechanics/repair shop (60-70% of total customers)
    - Bulk oil is inventory until a department purchases it
    - They usually buy 30 gallon drums to avoid needing a spill plan. They still have containment though.

- Do you foresee any significant changes within the industry or the agency over the next 10 - 20 year that will impact how you do business?
  - A consolidated bulk fluids room that pumps fluid throughout the facility to the different departments.

- The inventory system is changing
  - Department philosophy – if someone down the road has it then they don't need to carry it.
  - More of a buyer. The customer (departments) then need to do the planning
  - Not much will change day to day
  - They will continue to use the local retailer more and more

- Are there any specific mechanical/electrical/equipment/access demands that drive the operation and location of the department?

Building Services

Attendees:

Damien Hoey (MnDOT Virginia)

Brian Jussila (MnDOT Virginia)

Andrew Johnson (MnDOT Virginia)

Dave Schilling(MnDOT)

Chris Moates (MnDOT)

Tom Stromsodt (Oertel Architects)

Daniel Englund (Oertel Architects)

- Are there any updates to the programming worksheets?
  - Currently (5) employees but could increase to (6) at any time
  - Recycling needs – currently an area just in the corner – would like a little more forethought in locating and space usage
  - 1 ton plow that is shared but stored by building services
  - Currently have (2) fire/chemical storage cabinets for small hazards
  - Would like better access to the roof as many of the rooftop units are package units to conserve floor space
  - Need connection for mobile generator power
    - Radio will need some kind of permanent generator power
    - Emergency power for o.h. doors and heat

- Which (2) departments do you feel are most critical in terms of adjacency and operational flow?
  - They would like to be adjacent to mechanics/repair shop and bridge maintenance
  - Work with all the departments

- Do you foresee any significant changes within the industry or the agency over the next 10 - 20 year that will impact how you do business?
  - Utility stubs for future expansion (covered in master plan)
  - Everything is getting a lot more specialized
    - Storage for all specialty departments now and in the future
  - Expect to only grow in the next 75 years

- Are there any specific mechanical/electrical/equipment/access demands that drive the operation and location of the department?
    - Must pull out vehicle to use the carpentry shop (currently 20 x 30) – would like a dedicated carpentry shop

I.T. (12.04.2017- conference call)

Attendees:

Julie Neari (MnDOT Virginia)

Brian Jussila (MnDOT Virginia)

Andrew Johnson (MnDOT Virginia)

Dave Schilling(MnDOT)

Chris Moates (MnDOT)

Tom Stromsodt (Oertel Architects)

Daniel Englund (Oertel Architects)

- Are there any updates to the programming worksheets?
  - Existing storage space roughly 10' x 16'
  - Office space is crowded with parts and old equipment
    - Most items can go into storage as long as its nearby
  - Nothing special about desk/office
    - Desk area is part of open work area
    - This configuration works well for day to day task and fixes
  - Need a server room/space roughly 12' x 14'
    - Must have climate control
    - No height requirements
    - Typical MnDOT setup is for server racks to be located in the center (for access on every side) with wiring from above
    - Secure room – part of the building key system but with restricted access to a selection few
    - Currently have card and manual key system

- Which (2) departments do you feel are most critical in terms of adjacency and operational flow?
  - There is no specific need to be adjacent to any particular department
  - Received deliveries and order from inventory occasionally
  - Do not want to be up at the front of the facility
  - Julie spends most of the day remoting in/on calls and will need acoustical separation
  - There is a ticket system in place but every once in awhile there will be walk-ins

- Do you foresee any significant changes within the industry or the agency over the next 10 - 20 year that will impact how you do business?
    - More remote access to everything
        - This will not impact space requirements/size of department
    - No special equipment outside – fiber optic is hardwired to the building

- Are there any specific mechanical/electrical/equipment/access demands that drive the operation and location of the department?
    - Climate control at the server room is important
    - Require lots of outlets and network drops in the work area (way more than 10)
        - Current electrical outlet and network drop count
        - 36 electrical outlets
        - 22 network drops
    - Mobil service (needs wireless service connection)
        - At facility will need placement on exterior wall/window access for service connectivity

General Site Questions (12.04.2017- conference call)

Attendees:

Brian Jussila (MnDOT Virginia)

Andrew Johnson (MnDOT Virginia)

Dave Schilling(MnDOT)

Chris Moates (MnDOT)

Tom Stromsodt (Oertel Architects)

Daniel Englund (Oertel Architects)

- Salt/brine storage building
  - Sometimes have to store salt outside (not desired)
  - No room for sand storage inside
  - Currently do a small amount of treating with beat juice – this will most likely increase in the future as alternative liquids are explored
  - Reference (pat) from MnDOT structural department for size and layout of salt/brine storage building
  - Andrew will get salt/sand/beat/brine storage quantities
- Phasing?
  - Some departments can be housed off-site/remotely during building construction
    - Construction, permits…
  - (OA) – will start with everyone on-site to begin with then will make decisions from there.

OERTEL ARCHITECTS

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DATE: January 24, 2018

RE: MnDOT Virginia Headquarters – Breakout Worksheet Revisions

General Meeting Minutes:

- Big question moving forward is how does phasing work of the old and new facility
- No initial questions from department heads on project update
- Fitness room (Shared Space)
  - Includes (2) changing rooms and (1) restroom
  - Not required but desired by facility staff
- Sign shop is also called traffic services
- Only provide (1) parenting room
- Confirm standard office sizes with David per MN DOT standards
- Departments with field applicable tasks tend to want offices by shop spaces

Revisions from 01.24.2018 Departmental Interviews:

Radio Shop: 8:40 am

- Office Crew:
  - ✓ Hours of Operation: Day shift/on call
  - ✓ Adjacencies: Back by the repair/install shops
  - ✓ Furniture, Fixture, and Equipment: (2) large monitors (ceiling mounted?) and counter/desk space for (3) individual cubes
  - ✓ Architectural: More office like finishes (resilient/vinyl tile)
  - ✓ Architectural: Would like a visual from crew office into shops
  - ✓ Technology Requirements: Network connection for large monitors (additional to standard facility data connection)
  - ✓ Special Criteria: Network connection (exterior satellite tower)
- Supervisor Office
  - ✓ Hours of Operation: Day shift/on call
  - ✓ Adjacencies: Not back by the shops, with other facility office functions
  - ✓ Furniture, Fixtures, and Equipment: (1) large monitor
  - ✓ Architectural: Exterior windows would be a big improvement
  - ✓ Technology Requirements: Network connection for large monitors (additional to standard facility data connection)
  - ✓ Special Criteria: Network connection (exterior satellite tower)
- Radio Repair Shop
  - ✓ Hours of Operation: Day shift/on call
  - ✓ Adjacencies: Open to install shop and next to crew offices
  - ✓ Special Criteria: All desktop workstations require static mats

- Radio Install Shop

  - ✓ Hours of Operation: Day shift/on call
  - ✓ Function: Add second bay for vehicle install (bays should accommodate pick-up and plows)
  - ✓ Special Criteria: Retractable power, light, and air reel drops

- Microwave Radio Repair Shop

  - ✓ Square Foot Area: Shrink in size to accommodate second install shop bay
  - ✓ Adjacencies: Next to radio shops but separated dues to how noisy microwave radios can be.

Bridge: 9:00 am

- Office (2):

  - ✓ Adjacencies: Not back by the shops, with other facility office functions

- Computer Work Stations (3):

  - ✓ Add (1) 8'x8' workstation for a total of (4) computer workstations
  - ✓ Adjacencies: Back by the shops
  - ✓ Furniture, Fixture, and Equipment: Workstations do not need to be part of the 'cube farm'
  - ✓ Architectural: No carpet - Finishes need to be more maintenance focused, heavy level of traffic

- Lunch/Meeting:

  - ✓ Architectural: Provide more durable finishes package for wall and floor
  - ✓ Architectural: Reduce ceiling height to 8'-6"
  - ✓ Architectural: Enhance sound isolation requirements from surrounding spaces

- Locker Room:

  - ✓ Adjacencies: Back by the shops/breakroom
  - ✓ Furniture, Fixtures, and Equipment: Note 2x 2'-0" vented lockers
  - ✓ Architectural: Provide more durable finishes package – Sealed concrete @ floor
  - ✓ Architectural: No shower, OK to keep with ACT ceiling
  - ✓ Special Criteria: Potential boot dryers in lockers

- Storage Room:

  - ✓ Function: Warm storage (for sealants and other items that shouldn't freeze)
  - ✓ Furniture, Fixtures, and Equipment: Provide hazard lockers, shelving units (for smaller items), and space for pallet items
  - ✓ Special Criteria: Provide space for bringing in vehicles to drop off/pick up items

Maintenance: 9:20 am

- Supervisors Office (2):
  - ✓ Adjacencies: (1) office back with shops/lunch room and (1) office up front with other facility office functions
  - ✓ Architectural: No carpet at the back office, provide more durable finishes package – heavy level of traffic
- Cubicle (2):
  - ✓ Adjacencies: Back by lunch room/meeting room
  - ✓ Architectural: No carpet at cubicles, provide more durable finishes package
  - ✓ Architectural: Reduce ceiling height to 8'-6"
- Lunch/Meeting
  - ✓ Architectural: Reduce ceiling height to 8'-6"
  - ✓ Electrical Requirements: Provide plug strip for general and tool charging stations (tool charging stations is by individual department

Warm Storage:

- Vehicle Parking:
  - ✓ Furniture, Fixtures, and equipment: Provide tire rack storage along wall (need to coordinate with inventory for size of storage area
  - ✓ Mechanical Requirements: Provide air and water drop reels (shared every other bay)
  - ✓ Electrical Requirements: Provide electrical drop reels (shared every other bay)
  - ✓ Special Criteria: Space for (6) mobile lifts
- Bulk Oil Storage:
  - ✓ Special Criteria: Oil is stored in secure cage on mats in 35 gal. barrels
- Add Herbicide and Pesticide Storage:
  - ✓ Square Foot Area: 8'x8'
  - ✓ Mechanical Requirements: Provide dedicated exhaust

Exam: 9:40 am

- Supervisor Office (2):
  - ✓ Room Space Name: Rename supervisor office to (1) shared office for (2) people and (1) shared office/oral reports for (4) people
  - ✓ Hours of Operations: 8 am – 4:30 pm M-F
  - ✓ Adjacencies: Up front next to shared entry
  - ✓ Furniture, Fixtures, and Equipment: (1) small safe
  - ✓ Technology Requirements: CAT 6 cable for exam stations
  - ✓ Special Criteria: Both offices need to be secure
- Counter Area
  - ✓ Furniture, Fixtures, and Equipment: Fixed high counter with ADA
  - ✓ Furniture, Fixtures, and equipment: (4) workstations @ counter with cabinet storage for each one
  - ✓ Architectural: Acoustically opened to shared entry
  - ✓ Technology Requirements: CAT 6 cable
  - ✓ Special Criteria: Secondary emergency exit
- Exam Area:
  - ✓ Furniture, Fixtures, and Equipment: (5) exam testing stations – will eventually double to (10)
  - ✓ Architectural: Located exam stations to minimize acoustical disturbance while maintaining clear observation from counter area
  - ✓ Technology Requirements: CAT 6 Cable and extra outlets
  - ✓ Special Criteria: Provide waiting area inside exam space for 4-5 people (small prep area with extra seating)
  - ✓ Special Criteria: CDL Maneuvers can move off-site. Keep motorcycle maneuver space

Repair Shop: 10:00 am

- Repair Bays:
  - ✓ Hours of Operation: Day shift/on call
  - ✓ Furniture, Fixtures, and Equipment: (2) 5-ton bridge crane with 2-3 ton hoist (Crane to have max extents of repair bays)
  - ✓ Furniture, Fixtures, and Equipment: Provide area for mechanics tool box at each bay
  - ✓ Furniture, Fixture, and Equipment: (1) 25,000 in-ground hoist, (1) 30-40,000 in-ground hoist, (2) 15,000 post lifts, (2) full sets of mobile lifts – plug in type
  - ✓ Architectural: Provide 18’ clearance height at vehicle openings
  - ✓ Lighting: LED lights not on occupancy sensor
  - ✓ Mechanical Requirements: Vehicle exhaust reels between bays @ middle
  - ✓ Electrical Requirements: Provide (2) outlets between each bay for mobile lift plug-in
- Locker Room:

- ✓ Function: Add restrooms

Construction: 10:20 am

- o Cubicle (16):
  - ✓ Adjacencies: Up front with other facility office functions (all cubicles and offices should be in same area
  - ✓ Adjacencies: File room/print room/conference rooms
  - ✓ Architectural: Provide office finishes package – carpet OK
  - ✓ Architectural: Reduce ceiling height to 8'-6"
- o Office (4):
  - ✓ Square Foot Area: Increase managers office (3) size to 10'x12'
  - ✓ Square Foot Area: Supervisor office (1) to accommodate (2) guest, increase office size to 12'x14'
- o Storage:
  - ✓ Function: non secure
  - ✓ Adjacencies: Back by shops and Warm storage
  - ✓ Furniture, Fixtures, and Equipment: space for storing large plastic molds, lath, wood stakes
  - ✓ Special Criteria: Provide space for loading/unloading of larger items
- o Secure Storage:
  - ✓ Function: secure caged-in area
  - ✓ Adjacencies: Back by shops and warm storage
- o File Room:
  - ✓ Adjacencies: Up front with other facility office functions
  - ✓ Furniture, Fixtures, and Equipment: Provide Shelving and drawer storage (flat files) and layout surface space for viewing documents
- o Locker room:
  - ✓ Function: Remove restroom. Some small tools are stored in lockers/locker room
  - ✓ Furniture, Fixtures, and Equipment: 2x 2'-0" vented lockers
- o Materials Testing Lab:
  - ✓ Adjacencies: In a separated location from rest of department
  - ✓ Architectural: Reduce ceiling height to 8'-6"
  - ✓ Lighting: Provide dust proof lighting fixtures
  - ✓ Mechanical Requirements: Provide water drop reels and utility sink
  - ✓ Electrical Requirements: (1) 220v outlet

- Vehicle list:
  - ✓ Move 8 pick-up trucks from cold storage to exterior storage

Administration: 10:40 am

- Office:
  - ✓ Add (1) flex office space (keep 2 flex offices @ SHARED). Keep next to admin.
  - ✓ Square Foot Area: Increase to 16'x20'
  - ✓ Function: More like an open office
  - ✓ Adjacencies: Face of facility, Up front with other facility office functions
  - ✓ Architectural: Provide windows to the exterior for security/observation of entering guest
  - ✓ Special Criteria: Secondary emergency exit, secure lobby area, bullet proof glass separation from public
- Mail Room
  - ✓ Square Foot Area: Increase to 14'x28'
  - ✓ Function: Also a copy room (printers, plotter, scanners, fax), office supply, state maps
  - ✓ Furniture, Fixtures, and Equipment: Provide center island table for packaging, upper and lower cabinets (counter space could be used in lieu of center table)
  - ✓ Furniture, Fixtures, and Equipment: non secure mailboxes
  - ✓ Electrical Requirements: Provide plug strip for flexibility
  - ✓ Technology Requirements: Network for printers, analog phone line for fax and postage machine
  - ✓ Special Criteria: (2) entrances into the mail room for multiple department access
- Restrooms (2): remove (1) restroom
  - ✓ Function: (1) single use restroom for employees, (1) single use restroom for drug testing

IT: 11:20 am

- Storage:
  - ✓ Adjacencies: IT office/workroom. Does not need to be near shops or office functions
  - ✓ Architectural: Change to ACT ceiling system
  - ✓ Architectural: Reduce ceiling height to 8'-6"
- Office/Workroom:
  - ✓ Square Foot Area: Change to 12'x14'
  - ✓ Furniture, Fixtures, and Equipment: Add a long counter along one side
- Server:

- ✓ Furniture, Fixtures, and Equipment: Place server racking @ center of room
- ✓ Architectural: Secure room
- ✓ Technology Requirements: phone and cable connection
- ✓ Special Criteria: Provide plywood at perimeter of space for mounting panels/equipment
- ✓ Special Criteria: currently have (1) fiber optic connection – Century Link has a large fiber optic line near site

Building Maintenance: 12:20 pm

- o Supervisors Office:
  - ✓ Square Foot Area: Confirm 10'x12'
  - ✓ Architectural: No carpet and concrete/block walls - Provide more durable finishes package
- o Add Janitor Service Area:
  - ✓ Square Foot Area: 10'x12'
  - ✓ Furniture, Fixtures, and Equipment: Provide utility sink, mop sink, shelving
- o Lunch/Meeting
  - ✓ Square Foot Area: Reduce to 16'x20' – for 5-6 people
  - ✓ Function: Use for lunch/computer work/crew meeting
  - ✓ Furniture, fixtures, and Equipment: counter top space for (1) computer workstation
  - ✓ Architectural: Provide more durable finishes package

Departmental Shops:

- o Different than cold storage
- o Will have parked vehicles (make sure to pull these vehicles out of warm storage vehicle list)

Sign: 12:40 pm

- o Office:
  - ✓ Square Foot Area: Increase to 10'x12'
  - ✓ Adjacencies: Back by the shop (All sign space want to be kept together)
  - ✓ Furniture, Fixtures, and Equipment: Adjustable Desk, max of (2) people at office meetings
  - ✓ Architectural: No carpet and concrete/block walls - Provide more durable finishes package
- o Work Room: Change to Crew Room
  - ✓ Function: Meeting room/Lunch room for (4) employees

- ✓ Furniture, Fixtures, and Equipment: No workbenches, provide tables and chairs, cabinets and counters (match crew room from building maintenance
- ✓ Architectural: Change to an ACT ceiling system at a height of 8'-6" and a typical door with sidelight

o Provide sign shop locker room

- ✓ Function: Half of locker room is secure/half non secure
- ✓ 2x 2'-0" vented lockers

o Provide Traffic Services Truck Garage:

- ✓ Square Foot Area: 40'x52'
- ✓ Architectural: Provide (1) 28' wide x 14' tall o.h. door
- ✓ Vehicle List: (1) guard rail truck, (1) sign truck

o Sign Storage:

- ✓ Function: Additional sign storage
- ✓ Special Criteria: Double loaded storage

State Patrol: 1:00 pm

o Office (8): (6) trooper offices and (1) captain office and (1) Interview Room

- ✓ Square Foot Area: Reduce trooper office size to 8'x10'
- ✓ Square Foot Area: Increase Captain office size to 16'x16'
- ✓ Adjacencies: extra sound isolation at captain office from rest of department and facility
- ✓ Furniture, Fixtures, and Equipment: file cabinets in captain office
- ✓ Architectural: All doors should be lockable
- ✓ Technology Requirements: T-1 line access in all offices

o Vestibule:

- ✓ Function: Required space, Just for state patrol staff only

o Storage Room small:

- ✓ Furniture, Fixtures, and Equipment: Flexible shelving for storage
- ✓ Architectural: Reduce ceiling height to 8'-6"
- ✓ Architectural: Standard door

o Storage Room Large:

- ✓ Adjacencies: Access from exterior (within fenced area) and office area (state patrol staff only)
- ✓ Mechanical Requirements: Provide water drop reels and wash basin. Provide make up air for space
- ✓ Electrical Requirements: Provide electrical drop reels
- ✓ Technology Requirements: Voice and data

- ✓ Special Criteria: Fenced off portion of large storage for overflow evidence (secure storage)

- o Evidence Storage:
  - ✓ Adjacencies: Access to office and large storage areas
  - ✓ Furniture, Fixtures, and Equipment: Secure lockers
  - ✓ Special Criteria: Air seal and make up air unit to mitigate 'evidence smells'

- o Vehicle List:
  - ✓ Troopers take vehicles home
  - ✓ (2) warm storage vehicle spaces – (8) parking spots on site for state patrol parking
  - ✓ (12) spot for impound lot parking - rest of impound off-site

Permits: 1:20 pm

- o Supervisor Office:
  - ✓ Adjacencies: Up front with other facility office functions
  - ✓ Special Criteria: Will need space for old permits/archival documents (Add a shared file storage space 10'x12')

- o Office (2):
  - ✓ Square Foot Area: Increase office size to 10'x10'
  - ✓ Adjacencies: Up front with other facility office functions

Inventory: 1:40 pm

- o Inventory Room:
  - ✓ Function: Pull out (3) 8'x8' cube offices (Keep adjacent to inventory room)
  - ✓ Adjacencies: Exterior access, repair shop/sign shop
  - ✓ Furniture, Fixtures, and Equipment: Counters for (3) cube workstations
  - ✓ Architectural: Provide sectional o.h. door 10' wide x 14' tall
  - ✓ Mechanical Requirements: Verify if exhaust is needed for gas forklift
  - ✓ Electrical Requirements: Charging outlet for future electric forklift (locate at forklift storage in inventory room)
  - ✓ Special Criteria: No need for an o.h. crane
  - ✓ All used oil/oil filters go to hazmat storage
  - ✓ New oil comes in and is stored in a secure caged area…. Then is purchased by individual departments

- o Remove supervisors office:

- o Cold Storage:

- ✓ Function: Blade/cutting edge storage
- ✓ Architectural: larger door required for deliveries

Survey: 2:00 pm

- o Office:
  - ✓ Square Foot Area: Increase office size to 12'x16'
  - ✓ Adjacencies: Back by shops (need to move a lot of equipment to and from office/vehicles)
  - ✓ Furniture, Fixtures, and Equipment: Wrap around counter (continuous) with upper storage and center island table
  - ✓ Architectural: No Carpet – Provide durable finishes package that are easy to maintain
  - ✓ Mechanical Requirements: Make up heaters at o.h. door (typical throughout all departments)
  - ✓ Electrical Requirements: Charging station located in shop area
  - ✓ Special Criteria: Provide small flamibles cabinet in shop area
  - ✓ Special Criteria: Provide o.h. door @ shop area for loading equipment into trucks (10'x10')
  - ✓ Special Criteria: Provide (4) 2x 2'-0" vented lockers in shop area for gear and seasonal storage
- o Vehicle List:
  - ✓ Remove Van and trailer

End of Revisions

OERTEL ARCHITECTS

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DATE: May 01, 2018

RE: MnDOT Virginia Headquarters – Adjacency Diagrams Revisions

General Meeting Minutes:

- Master Plan does not mean final layout or design
- Reviewed master plan progress submission
  - 3 tracks of sustainability
  - Code compliance requirements (will need to meet requirements for unlimited building area)
  - Design considerations (more in-depth information from individual design team consultants)

Question from Construction department head:

Will there be carpet in the new plan?

Tom S. – Carpet will still be in select locations of the office area. This will be further articulated in the department worksheets

  - Project budget (cost broken out by different areas of building)
  - MNDOT building standards

Question from Construction department head:

The department worksheets don't address specific office systems furniture, ie number of chairs in each office?

David S. – That information will come later. The department worksheets give you the general 'idea' of the different department spaces.
Tom S. – Wouldn't hurt to do an exercise of capturing a typical systems furniture office needs and incorporating it into the master plan.
David S. – Master Plan is not the end all of the new Virginia HQ facility design. Master plan could sit for a year or two, or go right into design following its completion.
Tom S. – It would be good to develop an office diagram/scenario that represents architect's assumptions for the layout of the space.

  - Building program and vehicle/employee spreadsheets
  - Adjacency plan diagrams
    - Noted items:
    - Circulation isn't always apparent… especially within each department. Plan is more concerned with department/space adjacencies
    - Overall adjacency plan concept

Consolidated office	Transition space -shared departmental spaces, ie bathrooms	Large Vehicle Storage -will be further broken up into individual departmental vehicle storage	Transition Space -shops and repair island	Vehicle Repair

Question from Survey department head:

Liked the separation and location of repair shops in relation to other departmental shops. The less people that don't have to walk through the more hazardous spaces the less the will be in the way/potential incident.

Tom S. – As you look over the two adjacency plans keep in mind that somethings didn't translate perfectly from the departmental worksheet to the adjacency diagram. For example, inventory is not by the mechanics… items like these need to be address and made know during the individual departmental review.

Question from Construction department head:

Break rooms? Is there one large break room or individual departmental break rooms?

Tom S. – Individual break rooms plus one large break room in the consolidated office area
David S. – This will be address in the individual departmental review

Training room? Is there just one large training room?

Tom S. – One larger training room with division panels… breaks training room into two smaller meeting rooms
David S. – A headquarter facility should be able to hold large meetings (70-80 people). Example, FMG meetings, roughly 40 people in a round table setup.
Tom S. – One large break room where each department needs computer access. Will also have a portion with kitchenette space

What happens then with a shared break room when there is a meeting during lunch?

Construction:

- (4) vehicles in warm storage + 4 shared vehicles in warm storage
- ** general note: fleet vehicles in warm storage associated with specific departments should be located near those department spaces. **
- Would strongly prefer lab space with storage spaces. If possible Locate grouping as close to office spaces

  David S. – Lab testing space would be best on an exterior wall.

- Departments that currently share lunch/break room:
  - ✓ Construction
  - ✓ Permits
  - ✓ Admin.
  - ✓ Surveys
  - ✓ Would like (1) lunch/break room for front office spaces/departments
- Provide lunch/break room in addition to training room
- Small kitchenette is still needed in training room
- Construction department has lots of meetings during the week of roughly 20 people.

  Tom S. – Large training room will be divided most of the time and opened for the occasional large meeting.

- Revise conference/training room
  - ✓ (1) large room that can be divided into (2) smaller rooms
  - ✓ (2) smaller conference rooms, (1) 20 person video conference room and (1) 8-12 person conference room
- 5% growth planned for all departments (knowing that some departments won't grow at all and other will grow by more than 5%)
- Is 8'x8' a standard cube size (design cubes)?

  David S. – What are we seeing around the state at other headquarter facilities?

- Lighting: Cube space has an overall level of lighting with each workstation/cube having dedicated task lighting
- Provide access to all workstations/cube

Sign Shop:

- Crew room area:
  - ✓ Adjust computer station to individual cubical spaces
  - ✓ Special consideration: provide ample blank wall space for boards and maps
  - ✓ Fine with spaces being close by, don't need to be all connected or continuous
  - ✓ Provide (2) 2'x2'x6' lockers for each employee, 4 full time employees plus department head and seasonal help. Plan for 12-14 lockers
- Provide covered storage for plate beams (25' long) outside.
  - ✓ Don't rack to tall
- Provide large door for forklift access
- Sign truck has a bucket on it and is a larger vehicle
- Tom S. to verify sign truck and guard rail truck sizes
- Vehicles being stored in warm storage
  - ✓ Sign truck
  - ✓ Guard rail truck
  - ✓ (2) pick ups
  - ✓ 6 pack
- Paint pallets are 4'x4'x4' and can be stacked (2) high
- No specific preference between the two adjacency layouts. Would like exterior windows
  - ✓ Window in sign shop is needed for solar flasher equipment to charge
- Would prefer to access office through crew room.
  - ✓ Do not need that much cabinet storage
  - ✓ Limited upper cabinets with mainly base cabinet storage
- Exterior storage needs
  - ✓ Sign posts. Can be placed on a rack (stackable)
  - ✓ Guard rails are loaded on to trailer that is pulled by the guard rail truck
- Department head will send cold storage measurement needs for verification

Permits:

- Fine with shared lunch/break room
- 'in and out' access flow of space (one way flow – see sketch layout)
- Need continuous monitoring of testing/exam stations
- Breakout of spaced within permits:
  - ✓ Written test – open to rest of space
  - ✓ Oral exam – closed and sound insulated
  - ✓ Form filling out – counter space
- Would prefer a window but not required
- No window in the oral exam room
- Need one way glass on offices and oral exam room with views to staff counter and exam area

Bridge:

- Re-locate supervisors office back with crew area
  - ✓ (1) office at front of house and (1) office back by crew area
- Prefer option B
  - ✓ Adjacent to inventory and maintenance
- Would like direct access to exterior
  - ✓ Exterior access for working on larger projects where items might need to extend outside. Can move vehicles out easily.
- Crew doesn't spend much time back in crew area so not having windows isn't a big deal
- Signal and sign trailers are stored outside
  - ✓ Signal trailer needs an outlet nearby to charge at all times
- Exercise room:
  - ✓ Exterior access is preferred for none MNDOT employees
  - ✓ Stand alone piece?
- Currently storing (10) concrete barriers on site (2' wide x 12' long) and a couple boom trailers
- Working on cleaning up exterior storage items. Anticipate needed a 25'x10' area for exterior storage
- Remote storage is at the old Hibbing building site (currently have 80 concrete barriers there)
  - ✓ Storing items remotely won't hurt daily operations

Vehicle Maintenance:

- Plow trucks don't like to back-up. Preferred option with drive thru bays
- Like the location of inventory in relation to repair bay in plan B. Like the vehicle storage layout in plan A
- Service (periodic) area/bay
  - ✓ Locate in vehicle storage by crew/locker area (closer to repair bays if possible)
- Need space for queuing at wash bay
- Like being close to sign shop/crew
- Truck sequencing in a snow event
  - ✓ Trucks are pre-loaded with brine
  - ✓ Trucks are loaded up with salt and head out
  - ✓ Trucks return and dump remaining salt/refill brine as needed
  - ✓ Trucks go through wash bay
  - ✓ Trucks are stored

- ✓ Re-examine salt building/brine based on truck flow/sequencing
- o Brine operations will be expanded and including more storage tanks for acetate
  - ✓ Future plans: (3) + 6,000 G. tanks (2) for brine and (1) for acetate
- o Culvert storage could be moved off-site to the old Hibbing building (culverts are part of inventory)
  - ✓ Tom S. – keep some on-site and relocate the rest off-site (based on how much can be fit on the existing site)
- o Currently have sand, salt, and other millings stored at the old Hibbing building location

I.T.:

- o Server room needs to be secure (at min. locked door) fine with location in plan A
- o Would prefer layout in plan B
  - ✓ Not right next too/associated with office so people don't 'drop by' with issues
  - ✓ Don't want to be located though far from other office departments
- o Will not need to use conference rooms

Building Maintenance:

- o Like having their area off of vehicle storage in plan B, but prefer the vehicle storage layout in plan A.
- o Would like additional parking for private vehicles that is closer to repair shop
- o Do not want carpet… not even in the office areas
  - ✓ Would like some kind of sound absorbing flooring treatment but not with the carpet maintenance

Surveys:

- o Plan A:
  - ✓ Shop area needs a large door for moving pallets in and out. Access to vehicle storage or exterior is desired
  - ✓ Office should not exit through shop area. Need a better egress option
  - ✓ Likes being adjacent to construction file area (have items in construction file area)
- o Plan B:
  - ✓ Likes this layout
  - ✓ Would prefer a spot with a small kitchenette… satellite kitchenette break area for more of the 'dirty' office function employees
  - ✓ David S. – Likes idea of a crew break room for 2-3 departments to share
    - Maintenance and sign shop already have a kitchenette break area within their department
    - Consolidated crew break area?
- o Removable gate/portion of fence that would allow access to site from other than hoover street… only for emergency
- o Vending:
  - ✓ Used more by public visitors than by employees
  - ✓ Would need to be by entry

- ✓ Might be nice over by permits where people are coming and going more often and waiting for some time.
- o Diagrammatic vehicle layout on adjacency plan would be helpful

General Meeting Minutes:

- o Currently there is employee parking on both secure and non-secure sides of facility fence.
- o Trooper area should be behind the gate. Adjust on the adjacency plans
  - o Would like to get impound lot off of site. Still need space for 3-4 min. vehicles for evidence storage

Question from vehicle maintenance department head:

At times there is be 3…4… salt delivery semi's at one time (happens once or twice a year). Plan for this in the location of the salt storage shed. Plan for end dump loading at salt shed. Flip salt building to east?

Question from sign shop department head:

Will there be any misc. on-site exterior storage? A lot of the plow wings are stored outside and sign shop paint pallets (would like covered exterior storage)

Tom S. – The first thing will be to confirm what the existing site can hold/accommodate in the master plan. With what is left over… can be assessed for off site storage (potentially at the old Hibbing building)

Question from department head:

Just one story tall?

Tom S. – for now just one story tall. Will need to assess extra items required for going to a two story tall building (ie. Stairs and elevator) and compare the additional cost against the reduce building footprint.

David S. – Based on the updated information from todays progress submission review we will look to set up (3) revised adjacency schemes.

OERTEL ARCHITECTS

1795 ST. CLAIR AVENUE, ST. PAUL, MN 55105
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DATE: August 15, 2018

RE: MnDOT Virginia Headquarters – Project Progress Meeting Agenda

Meeting Agenda: (Anticipated Arrival Time: 8:15 am)

1. Master Plan Progress Update and Timeline: 9:00 am – 9:15 am

- Chris M (MnDOT) and Dave S (MnDOT) provided a general update to the process including funding and timeline strategies for design and construction.

2. Floor & Site Plan Adjacency & Concepts: 9:15 am – 10:00 am

- Thomas S (Oertel Architects) presented three site and plan concepts to staff. The general overview focused on shared general strategies and a rundown of what was unique about each concept.

3. Pin Up/Post it Session: 10:00 am – 11:30 am

The departments split into (3) smaller groups to review and comment on each scheme. The groups rotated between schemes. Comments were tracked via post-it notes directly on plans. Thomas S (Oertel), Dan G (Oertel), and Dave S MnDOT) were stationed at each scheme to facilitate and track comments.

4. Summary Session: 11:30 am – 12:00 pm

The team walked through some of the comments and discussion items. All attendees offered one critical component and takeaway from the session and their option preference overall.

Lunch: 12:00 pm – 1:00 pm

4. Next Steps: 1:00 pm – 1:30 pm

The masterplan team discussed initial feedback and next steps with Andy J (MnDOT) and Brian J (MnDOT)

End of Meeting

Option breakdown and consolidated post-it comments are attached.

General Planning Strategies and Organizing Principles:

- Maintain Base Level of Operations On-Site During Construction

- Separate Operational and Public/Passenger Vehicle Traffic

- Allow for Flexibility in Final Yard Layout and Design

- Maintain Proper Directional Exposure for Building Elements

- Facilitate Dedicated Delivery Sequence

- Provide Consolidated Building Entry for Four Primary Agencies (Truck Station, State Patrol, Exam, Training/Public)

- Central Service Hub (Restrooms, Lunch Room, Fitness, Mud Room)

- Building is Separated into Three Primary Areas:

    a. Consolidated Office Area
    b. Consolidated Departmental Shops
    c. Vehicle Areas

Specific Strategies in this Option:

- Cold Storage and Departmental Shop "Service Corridor"

- Separate Covered Yard Storage Area

- Direct Connection from State Patrol to Truck Station Office Area

- Drive-Thru Ability at Inventory

- Angled Parking Lot Allows Additional Room for Landscape Buffer on Hoover

Staff Comments – 08/10/18:

Site Plan Comments:

- Difficult to Maneuver around Cold Storage and Access with Extended Trailers (Survey, Bridge)
    - Lots of Traffic between Cold Storage and Shops (Accidents)
- Staff Prefers to Parking in Controlled Areas
- At Duluth, 53'-0" trailers make deliveries 3-4 times/day
- CDL Trailer Testing (53'-0"), 3-4/day, 3 days/week. Requires Temporary Parking and Drive.

Floor Plan Comments:

- Provide access to Survey Shop for forklift
- Verify Turning Radius
- Like Hallway from Inventory & Repair Bays
- Inventory and State Patrol Storage Garage Provide Good Sound Buffer From Large Repair Bays
- Provide Covered Exterior Loading Area at Inventory

Post Meeting Comments:

08/13/18

- Prefer This Option for the Flow In and Out of Warm Storage
- Prefer (1) In Door and (2) Wash Bays
- Prefer Brine Location in This Option
- South Entry Should Be Where the Pond is Shown
- Provide Two-Way Operations Traffic on the West Side of the Building

General Planning Strategies and Organizing Principles:

- Maintain Base Level of Operations On-Site During Construction

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Specific Strategies in this Option:

- Separate Cold Storage Building Adjacent to Yard and Delivery

- Consolidated Shop Area on West Side of Building

- Consolidated Construction Department Near Office Area

- Wash Bays are Separated by Bypass Lane Which Can Become a “Flex” Bay

- Drive-Thru Capability at State Patrol Garage

Staff Comments – 08/10/18:

Site Plan Comments:

- Train and Highway Noise is Very Loud on West Side of Site
- Will Snow Accumulate on North Side of the Site at Building
- Prefer Frontage Road in Option “E”

Floor Plan Comments:

- Layout Requires Long Cabling Runs Across Garage Area
- Verify Radio Shop Has Sink/Kitchen
- Man Doors Into All Shops
- Overhead Door to Pull Through Welding to Repair Shop
- Move Survey Office Away From Primary Exit/Entry Due to Noise and Vehicle Access
- Survey Too Far Away from Construction
- Provide “Mini-Room” with Door from Exterior at Welding
- Crew Room for Repair Shop needs Locker/Wash/Restroom
    - Shared Restrooms Too Far Away
- Bulk Oil Good (Preferred) with Exterior Access for Delivery
- Welding/Repair Shop should have (2) Hoists on One Track
- Is It Possible to Cool Welding/Repair Shop?
- Wash Bay Too Far Away from Repair Shop
- Is it Possible to Have an Entry to Exam from the Outside?
- Don’t Forget the Mounting of the Radio Shop Antenna!
- Not Liked
- Shop Guys Will Destroy Office Areas
- Double Wash Bay is a Big Bonus
- Plan Requires a lot of Foot Traffic Through Garage Area
- Prefer Offices and Shops Towards Hoover Road (Train & Freeway Noise)

Post Meeting Comments:

08/13/18

- New Building Is Maybe Too Close to the Old Building for Operations During Construction

General Planning Strategies and Organizing Principles:

- Maintain Base Level of Operations On-Site During Construction

- Separate Operational and Public/Passenger Vehicle Traffic

- Allow for Flexibility in Final Yard Layout and Design

- Maintain Proper Directional Exposure for Building Elements

- Facilitate Dedicated Delivery Sequence

- Provide Consolidated Building Entry for Four Primary Agencies (Truck Station, State Patrol, Exam, Training/Public)

- Central Service Hub (Restrooms, Lunch Room, Fitness, Mud Room)

- Building is Separated into Three Primary Areas:

    a. Consolidated Office Area
    b. Consolidated Departmental Shops
    c. Vehicle Areas

Specific Strategies in this Option:

- Consolidated Building Entry and Public Parking Area on East Side of Building with Drive-Thru Capability

- Primary Operational Truck Flow reversed (North to South) Including Wash Bays

- Secondary Exterior Entry to Welding Shop

- Brine Area Not Directly Adjacent to Salt Storage

- Covered Storage Attached to Building on West Side

- Periodic Maintenance Bay at End of Large Vehicle Parking

- Consolidated Construction Office Shop Area

- Dedicated Exam/Test Area Indicated

- Parking Lot Separated Into Public/Employee Areas

- Deliveries are Restricted from Entering the Yard

Staff Comments – 08/10/18:

Site Plan Comments:

- Is Backyard One-Way or Two-Way?
- Check Turn Radius for Tandem (Tow Plow)
- Like Double Access to Welding
- Provide Cold Storage at West Edge of Site (Near Salt Storage)
- Brine at West Edge
- Provide Fence at Inventory Like Other Schemes
- Trailer Delivery for Inventory (Maneuvering)
- Need Turning/Maneuvering at Survey for Buses and Tractor Trailers (Testing/Inspection)
- Extend Test Area East and West to Parking Edge
- Explore Options for Off-Site Impound`

Floor Plan Comments:

- How About An Automated Car/Truck Wash for Smaller Vehicles with Under Body Wash.
- Noise at Train Tracks
    - Less Noise on East Side of Building
- Check Turning Radius into Wash Bays
- Welding/Repair Shop Restrooms, Locker
- Provide Access to Repair Shop From Welding Shop (Double Entry) with Forklift Access
- Curved or Snowplow Shaped North End for Snow Deflection
- Crew Room Offices on East Side
- Repair Shop Distance to Restrooms
- Like Drive-Thru from Repair Shop to Warm Storage
- Need to Control Noise from Repair Shop to Office Areas
- Concerned About Inventory Layout Possibilities with Narrower Configuration
- Like Entry off of Hoover Road
- Shops Being Close to Office Eliminates Long Cable Runs
- Less Protrusions is Best for Snow Removal and Energy Usage for HVAC
- Provide a Restroom on the South Side of the Building
- Spot Shown for PMD is Maybe Best used for Parking (Prime Real Estate)

Post Meeting Comments:

08/13/18

- Do Not Like Operational Flow
- Like Building Layout if Flows Can Match Option C

OERTEL ARCHITECTS

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p: 651.696.5186 www.oertelarchitects.com

DATE: October 30, 2018

RE: Combined Final Review Comments

- Review turning movements at Repair Garage/Warm Storage for low boy truck/trailer and truck/tow plow turning movements
- Need to have an allowance for inventory vending machines (vests, gloves, etc.)
- Do not need washer/dryer
- Pat Burke should be replaced with Mark Schreyer in project roster
- Will the design change if the location is changed?
- Security system integration (MnIT)
- Inventory Center looks small on this plan and it looks like you can only get there from warm storage. Verify entry system to accept deliveries and provide area for inventory vending machines.
- Are safety components included?
- Make one of the offices a supervisor office at Exam
- Move IT office away from the front entry
- Crew Space needs a good amount of wall space for white boards, peg board, etc.
- Are the (2) computer workstations for Sign Shop are integrated into the Crew Room?

End of Comments

Minnesota Department of Transportation

MEETING ATTENDANCE RECORD

Office of Maintenance: Building Services

MEETING FOR: **Masterplan Design Concept Review and Comment** **DATE:** 08/10/18

PROJECT: **Virginia Headquarters Masterplan** **PROJECT I.D. NUMBER: TZ90169**

NAME: (Please Print)	**REPRESENTING:**	**TELEPHONE**	**MOBILE**	**E-MAIL**
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Mike Grand	Radio Shop	218-742-1084	218-404-0462	michael.grand@state.mn.us

SITE SURVEY

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BOUNDARY AND TOPOGRAPHIC SURVEY
VIRGINIA HEADQUARTERS SITE
ST. LOUIS COUNTY, MINNESOTA

LEGEND
1/2" IRON PIPE MONUMENT SET MARKED BY LIC. NO. 17768
SET PK NAIL WITH METAL DISK MARKED BY LIC. NO. 17768
MONUMENT FOUND
CAST IRON MONUMENT FOUND
BENCH MARK
AIR CONDITIONER
ANCHOR
APRON
CATCH BASIN
CLEAN OUT
COMMUNICATION PEDESTAL
CONTROL POINT
CURB STOP VALVE
DOWN SPOUT
ELECTRIC METER
ELECTRIC PEDESTAL
ELECTRIC TRANSFORMER
GAS METER
GAS REGULATOR
GAS VALVE
HAND HOLE
ELECTRIC MANHOLE
HYDRANT
LIGHT POLE
MAILBOX
POST
BENCH
SANITARY MANHOLE
STORM MANHOLE
TRAFFIC SIGN
UTILITY POLE
DECIDUOUS TREE
CONIFEROUS TREE
WATER SPIGOT
WATER VALVE
WETLAND / MARSH
WETLAND - DELINEATED
FENCE LINE
WETLAND EDGE
INTERMEDIATE CONTOURS
INDEX CONTOURS
TREE DRIP LINE
CONTROLLED ACCESS ROAD R/W LINE
ELECTRIC UNDERGROUND
GAS
UTILITY OVERHEAD
SANITARY SEWER
STORM SEWER
WATER SYSTEM
SIXTEENTH LINE
SECTION LINE
CONCRETE SURFACE
BITUMINOUS SURFACE
BITUMINOUS SURFACE
OWNER
175-0071-01111
RGGS LAND AND MINERALS LTD LP
EASEMENT FOR HIGHWAY PURPOSES TO THE STATE OF MINNESOTA PER DOCUMENT 280641
BOUNDARY CORNER
NORTHING=3,611,476.05
EASTING=4,729,511.72
U.S. HIGHWAY 53
NORTH BOUND LANE BITUMINOUS
DELINEATED WETLAND
COLD STORAGE BLDG.
10,000 gallon UST full of concrete
BENCHMARK
TOP SPIKE IN S. SIDE OF POST
ELEV=1434.14(NAVD88)
VIRGINIA HEADQUARTER SITE
101 NORTH HOOVER ROAD
PARCEL 1
PARCEL 2
PARCEL 3
HAZARDOUS WASTE STORAGE
BUILDING MAINTENANCE STORAGE
CHEMICAL STORAGE BUILDING
MAGNESIUM CHLORIDE TANK
SALT BRINE BUILDING
SAND PILE
DIRT PILE
BOULDER PILE
GRAVEL
BRIDGE COLD STORAGE
MOTORCYCLE TEST AREA
18 PARKING SPACES
12 PARKING SPACES
22 PARKING SPACES
10 PARKING SPACES
GATE CONTROL PANEL
COMMUNICATION UNDERGROUND
OWNER
090-0190-00090
TACONITE LEASING
DOC NO 770759
HOOVER ROAD
(C.R. 7)
(F.K.A. CR 19)
W. CHESTNUT STREET
IRON RANGE RR
MISSABE
DULUTH
INDUSTRIAL ADDITION
OWNER
090-0180-00421
RANGE COOPERATIVES, INC.
OWNER
090-0180-00426
RANGE COOPERATIVES, INC.
POINT OF BEGINNING PARCEL 1 & PARCEL 3
POINT OF BEGINNING PARCEL 2
BOUNDARY CORNER
NORTHING=3,610,540.84
EASTING=4,730,093.60
SW CORNER SEC. 7, T58N, R17W
SE CORNER SEC. 12, T58N, R18W 2 IN. ALUM CAP
INTERSECTION POINT OF THE EAST LINE OF SEC. 12 AND THE EAST - WEST 1/4 LINE OF SEC. 7, FOUND 3 IN. ALUMINUM CAP
DETAIL
POINT DISTANT 1016.51 FEET NORTH AND 579.99 WEST OF THE P.O.B.
FOUND 1 IN. IRON ROD 0.67 SOUTH OF CORNER
DETAIL
POINT DISTANT 1020.16 FT NORTH OF THE P.O.B.
E1/4 CORNER OF SEC. 12, T58N, R18W CAST IRON MON.
SCALE IN FEET

SURVEYOR'S CERTIFICATION

I hereby certify that this survey, plan, or report was prepared by me or under my direct supervision and that I am a duly Licensed Land Surveyor under the laws of the State of Minnesota.

Bruce W. Skipton
License Number 17768

23 June 2017
Date

BRUCE W. SKIPTON — LICENSED LAND SURVEYOR 17768 — DATE 6/23/17 — STATE OF MINNESOTA

Underground utility lines and structures are shown in an approximate way only, according to information provided by others. A request that utilities be located for this survey was made through Gopher State One Call (Ticket No. 170862465). The underground utility lines and structures shown on this map represent the information provided to Bolton & Menk, Inc. as a result of that request. The surveyor does not guarantee that the information provided was either complete or accurate. The surveyor does not guarantee that there are no other underground utility lines and structures, active or abandoned, on or adjacent to the subject property.

SHEET INDEX
SHEET 1- FULL SURVEY UTILITIES
SHEET 2- SURVEY NOTES AND UTILITIES
SHEET 3- FULL SURVEY (NO VEGETATION OR CONTOURS)
SHEET 4- SURVEY WITH AERIAL PHOTO

CONTROL POINT DATA				
POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
5010	3611774.563	4730067.913	1433.07	CNT /LS ADJSTD CONTROL
5011	3610606.754	4730059.919	1430.84	CNT /LS ADJSTD CONTROL
5012	3612072.858	4729543.474	1433.88	CNT /LS ADJSTD CONTROL
5013	3612070.515	4729932.943	1433.73	CNT /LS ADJSTD CONTROL
5014	3611416.205	4729960.395	1433.87	CNT /LS ADJSTD CONTROL
5015	3610598.946	4729777.382	1431.38	CNT /LS ADJSTD CONTROL
5016	3611227.15	4729569.866	1433.44	CNT /LS ADJSTD CONTROL
5017	3611517.546	4729629.121	1435.57	CNT /LS ADJSTD CONTROL
12455			1433.90	BM /TOP SPIKE IN SE SIDE LP
13050			1334.14	BM /TOP SPIKE IN S SIDE POST
13051			1434.94	BM /MNDOT 6918 H

Site Address: 101 North Hover Road, Virginia, Minnesota

Horizontal Datum: St. Louis County TM96, NAD83 (1996 Adjustment)

Vertical Datum: NAVD 1988

BOUNDARY AND TOPOGRAPHIC SURVEY
VIRGINIA HEADQUARTERS

BOLTON & MENK
7656 DESIGN ROAD, SUITE 200
BAXTER, MINNESOTA 56425
(218) 825-0684

VIRGINIA HEADQUARTERS
PART OF GOV LOT 2 AND 3
SEC. 7, T58N, R17W
ST. LOUIS COUNTY, MN

FOR: MINNESOTA DEPARTMENT OF TRANSPORTATION

JOB NUMBER: M34.00046 FIELD BOOK: BAX 4 P. 30-35 DRAWN BY: ZLZ SEC 7, T58N, R17W

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BOUNDARY AND TOPOGRAPHIC SURVEY

VIRGINIA HEADQUARTERS SITE

ST. LOUIS COUNTY, MINNESOTA

LEGAL DESCRIPTION

PARCEL 1: Certificate of Title 153388.0

That part of Government Lot 3 of Section 7 Township 58 North Range 17 West, which lies within the following described line:

Assuming the centerline of St. Louis County Highway No. 19 (also known as Hoover Road), as the same is now constructed over and across said tracts of land to be due North and South, and beginning at a point on said highway centerline distant 776.13 feet North of the South line of said Lot 3 at its intersection with said highway centerline; thence run West at right angles to said highway center line for 233 feet; thence run South 560 feet; thence run West 87.92 feet, more or less, to the E'ly boundary of Trunk Highway No. 53; thence run NW'ly along the E'ly boundary of said Trunk Highway No. 53 to a point distant 1016.51 feet North and 579.99 feet West of the point of beginning; thence run E'y to a point on aforesaid County Highway No. 19 centerline distant 1020.16 feet North of the point of beginning; thence run South on the said County Highway No. 19 centerline to the point of beginning.

EXCEPTING all minerals.

Subject to highway easements.

PARCEL 2: Certificate of Title No. 174754. Legal description shown per directive Document 495872 in the Memorial of said Certificate of Title, dated 22 December 1987, to clarify "above described tract" shown on the description appearing on Certificate of Title No. 174754.

That part of Government Lot 3 of Section 7 in Township 58 North of Range 17 West of the Fourth Principal Meridian, according to the United States Government Survey thereof, described as follows: Assuming the center line of County Highway No. 19, (also known as Hoover Road), as the same is now constructed over and across said Government Lot 3 to be due north and south, and beginning at a point on the center line of said highway distant 360 feet north of the south line of the tract described as follows:

That part of Government Lot 3, Section 7, Township 58 North of Range 17 West of the Fourth Principal Meridian, described as follows: Assuming the center line of St. Louis County Highway No. 19, (also known as Hoover Road), as the same is now constructed over and across said Government Lot 3 to be due north and south, and beginning at a point on said highway centerline distant 776.13 feet north of the south line of said Government lot 3 at its intersection with said highway centerline; thence run west at right angles to said highway centerline for 233 feet; thence run south for 560 feet; thence run east to a point on the aforesaid County Highway No. 19 centerline distant 560 feet south of the point of beginning; thence run north on said County Highway No. 19 centerline to the point of beginning.

Thence run west at right angles to said highway centerline for 133 feet; thence run south for 200 feet; thence run east to a point on the centerline of said highway distant 200 feet south of the point of beginning; thence run north along said centerline for 200 feet to the point of beginning.

(it is the intention that the above description of land shall include those parts of the East half of the Southeast quarter of Section 12 made by William P. Allen in 1882, would be overlapped by and included in said above description of land.)

EXCEPTING all minerals and RESERVING unto the party of the first part, its successors and assigns, forever the right to explore for, mine and remove said minerals in the usual and customary manner;

SUBJECT to easements for highways and to any public or private utilities thereon.

PARCEL 3: Certificate of Title174052

That part of Government Lot 3 of Section 7, Township 58 North, Range 17 West of the Fourth Principal Meridian described as follows: Assuming the centerline of St. Louis County Highway No. 19 (also known as Hoover Road) as the same is now constructed over and across said Government Lot 3 to be due North and South, and beginning at a point on said highway centerline distant 776.13 feet North of the South line of said Government Lot 3 at its intersection with said highway centerline; thence run West at right angles to said highway centerline for 233 feet; thence run South for 560 feet; thence run East to a point on the aforesaid County Highway No. 19 centerline distant 560 feet South of the point of beginning; thence run North on said County Highway No. 19 centerline to the point of beginning; excepting therefrom that part described as follows: Beginning at a point on the centerline of St. Louis County Highway No. 19 distant 360 feet North of the South line of the above described tract; thence run West at right angles to said highway centerline for 133 feet; thence run South for 200 feet; thence run East to a point on the centerline of the said St. Louis County Highway No. 19, distant 200 feet South of the point of beginning; thence run North along said centerline for 200 feet to the point of beginning.

(It is the intention that the above description of land shall include those parts of the E1/2 of the SE1/4 of Section 12, Township 58 North, Range 18 West, that according to the United States Government Survey of said Section 12 made by William P. Allen in 1882, would be overlapped by and included in said above description of land.)

EXCEPTING all minerals.

SUBJECT to easements for highways and to any public or private utilities thereon.

TITLE WORK

Northeast Title Company provided a 50 year Tract Search for the above described parcel of land. The following are a listing of documents that were provided with "*comments*" by this licensed surveyor.

(1) As to Parcel 1

Warranty Deed, Registrar of Titles Document 280679; United States Steel Corporation, Grantors; State of Minnesota, Grantee; dated 8 April 1960 and recorded 7 July 1960. *Vesting deed to the State of Minnesota. This is the same description as described above and in Certificate of Title 153388.0, with some differences. The Certificate of Title only includes land in Government Lot 3. It does not call out any lands in Government Lot 2 in the captions as the deed does. The Certificate of Title does not include the qualifying statement at the end to include lands in the E1/2 of the SE1/4 of Section 12. This survey also includes a small piece of land in the SE1/4 of the NE1/4 of Section 12. See details. These lands are however in Government Lot 2.*

LEGAL DESCRIPTION PER DEED;

3. That part of Government Lot 3 of Section 7, Township 58 North, Range 17 West, being registered title land Certificate of Title No. 130358;
4. That part of Government Lot 2 of Section of Section 7, Township 58 North, Range 17 West.

which lies within the following described line:

Assuming the centerline of St. Louis County Highway No. 19 (also known as Hoover Road), as the same is now constructed over and across said tracts of land to be due north and south, and beginning at a point on said highway centerline distant 776.13 feet north of the south line of said Lot 3 at its intersection with said highway centerline; thence run west at right angles to said highway center line for 233 feet; thence run south 560 feet; thence run west 87.92 feet, more or less, to the easterly boundary of Trunk Highway No. 53; thence run northwesterly along the easterly boundary of said Trunk Highway No. 53 to a point distant 1016.51 feet north and 579.99 feet west of the point of beginning; thence run easterly to a point on aforesaid County Highway No. 19 centerline distant 1020.16 feet north of the point of beginning; thence run south on the said County Highway No. 19 centerline to the point of beginning.

(It is the intention of the parties hereto that the above description of land shall include those parts of E1/2 of SE1/4 of section 12, township 58 north, range 18 west that, according to the United States Government survey of said section 12 made by William P. Allen in 1882, would be overlapped by and included in said above description of land.)

EXCEPTING all minerals.

Subject to highway easements.

(2) Easement for Railroad Right of Way purposes, Document 218563.0; United States Steel Company, Grantor; Duluth Missabe and Iron Range Railway Company, Grantee, recorded 2 April 1952. *The railroad easement lies easterly of Parcel 1 described above according to the map in the document.*

(3) Easement for Public Highway, Document 219247.0; United States Steel Company, Duluth Missabe and Iron Range Railway Company, Grantors; City of Virginia, Grantees; dated 29 April 1952 and recorded 9 May 1952. *This easement calls out the North 33 of Government Lot and the South 33 feet of Government Lot 2. As shown on survey. The easement runs through the center of Parcel 1 and through the building.*

(4) Easement for Public Highway purposes, Document 280641.0; United States Steel Corporation, Grantor; State of Minnesota, grantee; dated 6 April 1960 and recorded 29 June 1960. *This easement is for the public Highway (Trunk Highway 53) west and adjacent to Parcel 1 described above and as shown on this survey. This document also takes the right of access to and from Trunk Highway 53.*

(5) As to Parcel 2

Warranty Deed, Registrar of Titles Document 510523; Range Coopertives, Inc., Grantors; State of Minnesota, Grantee; dated 29 March, 1989 and recorded 10 May 1989. *Vesting deed to the State of Minnesota. No Certificate of Title Provided. The Certificate of Tile shown under "LEGAL DESCRIPTION" is the Certificate of Title of Range Cooperatives, the grantors to the State of Minnesota. No Certificate of Title was provided in the name of the State of Minnesota.*

(No easements listed in title work.)

(6) As to Parcel 3

Warranty Deed, Book 483 of Registrar of Titles Page 52, Document 235575; United States Steel Corporation, Grantors; State of Minnesota, Grantee; dated 19 December 1966 and recorded 14 March 1967. *Vesting deed to the State of Minnesota. This is the same description as described above and in Certificate of Title 174052.0*

(7) Easement for Public Highway, Document 280641; United States Steel Corporation, Grantors; State of Minnesota, Grantee; dated 6 April 1960. *This easement is for the public Highway (Trunk Highway 53) west of Parcel 3 described above and as shown on this survey. This document also takes the right of access to and from Trunk Highway 53.*

(8) As to all three parcels

Hoover Road (County Road 7 and formerly known as County Road 19) is a public road running along the east side of the above described property. No information was provided to surveyor indicating the right of way width.

As to adjacent parcels

(9) Warranty Deed Document 1039020; Harvey Brothers Partnership, Grantors, Pomp's Tire Service, Inc. Grantee; dated 28 November 2006 and recorded 26 December 2006. This land is not adjacent to and north of the subject property. There are no gaps or overlaps.

(10) Warranty Deed Document 282238; Carl E. Sandquist and Rose Sandquist, Grantors, Harvey Brothers Partnership, Grantee; dated 15 September 1978 and recorded 25 September 1978. This land is not adjacent to and north of the subject property, a portion of which was deeded to Pomp's Tire Service, Inc. (Item 9 above). There are no gaps or overlaps.

(11) Warranty Deed Document 770759; Taconite Tire Services, Inc, Grantor, Taconite Leasing, Grantee; dated 22 December 2003 and recorded 13 February 2004. This land is not adjacent to and south of the subject property. There are no gaps or overlaps.

STATEMENT OF POSSIBLE ENCROACHMENTS

(A) There is a power line along the south property line that is not confined to an easement.

(B) The cold storage building near the northwest corner of subject property is in the right of way of U.S. Highway 53. See survey for dimensions.

(C) There is a gravel parking/maneuvering area on the north side of the subject property that is south of the north line of the subject property.

(D) There was no document provide for public roadway or utilities along Hoover Road (County Road 7). There is a street and various utilities that run along the east line of the subject property.

(E) There are tires stored on the north side of the subject property that appear to belong to the tire service company adjacent and north of subject property.

(F) An LP Tank that is located along the north property line and appears to be used by tire service company adjacent and north of subject property.

SURVEYOR'S NOTES

1. Bearing Orientation: the east line of Section 12, Township 58 North, Range 18 West, is assumed to bear North 02 degrees 31 minutes 52 seconds West.
2. The field work was completed on June 15th, 2017.
3. Wetland was delineated by Bolton and Menk Inc.
4. The boundary of this survey was established using the certified monuments along the east line of 12. These monuments match the Certificate of Survey prepared by Thomas J. O'Malley, Deputy St. Louis County Surveyor, dated 11 May 2007. The west boundary (east right of way line of State Trunk Highway 53) was establish by the easement description in Document 280641. The dimensions in this easement match the dimensions in the vesting deed, Document 280679, to the State of Minnesota.
5. A second contact with the city provided no further information regarding the water services or water shut offs.

UTILITY LOCATE TABLE

Minnesota Department of Transportation Job Number: M34.M00046

Information Furnished from Gopher State One Call locate request | Preparation of Existing Conditions Drawing

District Code	Company Name	Marking Concerns	Damage/Repair	Customer Service	Contact Name	Contact Number	Type of Information Provided by Utility Company to prepare Existing Conditions Drawing	Bolton & Menk, Inc. distribution of Existing Conditions drawing to Utility Companies for review	Bolton & Menk, Inc. Received follow up information from Utility Companies	Bolton & Menk, Inc. revised Existing Conditions Drawing based on Utility Companies Information
		Phone Number	Phone Number	Phone Number	Name	Phone Number	Maps, Field, Clear	Date of Distribution	Date of Receipt	Date of Update
CMTIRN01	CITY OF MOUNTAIN IRON	(218)748-7597				218-748-7570	Not yet responded	May 18th, 2017		
CTLMN01	CENTURYLINK - CTLQL	(855)742-6062			Steve Sanders	218-262-4109	Marked	May 18th, 2017	May 23rd, 2017	
CVGNIA01	VIRGINIA PUBLIC UTILITIES GAS	(218)748-7540			Aaron Zika	218-780-5739	Marked	May 18th, 2017		
CVGNIA03	VIRGINIA PUBLIC UTILITIES WATE	(218)748-7540			Aaron Zika	218-780-5739	Marked	May 18th, 2017		
CVGNIA04	VIRGINIA PUBLIC UTILITIES ELEC	(218)748-7540			Aaron Zika	218-780-5739	Marked	May 18th, 2017		
CVGNIA05	VIRGINIA PU STREET LIGHTING	(218)748-7540			Aaron Zika	218-780-5739	Marked	May 18th, 2017		
CVGNIA06	VIRGINIA PUBLIC UTILITIE STEAM	(218)748-7540			Aaron Zika	218-780-5739	Clear/No Conflict	May 18th, 2017		
ENVTEL06	CONSOLIDATED COMMUNICATIONS I	(218)568-4744			Dan Beddow	218-740-6125	Clear/No Conflict (os)	May 18th, 2017		
MERC31	MINNESOTA ENERGY RESOURCES	(800)889-4970			Patrick Johnson	651-322-8962	Clear/No Conflict	May 18th, 2017	May 25th, 2017	
MNSDOT01	DEPARTMENT OF TRANSPORTATION	(651)366-5750			John Hoivik	218-725-2790	Marked	May 18th, 2017		
MPELEC02	MINNESOTA POWER	(218)568-4744			Eric Alafita	218-220-0685	Clear/No Conflict	May 18th, 2017		
NSCOOP02	NORTHEAST SERVICE COOPERATIVE	(218)568-4744			Joe Weber	218-748-7626	Marked	May 18th, 2017	June 1st, 2017	
PLBURT01	PAUL BUNYAN COMMUNICATIONS	(218)368-8460			Andy Fisher	218-766-1168	Marked	May 18th, 2017		
STARTV03	MEDIACOM CABLEVISION	(515)559-5690			Scott Sandquist	507-838-8627	Marked	May 18th, 2017		
VIRGPW01	VIRGINIA PUBLIC WORKS	(218)748-7515				218-748-7515	Not yet responded	May 18th, 2017		

Gopher One Ticket Number 170862465

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Underground utility lines and structures are shown in an approximate way only, according to information provided by others. A request that utilities be located for this survey was made through Gopher State One Call (Ticket No. 170862465). The underground utility lines and structures shown on this map represent the information provided to Bolton & Menk, Inc. as a result of that request. The surveyor does not guarantee that the information provided was either complete or accurate. The surveyor does not guarantee that there are no other underground utility lines and structures, active or abandoned, on or adjacent to the subject property.

SHEET INDEX

BOUNDARY AND TOPOGRAPHIC SURVEY
VIRGINIA HEADQUARTERS

BOLTON & MENK
7656 DESIGN ROAD, SUITE 200
BAXTER, MINNESOTA 56425
(218) 825-0684

VIRGINIA HEADQUARTERS
PART OF GOV LOT 2 AND 3
SEC. 7, T58N, R17W
ST. LOUIS COUNTY, MN

FOR: MINNESOTA DEPARTMENT OF TRANSPORTATION

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BOUNDARY AND TOPOGRAPHIC SURVEY

VIRGINIA HEADQUARTERS SITE

ST. LOUIS COUNTY, MINNESOTA

LEGEND

1/2" IRON PIPE MONUMENT SET MARKED BY LIC. NO. 17768	BENCH
MONUMENT FOUND	SANITARY MANHOLE
CAST IRON MONUMENT FOUND	STORM MANHOLE
BENCH MARK	TRAFFIC SIGN
AIR CONDITIONER	UTILITY POLE
ANCHOR	DECIDUOUS TREE
APRON	CONIFEROUS TREE
CATCH BASIN	WATER SPIGOT
CLEAN OUT	WATER VALVE
COMMUNICATION PEDESTAL	WETLAND / MARSH
CONTROL POINT	WETLAND - DELINEATED
CURB STOP VALVE	FENCE LINE
DOWN SPOUT	WETLAND EDGE
ELECTRIC METER	INTERMEDIATE CONTOURS
ELECTRIC PEDESTAL	INDEX CONTOURS
ELECTRIC TRANSFORMER	TREE DRIP LINE
GAS METER	CONTROLLED ACCESS
GAS REGULATOR	ROAD R/W LINE
GAS VALVE	ELECTRIC UNDERGROUND
HAND HOLE	GAS
ELECTRIC MANHOLE	UTILITY OVERHEAD
HYDRANT	SANITARY SEWER
LIGHT POLE	STORM SEWER
MAILBOX	WATER SYSTEM
POST	SIXTEENTH LINE
	SECTION LINE
CONCRETE SURFACE	
BITUMINOUS SURFACE	
BITUMINOUS SURFACE	

SCALE IN FEET: 0, 60, 120

CONTROL POINT DATA				
POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
5010	3611774.563	4730067.913	1433.07	CNT /LS ADJSTD CONTROL
5011	3610606.754	4730059.919	1430.84	CNT /LS ADJSTD CONTROL
5012	3612072.858	4729543.474	1433.88	CNT /LS ADJSTD CONTROL
5013	3612070.515	4729932.943	1433.73	CNT /LS ADJSTD CONTROL
5014	3611416.205	4729950.395	1433.87	CNT /LS ADJSTD CONTROL
5015	3610598.946	4729777.382	1431.38	CNT /LS ADJSTD CONTROL
5016	3611227.15	4729569.866	1433.44	CNT /LS ADJSTD CONTROL
5017	3611517.546	4729629.121	1435.57	CNT /LS ADJSTD CONTROL
12455			1433.90	BM /TOP SPIKE IN SE SIDE LP
13050			1334.14	BM /TOP SPIKE IN S SIDE POST
13051			1434.94	BM /MNDOT 6918 H

Site Address: 101 North Hover Road, Virginia, Minnesota

Horizontal Datum: St. Louis County TM96, NAD83 (1996 Adjustment)

Vertical Datum: NAVD 1988

Underground utility lines and structures are shown in an approximate way only, according to information provided by others. A request that utilities be located for this survey was made through Gopher State One Call (Ticket No. 170862465). The underground utility lines and structures shown on this map represent the information provided to Bolton & Menk, Inc. as a result of that request. The surveyor does not guarantee that the information provided was either complete or accurate. The surveyor does not guarantee that there are no other underground utility lines and structures, active or abandoned, on or adjacent to the subject property.

SHEET INDEX

SHEET 1- FULL SURVEY UTILITIES
SHEET 2- SURVEY NOTES AND UTILITIES
SHEET 3- FULL SURVEY (NO VEGETATION OR CONTOURS)
SHEET 4- SURVEY WITH AERIAL PHOTO

BOUNDARY AND TOPOGRAPHIC SURVEY
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0 60 120

SCALE IN FEET

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Horizontal Datum: St. Louis County TM96, NAD83 (1996 Adjustment)

Vertical Datum: NAVD 1988

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