DEPARTMENT OF THE NAVY
OFFICE OF THE CHIEF OF NAVAL OPERATIONS
2000 NAVY PENTAGON
WASHINGTON, DC 20350-2000

G-7

IN REPLY REFER TO

5104
Ser 455C/6U838076
17 March 2006

U. S. Nuclear Regulatory Commission
Region I
475 Allendale Road
King of Prussia, PA 19406-1415
Attn: Ms. O. Masnyk-Bailey

45-23645-01NA
03029462

SUBJECT: TERMINATION OF NAVAL RADIOACTIVE MATERIALS PERMIT NO. 32-65923-S1NP ISSUED TO NAVAL AIR DEPOT, CHERRY POINT, NORTH CAROLINA

Encl: (1) Decommissioning Assessment

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REGION 1

Gentlemen:

Since 1979, Naval Air Depot, Cherry Point, North Carolina (NAVAIRDEPOT) has performed maintenance of magnesium-thorium (Mg-Th) aircraft components containing no more than four percent thorium. Nuclear Regulatory Commission (NRC) License No. SMB-1345 first authorized the Mg-Th operations. With the issuance of the Navy's NRC Master Materials License in 1987, the NRC license was converted to Naval Radioactive Materials Permit (NRMP) No. 32-65923-S1NP. NAVAIRDEPOT has submitted notification to the Naval Radiation Safety Committee (NRSC) of their intent to terminate NRMP No. 32-65923-S1NP.

The Navy has evaluated the termination notification, reviewed historical information and conducted an on-site visit to compare the previous operations with the decommissioning guidance of NUREG-1757 and recommends the NAVAIRDEPOT termination be processed as a Group 2 decommissioning. While a Group 2 decommissioning does not require a decommissioning plan, a decommissioning assessment has been prepared and is provided as enclosure (1).

Group 2 decommissionings include licensees who did not release materials to the environment in excess of 10 CFR 20 limits. While, the operations at Cherry Point involved the grinding, drilling and blasting of the Mg-Th aircraft components, the operations did not produce respirable particles and residue was

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NMSS/RGN1 MATERIALS-002

controlled or vacuumed. Historically, work area surveys were performed and no contamination was found and no spills of Mg-Th residue were recorded. Additionally there was no inadvertent disposal of Mg-Th residue in any NAVAIRDEPOT landfills. The decommissioning assessment recommends release actions for the three types of radiologically impacted structures and equipment. Specifics on the surveys are provided in enclosure (1). The release actions are summarized below:

a. Final status surveys of radiologically impacted areas where Mg-Th operations were formerly conducted and where equipment used for Mg-Th operations was formerly used or currently stored.

b. Screening of materials and equipment (M&E) used in Mg-Th operations. This includes blasting units, welders, jig borers, lathes, vacuum systems, waste drums, storage cabinets, parts washers, flushing stations, and any peripheral piping or ventilation.

c. Screening of one indoor and one outdoor low-level radioactive waste (LLRW) storage facilities. These structures will be surveyed as M&E as they will be destroyed after the surveys are completed.

The release of the above listed structures and equipment will be done by New World Environmental, Inc. (doing business as New World Technology (NWT)) under NRC License No. 04-27745-01. All structure and equipment surveys will be performed in accordance with NWT survey work plans that have been approved by the Naval Sea Systems Command Detachment, Radiological Affairs Support Office (NAVSEADET RASO.) If residual radioactivity is found, NWT and NAVSEADET RASO will reassess the situation and notify the NRC.

NAVAIRDEPOT is in the process of executing an aggressive military construction (MILCON) project which will stage the new V-22 Osprey aircraft program at Cherry Point. Release of the LLRW storage facilities is instrumental to the project schedule as they must be demolished before the MILCON can start. Surveys are currently scheduled to begin on 27 March 2006. Expeditious review of enclosure (1) is requested to allow surveys and demolition to be completed prior to the start of the MILCON in

the April-May 2006 timeframe. The Naval Radiation Safety Committee intends to proceed without NRC review of work plan documents and will, as a minimum, complete surveys of the outdoor storage areas and materials and equipment in Building 133 unless otherwise advised.

If you have any further question regarding this action, please contact Mr. William Morris or Dr. Steve Doremus at NAVSEADET RASO: (757) 887-4692, or morriswj@raso.navy.mil or doremussw@raso.navy.mil.

Sincerely,

L. L. FRAGOSO
By direction

Enclosure: 1. Decommissioning Assessment for Naval Air Depot, Cherry Point NRMP No. 32-65923-S1NP

Copy to:
COMNAVSEASYSCOM (04N)
NAVSEADET RASO
NAVAIRDEPOT Cherry Point

DECOMMISSIONING ASSESSMENT

FOR

NAVAL AIR DEPOT
CHERRY POINT, NORTH CAROLINA
NAVAL RADIOACTIVE MATERIALS PERMIT NO. 32-65923-S1NP

PREPARED BY

NAVSEADET RASO
YORKTOWN VIRGINIA
14 March 2006

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ACRONYMS & ABBREVIATIONS

AFSC	United States Army Field Support Command
ALARA	as low as reasonably achievable
ARSO	Assistant Radiation Safety Officer
CFR	Code of Federal Regulations
cm^2	square centimeter
DCGL	derived concentration guideline level
dpm	disintegrations per minute
EIN	equipment identification number
FSS	final status survey
H-3	tritium
HEPA	high efficiency particulate air
Kg	kilograms
LLRW	low-level radioactive waste
MARSSIM	Multi-Agency Radiation Survey and Site Investigation Manual
MDC	minimum detectable concentration
Mg-Th	magnesium-thorium
MILCON	military construction
mrem/y	millirem per year
µR/h	microroentgen per hour
NAVAIRDEPOT	Naval Air Depot, Cherry Point
NRC	Nuclear Regulatory Commission
NRMP	Naval Radioactive Materials Permit
NRSC	Naval Radiation Safety Committee
NWT	New World Technology
QA	quality assurance
QC	quality control
RA	reference area
Ra-226	radium-226
RASO	Radiological Affairs Support Office
ROC	radionuclides of concern
RSO	Radiation Safety Officer
SOP	standard operating procedure
SOW	scope of work
SSHP	site safety and health plan
TEDE	total effective dose equivalent
Th-228	thorium-228
Th-232	thorium-232
U.S.	United States
U-238	uranium-238 or depleted uranium
WRS	Wilcoxon Rank Sum Statistical Test
y	year

1 EXECUTIVE SUMMARY

Under the authority of the Navy's Nuclear Regulatory Commission (NRC) Master Materials License, the Naval Radiation Safety Committee (NRSC) has administered Naval Radioactive Materials Permit (NRMP) No. 32-65923-S1NP issued to Naval Air Depot, Cherry Point, North Carolina (NAVAIRDEPOT.) NRMP No. 32-65923-S1NP authorizes maintenance, repair and rework of magnesium-thorium (Mg-Th) alloy aircraft parts containing not more than four percent thorium. On 9 August 2005, NAVAIRDEPOT notified the Naval Sea Systems Command Detachment, Radiological Affairs Support Office (NAVSEADET RASO) of their intent to terminate NRMP No. 32-65923-S1NP. NAVAIRDEPOT no longer requires the NRMP as the aircraft engines that contained the Mg-Th parts have been phased out.

The NRC issued the original authorization for NAVAIRDEPOT to perform maintenance on Mg-Th aircraft, NRC License No. SMB-1345, in January 1979. The NRC license was converted to NRMP No. 32-65923-S1NP after the Navy received a NRC Master Materials License in April 1987. The NRSC last renewed NRMP No. 32-65923-S1NP (Amendment No. 5) on 7 July 2003. The renewal application provided a complete description of operations conducted on Mg-Th alloy aircraft parts, including drilling, machining, grinding (in an enclosed glove box), and media blasting (in a fully contained system). All Mg-Th maintenance operations were conducted in Building 133. Operations were last conducted in January 2003, however the NRMP was renewed to maintain the capability to perform the Mg-Th operations. Monitoring of Mg-Th operations was conducted periodically and no residual contamination was detected.

A review of historical records, site visits, and interviews with station personnel has not identified any evidence of the inadvertent use of, disposal of, or contamination by radioactive materials at NAVAIRDEPOT. NAVSEADET RASO recommends the termination of NRMP No. 32-65923-S1NP be assigned Decommissioning Group 2.

Two additional areas that are not specifically addressed in NRMP No. 32-65923-S1NP have been included in the decommissioning assessment. These include an outdoor low-level radioactive waste (LLRW) storage area and an indoor LLRW storage facility in Building 134. Wastes from Mg-Th maintenance operations as well as other NAVAIRDEPOT LLRW waste streams were stored at these two facilities.

Navy is taking a conservative approach for the release of NAVAIRDEPOT building structures. Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM)-based final status surveys will be conducted in areas where Mg-Th aircraft components were machined and stored and LLRW storage areas to release the areas for unrestricted use or disposition. As the aircraft components contained thorium, thorium-232 (Th-232) and its progeny Th-228 are considered the radionuclides of concern in areas where Mg-Th maintenance operations were performed. In addition to Th-232 and Th-228, radionuclides of concern at the LLRW storage areas are radium-226 (Ra-226), tritium (H-3), and uranium-238 (U-238). Radionuclide-specific release limits or derived concentration guideline levels (DCGLs) are based on the radionuclides that apply to each area. The DCGLs will ensure that the total effective dose equivalent (TEDE) to an average member of the critical group does not exceeding 25 millirem per year (mrem/y). Any residual radioactivity will be reduced to levels as low as is reasonably achievable (ALARA).

Material and equipment (M&E) used in the maintenance of Mg-Th components will be screened for residual radioactivity. Th-232 and Th-228 are the radionuclides of concern for this M&E. The screening process will verify that M&E are acceptable for unrestricted use. A Pratt & Whitney jig borer, which is scheduled for disposal, will be the first piece of equipment screened. The jig borer will be completely disassembled, degreased and surveyed. These survey results will be used to determine whether it will be necessary to completely disassemble all remaining equipment or if surveys of accessible surfaces will suffice.

MARSSIM-based final status surveys of the impacted areas based on a NAVSEADET RASO approved work plan will be conducted in radiologically impacted areas of Building 133. One hundred percent of all accessible floor areas will be scanned with a gas proportional alpha/beta detector and an additional number of static measurements will be taken. Wall surfaces will be surveyed with static measurements.

New World Environmental, Inc. (doing business as New World Technology (NWT)) will be performing the surveys under the authority of their NRC Broad Scope License No. 04-27745-01, expiration date 28 February 2013.

The site work must begin as soon as possible to support construction of new V-22 Osprey facilities at NAVAIRDEPOT. NWT will mobilize at NAVAIRDEPOT on 27 March 2006. The estimated

start date for the survey of the first jig borer is 3 April 2006. Surveys of the former LLRW storage areas, which are within the footprint of the new construction, are scheduled to begin in April 2006. Estimated completion date of on-site surveys is 12 May 2006.

2 COMMAND NAME AND ADDRESS

Naval Air Depot
PSC Box 8021
Cherry Point, NC 28533-0021

3 COMMAND OPERATING HISTORY

3.1 Command Mission

NAVAIRDEPOT provides maintenance and engineering support to the Navy and Marine Corps aviation community, as well as other armed services, federal agencies and foreign governments. Historically, this support has included major airframe modifications and repair for a wide variety of DoD aircraft, some of which used magnesium-thorium (Mg-Th) alloy components. Since January 1979, NAVAIRDEPOT has performed the work on Mg-Th components under the authority of a NRC License or NRMP.

3.2 License Number, Status, and Authorized Activities

In January 1979, the NRC issued NAVAIRDEPOT License No. SMB-1345, that authorized maintenance, repair and reworking of Mg-Th alloy aircraft parts containing no more than four percent thorium. Upon receipt of a NRC Master Materials License in April 1987, the NRSC converted NRC License No. SMB-1345 to NRMP No. 32-65923-S1NP. The authorized Mg-Th operations have not changed since the initial issuance of the NRC license. The maximum quantity of thorium authorized at any time was 4,545 kilograms (kg.) This amount was lowered to 50 kg in 1990 and is currently 25 kg. The NRSC last renewed the NRMP in July 2003 and last amended the NRMP (Amendment No. 5) on 24 November 2003.

3.3 History of Mg-Th Operations

The maintenance operations included the machining, drilling, tapping, burring, filing, grinding, shaving, welding, abrasive blasting, and chemical treating of Mg-Th components. All Mg-Th operations were performed in Building 133. The work area, equipment and, if necessary, workers' clothes and shoes were thoroughly vacuumed with a HEPA filter vacuum system at the end of each workday. Mg-Th components were cleaned to remove surface oxides prior to application of coatings. The components were cleaned in an enclosed parts washer to prevent spread of contamination. LLRW drums were placed near areas where maintenance operations occurred. Any rags, wiping material and

personnel protective equipment (coveralls, caps and booties) were disposed of as LLRW. Additionally, safety personnel performed facility surveys on a routine basis. No spills or leaks of radioactive materials were found.

At the start of licensed operations, the projected annual workload included reworking 40 front inlet cases, 160 rear gearboxes, and 160 main transfer gearboxes. The NRMP renewal application in 2003 listed the workload as 10 inlet cases, 10 rear gearboxes, and 10 main transfer gearboxes. The last Mg-Th operation was conducted in January 2003.

When removed from Building 133, LLRW waste from Mg-Th maintenance operations was stored either in an indoor storage facility in Building 134 or on an outdoor covered concrete pad. Additional LLRW generated by NAVAIRDEPOT was also stored in these facilities. The location of radiologically impacted areas at NAVAIRDEPOT are detailed on Figure 1.

3.3.1 Building 133

Maintenance of Mg-Th aircraft components was conducted within Building 133 by three separate shops: the Aircraft and Component Clean, Strip and Corrosion Control Shop (Shop 6.2.5.2.1), the Machine Repair Power Plant Shop (Shop 6.2.5.1.3), and the Engine Parts Repair Shop (Shop 6.2.2.1.6.) Each of the shops was responsible for specific operations and maintained dedicated, marked 55-gallon drums for storage of LLRW generated from Mg-Th operations. Qualified personnel controlled access to the drums, which were only opened when waste was deposited. The majority of waste consisted of solid gearbox casings that were no longer usable. At the end of each shift in which Mg-Th maintenance was performed, areas were cleaned with dedicated shop vacuums equipped with HEPA filters. Contamination surveys were conducted at the conclusion of work with Mg-Th parts and periodically (at least semiannually) to check the effectiveness of cleaning procedures. Areas of Mg-Th operations in Building 133 are detailed on Figure 2.

The following sections detail the work performed by each of the shops in Building 133.

3.3.1.1 Aircraft and Component Clean, Strip and Corrosion Control Shop

The Aircraft and Component Clean, Strip and Corrosion Control Shop (Shop 6.2.5.2.1) conducted abrasive blasting of Mg-Th components. The blasting was conducted in a fully contained vacuum-blasting booth that was connected by hoses to a cabinet. A 55-gallon drum for holding residue from the blasting was

located between the blasting booth and the cabinet. The media-blasting unit, cabinet, and a 55-gallon drum were dedicated to Mg-Th operations.

The shop did power washing of Mg-Th components in a Hurricane parts washer or Proceco parts washer. Additionally, Mg-Th components were flushed at the Eemax flushing station or the Varsol flushing tank. All of this equipment drains to a sump area beneath a grated floor. The sump leads to the industrial waste lines.

LLRW from the blasting, consisting of contaminated grit, dust and debris, was periodically removed from the blasting unit and placed in the 55-gallon drum. Survey and license/NRMP records indicate the blasting unit was previously located in one other location and that the storage drums were located in two previous locations.

Figures 3 and 4 detail former and current location of equipment used by the Aircraft and Component Clean, Strip and Corrosion Control Shop. A list of the equipment is provided below:

Incoming Parts Storage Cabinet. This cabinet is now located in a mezzanine.

Media Blasting Unit (EIN #65923-011539). This unit is equipped with cloth filters, a screen and a drawer to collect dust. Contaminated grit remains within the unit.

Waste Disposal Drum. This drum is partially filled with contaminated grit and has been moved from its original location. There is no future use for this drum other than LLRW disposal.

Hurricane Parts Washer. This equipment has been disposed, but the piping that drains to a sump area in Building 133 remains in place.

Proceco Parts Washer (Plant Account No. 65923-071290). This equipment is still in place and drains directly into the sump area by a series of pipes. The equipment will continue to be use for other than Mg-Th operations.

Varsol Flushing Tank. This equipment consists of a tank where components could be washed with a soap-like solution using Varsol. The tank drains directly to the sump.

Eemax Flushing Station. This equipment consists of a sink that drains directly to the sump area. The equipment was moved from its original location. Both locations drained directly to the sump. This station will continue to be used as a flushing station for other than Mg-Th operations.

3.3.1.2 Machine Repair Power Plant Shop

The Machine Repair Power Plant Shop (Shop 6.2.5.1.3) performed the majority of Mg-Th maintenance operations. These operations included machining, milling, drilling, burring, tapping and shaving of Mg-Th components. The shop used five jig borers and one lathe to accomplish these operations.

Work with the jig borers was conducted at low speeds and produced long shavings of Mg-Th that were easily seen and collected. Cloth was placed on the bed of a jig borer or around the item being worked to catch shavings created by the drilling and to prevent the spread of contamination.

A shop vacuum equipped with a HEPA filter was used to cleanup residue from Mg-Th operations using the jig borers and lathe. The lathe was last used for Mg-Th operations in September 2001 and was cleaned and refurbished by a contractor in 2002. Although it was returned to NAVAIRDEPOT, the lathe was not used for Mg-Th work after refurbishment.

LLRW generated by use of the jig borers and lathe was stored in a dedicated 55-gallon drum that was stored near the jig borers.

Figure 5 provides the former and current location of equipment used by the Machine Repair Power Plant Shop. An equipment list is provided below:

Sip-Hauser Jig Borer (EIN #65923-040227). This equipment is currently in use for other than Mg-Th operations.

Pratt/Whitney Jig Borer (EIN #65923-007277). This equipment is currently in use for other than Mg-Th operations.

Pratt/Whitney Jig Borer (EIN #92667-001322). This equipment is currently in use for other than Mg-Th operations.

Pratt/Whitney Jig Borer (EIN #65923-001001). This jig borer is scheduled for replacement in March 2006.

SIP Jig Borer (EIN #65889-411577). This equipment is currently in use for other than Mg-Th operations.

Lathe (EIN #5923-038730). This equipment is currently in use for other than Mg-Th operations.

Shop vacuum. This equipment was previously used where needed and is currently located the mezzanine associated with this shop.

Waste Storage Drum. This drum was previously stored near the jig borers and is currently located in the mezzanine associated with this shop.

Incoming Parts Storage Cabinet. This equipment was formerly located in the shop area and is currently located in a mezzanine.

3.3.1.3 Engine Parts Repair Shop

The Engine Parts Repair Shop (Shop 6.2.2.1.6) conducted welding and grinding on Mg-Th components. Welding was performed in a conventional welding booth. Grinding was performed in an enclosed glove box that is equipped with a HEPA-filter vacuum system. Since approximately 1990, the mezzanine area above the welding booth was used to store the portable glove box (grinding chamber) and HEPA filter vacuum system when operations were not in progress.

Figure 6 provides the current location of equipment and areas in Building 133 used by the Engine Parts Repair Shop. Equipment details are provided below:

Welding Booth. A conventional welding booth equipped with a three-slotted plenum and top and side baffles that exhausted through a HEPA filter and duct that runs up an adjacent wall to a building exhaust system. Exhaust rates meet industry standards. This equipment is currently being used in Building 133 for other than Mg-Th operations.

Grinding Chamber. A portable, small, totally enclosed glove box equipped with a HEPA-filter vacuum system. Exhaust ventilation rates complied with industry standards. This equipment is currently stored in the mezzanine above the welding booth and has no future use.

3.3.2 LLRW Storage Areas

Once removed from Building 133, LLRW resulting from Mg-Th operations was stored on a covered outdoor concrete pad (see Figure 6) or in a dedicated storeroom in Building 134 (see Figure 7). Additional LLRW generated by NAVAIRDEPOT including tritium exit signs, radioluminescent devices containing Ra-226 and H-3, depleted uranium (U-238) counterweights, electron tubes and other items not controlled by a specific NRC license or NRMP were also stored in these areas.

The two LLRW storage areas have been use since 1990. Prior to 1990, LLRW was stored in a separate building that has been demolished. The materials in Building 134 were stored on open shelving or in drums. The material at the outdoor storage area was in LLRW containers, usually 55-gallon drums.

The NAVAIRDEPOT Radiation Safety Officer (RSO) or Assistant Radiation Safety Officer (ARSO) controlled access to

the storage areas and the containers of LLRW. Containers were only opened by the RSO or ARSO to add LLRW or verify inventories prior to shipment for disposal. Since the mid 1990s, certified LLRW brokers have been used to make LLRW shipments. The brokers opened the drums to verify the inventory and tested the drums for surface contamination prior to transporting the LLRW to the burial site. No contamination incidents were reported.

3.4 Previous Decommissioning Activities

No decommissioning activities have been conducted at NAVAIRDEPOT prior to preparation for this NRMP decommissioning.

3.5 Spills

There is no account or documented history of spills (or uncontrolled releases) of Mg-Th materials or LLRW at NAVAIRDEPOT.

4 RADIOLOGICAL STATUS OF FACILITIES

4.1 Building Structures

4.1.1 Building 133

Building 133 is a large, one-story structure with numerous shop areas where specialized repair and maintenance functions are performed. Maintenance on Mg-Th components was performed in Building 133 by the: Aircraft and Component Clean, Strip and Corrosion Control Shop, Machine Repair Power Plant Shop, and Engine Parts Repair Shop. Figure 1 provides an overall view of Building 133 and the work areas were Mg-Th aircraft parts were reworked. Figure 2 provides location of Mg-Th operations in Building 133.

Areas where maintenance of Mg-Th components was conducted are considered radiologically impacted for purposes of this decommissioning. The radiologically impacted areas are described below.

4.1.1.1 Aircraft and Component Clean, Strip and Corrosion Control Shop

Radiologically impacted areas are detailed in Figures 3 and 4, Aircraft and Component Clean, Strip and Corrosion Control Shop, and listed below:

- Former and current location of the media blaster and cabinet
- Former and current location of the LLRW storage drum

- Former and current location of the incoming parts storage cabinet
- Former location of the Hurricane parts washer including residual piping
- Location of the Proceco parts washer, including piping
- Location of the Varsol flushing tank, including piping
- Former and current location of the Eemax flushing station, including piping

4.1.1.2 Machine Repair Power Plant Shop

Radiologically impacted areas are detailed in Figure 5, Machine Repair Power Plant Shop, and listed below:

- Location of five jig borers
- Former and current location of lathe formerly used for Mg-Th operations
- Former and current location of storage drum
- Former and current area of the incoming parts storage cabinet
- Floor area around the storage drum and the shop vacuum in the mezzanine storage area

4.1.1.3 Engine Parts Repair Shop

Radiologically impacted areas are detailed in Figure 6, Engine Parts Repair Shop, and listed below:

- Area around the welding booth (the portable glove box was used in the same area as the welding booth)
- Area in the mezzanine above the welding booth used to store the shop vacuum and portable glove box

4.1.2 Outdoor LLRW Storage Area

The outdoor storage area is a concrete pad that has a cover but no side structures and is surrounded by a six-inch high concrete curb that acts as a berm. There is a grated drain in the pad and a valved mouse-hole drain in the berm. Expansion joints are present between the pad and the berm, but none bisect the pad. The area is enclosed in cyclone fencing and covered. Figure 7 provides the location of the Outdoor Storage Area in relation to other building at NAVAIRDEPOT. All of the outdoor LLRW storage area is considered radiologically impacted.

4.1.3 Indoor LLRW Storage Area in Building 134

The Building 134 storage room has a floor and ceiling made of concrete and walls made of brick. There is a louvered vent high on the back wall equipped with a mounted exhaust fan on the outside. Figure 8 provides the location of storeroom in relation to the rest of Building 134.

4.2 Current and Future Use

4.2.1 Building 133

Repair and overhaul of engines not containing Mg-Th will continue after decommissioning of the work areas and equipment used to rework Mg-Th aircraft parts. All equipment will be screened for M&E unrestricted release or disposed of as LLRW. Specifics for each piece of equipment are provided in Section 3.3.1. Final status surveys will be conducted on building structures where equipment was used or stored. Specifics on radiologically impacted building locations are provided in Section 4.1.

4.2.2 LLRW Storage Areas

After final status surveys are completed, NAVAIRDEPOT will demolish the outdoor LLRW and Building 134 in preparation for implementation of the V-22 MILCON project. The proposed construction schedule for the V-22 MILCON project is provided in Figure 7, FY-06 MILCON Projects P-985 & P-986 V-22 Repair & Test Facilities, Naval Air Depot, Cherry Point, NC.

5 PLANNED DECOMMISSIONING ACTIVITIES

5.1 Building Structures

Final status surveys will be performed on building structures with the LLRW storage areas and the location of the Pratt/Whitney Jig Borer (EIN #65923-001001) having top priority. The rest of the shop areas will be surveyed as workflow in the shop areas can be arranged.

5.1.1 Building 133

5.1.1.1 Aircraft and Component Clean, Strip and Corrosion Control Shop

The contractor will conduct a final status survey of the areas delineated in Section 4.1.2.1. This will include the areas around the equipment as well as the footprint of the equipment. Should any contamination be identified, the contractor will take appropriate remedial actions in concurrence with NAVSEADET RASO and resurvey the areas.

5.1.1.2 Machine Repair Power Plant Shop

The contractor will conduct a final status survey of the areas delineated in Section 4.1.2.2. This will include the areas around the equipment as well as the footprint of the equipment. Only jig borer EIN 65923-001001 will be moved to allow direct access to the footprint. For the other jig borers and the lathe, the contractor will limit surveys to accessible areas underneath the equipment. Should any contamination be identified, the contractor will take appropriate remedial actions in concurrence with NAVSEADET RASO and resurvey the areas.

5.1.1.3 Engine Parts Repair Shop

The contractor will conduct a final status survey of the areas identified in Section 4.1.2.3. Should any contamination be identified, the contractor will take appropriate remedial actions in concurrence with NAVSEADET RASO and resurvey the areas.

5.1.2 Outdoor Storage Area

The contractor will conduct a final status survey of the concrete pad including the drains. The survey will include a 100 percent scan of the concrete pad within the berm for alpha/beta using gas proportional detectors and a number of fixed static measurements. The contractor will also survey the drains and accessible piping and take samples of any material that may be in the drains. Should any contamination be identified, the contractor will take appropriate remedial actions in concurrence with NAVSEADET RASO and resurvey the areas.

5.1.3 Building 134 Storeroom

The contractor will conduct a final status survey of the floor that will include a 100 percent scan of the floor for alpha/beta using gas proportional detectors and a number of fixed static measurements. Swipe samples and static readings will also be taken on the walls. The contractor will remove the louvered vent and exhaust fan for disposal as LLRW and survey the outside wall at the vent location. Should any contamination be identified, the contractor will take appropriate remedial actions in concurrence with NAVSEADET RASO and resurvey the areas.

5.2 Material and Equipment (M&E)

Decommissioning activities involving systems and equipment are described below for each area. Some equipment is known to

contain residue from Mg-Th operations and will be removed for disposal as LLRW without additional screening. All LLRW will be disposed of at a licensed LLRW disposal facility.

Because of ongoing operational activities within the shop areas in Building 133, the sequence for decommissioning equipment cannot be specified in this decommissioning analysis. However, equipment will be surveyed or removed before final status surveys of the floor areas are completed.

5.2.1 Building 133 M&E

5.2.1.1 Aircraft and Component Clean, Strip and Corrosion Control Shop M&E

The media blaster, including hoses and the cabinet, and the waste disposal drum will be packaged for disposal as LLRW. The incoming parts storage cabinet, Proceco parts washer and Eemax flushing station will be surveyed as M&E. Piping associated with the former Hurricane parts washer as well as the Proceco parts washer and Eemax flushing station will also be surveyed. Should any contamination be identified, the contractor will try to decontaminate the equipment. If decontamination is not successful, the equipment will be removed and packaged for disposal as LLRW.

5.2.1.2 Machine Repair Power Plant Shop M&E

The shop vacuum and waste storage drum currently located in the mezzanine will be packaged for disposal as LLRW. M&E release surveys will be performed on the incoming parts storage cabinet.

The Pratt/Whitney jig borer EIN# 65923-001001 is scheduled for replacement in early April 2006. This jig borer will be degreased and disassembled by NAVAIRDEPOT personnel under the health physics oversight of NWT. Personnel protective equipment (PPE) and materials used to degrease the equipment will be disposed of as LLRW. M&E release surveys of the jig borer components will be completed after degreasing and disassembly. These surveys will be used to determine the extent to which disassembly will be required to perform M&E surveys on the remaining jig borers and lathe. If no contamination is found on jig borer EIN# 65923-001001, M&E release surveys will only be conducted on easily accessible surfaces of the remaining jig borers and lathe. Should any contamination be identified, the contractor will try to decontaminate the equipment. If decontamination is not successful, the equipment will be removed and packaged for disposal as LLRW.

5.2.1.3 Engine Parts Repair Shop M&E

The grinding chamber (portable glove box) and vacuum system will be packaged for disposal as LLRW. A M&E release survey of the welding booth and associated exhaust system will be performed. Should any contamination be identified, the contractor will try to decontaminate the equipment. If decontamination is not successful, the equipment will be removed and packaged for disposal as LLRW.

5.2.2 Building 134 Storeroom M&E

The contractor will remove the vent fan and louvers and package the equipment for disposal as LLRW.

5.3 Schedules

The proposed schedule for decommissioning of impacted areas and equipment is provided in Table 2. This schedule will require significant modification if residual radioactivity detected during the final status surveys or M&E release surveys. Table 3 details the schedule for the NAVAIRDEPOT MILCON project.

5.4 Decommissioning Management Team

The Decommissioning Management Team consists of the following personnel and their responsibilities:

Mr. William J. Morris, NAVSEADET RASO, Environmental Program Manager, Technical oversight.

Ms. Laurie L. Lowman, NAVSEADET RASO, Program Director, Contractual and technical oversight

Mr. Michael S. Styvaert, Army Field Support Command (AFSC), Project Manager; Contractual and technical oversight

Mr. Bill Haney, New World Technology, Vice President of Operations, Contractual and technical planning for contractor surveys and contractor site manager

Mr. Donald Dennis, New World Technology, RSO, Coordinate operations with NRC and provide oversight

Mr. Daniel Spicuzza, New World Technology, Manage site operations

Ms. Cassandra Brazda, NAVAIRDEPOT, Lead Facilities and Planning Engineer; Equipment control and facilities planning

Mr. Brad Lupton, NAVAIRDEPOT, Assistant Safety Manager and RSO, Contractor and RASO assistance

Mr. Phil Disque, NAVAIRDEPOT, ARSO; Contractor and RASO assistance

5.5 Contractor Support

New World Environmental, Inc. (doing business as New World Technology (NWT)) has been contracted to perform remediation and decontamination, final status surveys, M&E release surveys, and LLRW packaging, transportation and disposal as required. The work will be done under NWT's NRC Type A Broad Scope License No. 04-22745-01, expiration date 28 February 2013. This license authorizes NWT to perform decommissioning activities as well as the repackaging and transportation of radioactive waste. The contractor will perform work under work plan approved by NAVSEADET RASO and the NWT corporate health and safety program. A Service Provider Agreement, delineating respective responsibilities, will be executed between NWT and the Navy before the start of operations.

6 ENVIRONMENTAL ASSESSMENT

Title 32, Code of Federal Regulations, Part 775.6(f) provides Categorical Exclusion 35: "Demolition, disposal, or improvements involving buildings or structures when done in accordance with applicable regulations including those regulations applying to removal of asbestos, PCBs, and other hazardous materials." NAVAIRDEPOT has determined that the construction projects replacing Building 134 and the outdoor storage enclosure fall within this categorical exclusion pursuant to DOD regulations implementing the National Environmental Policy Act and that there is no reason to anticipate any effect on public health or safety. Surveys of the LLRW storage areas, Building 133 shop areas and materials and equipment as well as any remediation to generic screening levels and established release criteria is considered to adequately protect public health and safety.

7 FACILITY RADIATION SURVEYS

7.1 Release Criteria

7.1.1 Building 133 Structure Surfaces

Dose based criteria will be used to release Building 133 structure surfaces. A total effective dose equivalent (TEDE) that does not exceed 25 millirem per year (mrem/y) to an average member of the critical group will be applied. The critical group for Building 133 is workers in a light industrial scenario. With the radionuclides of concern thorium-232 and daughters (Th-232+C), structure surfaces will be considered acceptable for unrestricted use if the residual radioactivity, distinguishable above background does not exceed a specific derived concentration guideline level (DCGL) of 75 dpm/100 cm^2.

NAVSEADET RASO derived the DCGL using the DandD, Version 2.1 "default Building Occupancy" scenario for an infinite area and adjusting the value using the resuspension factor recommended by NUREG 1720, "Re-evaluation of the Indoor Resuspension Factor for the Screening Analysis of the Building Occupancy Scenario for NRC's License Termination Rule." This DCGL is considered conservative as the Mg-Th operations produced particles and shavings that were too large to become airborne and the little residual contamination remains after repeated, routine cleaning efforts in the work area.

7.1.2 LLRW Storage Area Structures

The LLRW storage area structures will be surveyed as materials and equipment as the structures will be destroyed after the surveys are completed. The clearance levels for materials and equipment from Policy and Guidance Directive FC 83-23 will be used as the DCGL. As multiple radionuclides have been stored in these areas, the most conservative of the limits will be applied. The limit for radium-226 is 100 dpm/100 cm^2 average total alpha activity and 300 dpm/100 cm^2 maximum total alpha activity will be used. This clearance level is equivalent to ??? mrem/y dose equivalent to the critical group, i.e., individuals who process concrete rubble. This was calculated using the normalized, surficial effective dose equivalent from NUREG 1640 "Radiological Assessments for Clearance of Materials from Nuclear Facilities."

7.1.3 Materials and Equipment

Materials and equipment (M&E) release limits will be based on the surface contamination limits of Policy and Guidance Directive FC 83-23. M&E will be considered acceptable for unrestricted release use if the residual radioactivity that is distinguishable from background radiation does not exceed a surface contamination limit of 1000 dpm/100 cm^2 average total alpha activity and 3000 dpm/100 cm^2 maximum total alpha activity.

7.2 Final Status Survey Design

NWT will conduct MARSSIM-based final status surveys of the impacted areas based on a NAVSEADET RASO approved work plan. One hundred percent of all accessible floor areas will be scanned with a gas proportional alpha/beta detector and an additional number of static measurements will be taken. Wall surfaces will be surveyed with static measurements.

8 LOW-LEVEL RADIOACTIVE WASTE MANAGEMENT

LLRW will include the materials and equipment that are either contaminated or will be disposed of as radioactive waste as indicated above. LLRW may also include rags and other materials used during any remediation or cleaning of equipment prior to surveying. Materials and equipment designated as LLRW will be staged in a sea-land container outside of Building 133. All LLRW will be properly packaged for disposal prior to leaving NAVAIRDEPOT. It is expected that all LLRW generated during decommissioning activities will be transported to US Ecology, Grand Mound, Idaho for disposal.

9 REFERENCES USE TO COMPLETE DECOMMISSIONING ASSESSMENT

a. NRC License No. SMB-1345 issued 6 January 1979, terminated and converted to NRMP No. 32-65923-S1NP, 1 April 1987

b. NAVAIRDEPOT Cherry Point letter 8128 Ser 6.5.1-BBL/0018 of 9 August 2005

c. Title 32, Code of Federal Regulations, Part 775 (32 CFR 775), DOD regulations implementing the National Environmental Policy Act

d. NRC Policy and Guidance Directive FC 83-23

e. NUREG 5512, Volume 2 User's Manual DandD Version 2.1

f. NUREG 1720, Re-evaluation of the Indoor Resuspension Factor for the Screening Analysis of the Building Occupancy Scenario for NRC's License Termination Rule

g. Site Visits by NAVSEADET RASO (10 Jan 06), NWT (19 Jan 06), and AFSC (20 Jan 06).

Table 1 NAVAIRDEPOT CHERRY POINT – PROPOSED DECOMMISSIONING POA&M

Step	Required Action(s)	Responsible Organization(s)	Estimated Completion Date	Note
1	Project IGE for Phase III – On-Site Work and LLRW Disposal	AFSC	21 Feb 06	
2	Project Work Plan	NWT	28 Feb 06	
3	RFP, Contractor FFP (Bid), & Evaluate and Accept Contract	AFSC	03 Mar 06	
4	Additional Funding to Complete Project	NAD Cherry Pt. / AFSC	10 Mar 06	
5	Review and Approve Project Work Plan	RASO / AFSC / NAD Cherry Pt.	10 Mar 06	
6	Amend NRMP to include new LLRW storage areas	NAD Cherry Pt. / NRSC	17 Mar 06	1
7	MOU between NAD Cherry Point and Contractor (NWT)	NAD Cherry Pt. / NWT	17 Mar 06	
8	Contractor Mobilizes on Site	NWT	27 Mar 06	2
8a	Survey and Release Outdoor Storage Area		07 Apr 06	2
8b	Survey disassembled Jig Borer and lathe		14 Apr 06	
8c	Swap-out Jig Borer and move lathe		14 Apr 06	3
8d	Survey and Release Indoor (Bldg. 134) Storage Areas		21 Apr 06	
8e	Survey and Release Bldg. 133 ▪ Shop Surveys (floors under and around equipment) ▪ Shop Surveys (systems and materials & equipment) ▪ Mezzanine Storage Areas ▪ Transfer all LLRW to new storage area		05 May 06	4
8f	Pkg. and Ship LLRW – Survey LLRW Storage Area		12 May 06	

Notes

1. The NRMP amendment will require 3 weeks to process after being received by RASO
2. This schedule is flexible and can be changed by the decommissioning team
3. NAD Cherry Point will supply the labor to disassemble, de-grease, and move equipment
4. Footprint and surrounding work area of jig borer and lathe to be surveyed immediately after the equipment

Acronyms and Abbreviations

AFSC	U.S. Army, HQ, Operations Support Command	NWT	New World Technology
IGE	Independent Government Estimate	RASO	Radiological Affairs Support Office
LLRW	Low-Level Radioactive Waste	RFP	Request for Proposal
MOU	Memorandum of Understanding		
NAD	Naval Air Depot		
NRMP	Naval Radioactive Materials Permit		
NRSC	Naval Radiation Safety Committee		

Table 2 FY 06 MILCON PROJECTS P-985 & P-986 V-22 REPAIR & TEST FACILITIES, NAVAL AIR DEPOT, CHERRY POINT NC

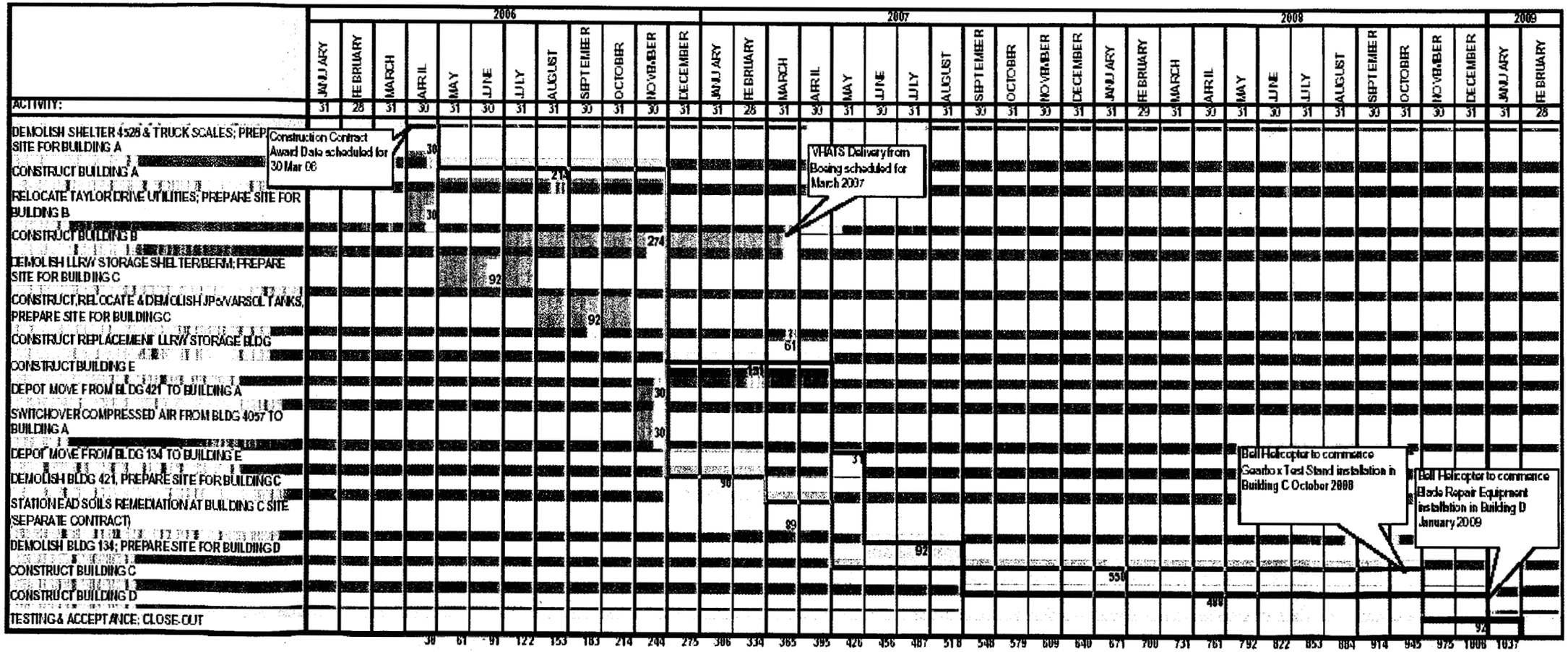
1/28/06

FY06 MILCON PROJECTS P-985 & P-986 V-22 REPAIR & TEST FACILITIES, NAVAL AIR DEPOT, CHERRY POINT, NC

PROPOSED CONSTRUCTION SCHEDULE

LEGEND:
BUILDING A = JET ENGINE DISASSEMBLY FACILITY (REPLACEMENT FOR BLDGS 421 & 4057)
BUILDING B = HYDRAULICS SHOP ADDITION TO BLDG 133
BUILDING C = V-22 GEARBOX REPAIR & TEST FACILITY
BUILDING D = V-22 PROP ROTOR BLADE REPAIR FACILITY
BUILDING E = HAZ WASTE STORAGE FACILITY (REPLACEMENT FOR BLDG 134)

CRITICAL PATH FOR P-985
P-985 ACTIVITIES
CRITICAL PATH FOR P-986
P-986 ACTIVITIES
NUMBERS INDICATE ELAPSED CALENDAR DAYS



TOTAL CONTRACT TIME SPAN = 1037 CALENDAR DAYS

CONSTRUCTION CONTRACT NO. N62470-06-R-4600

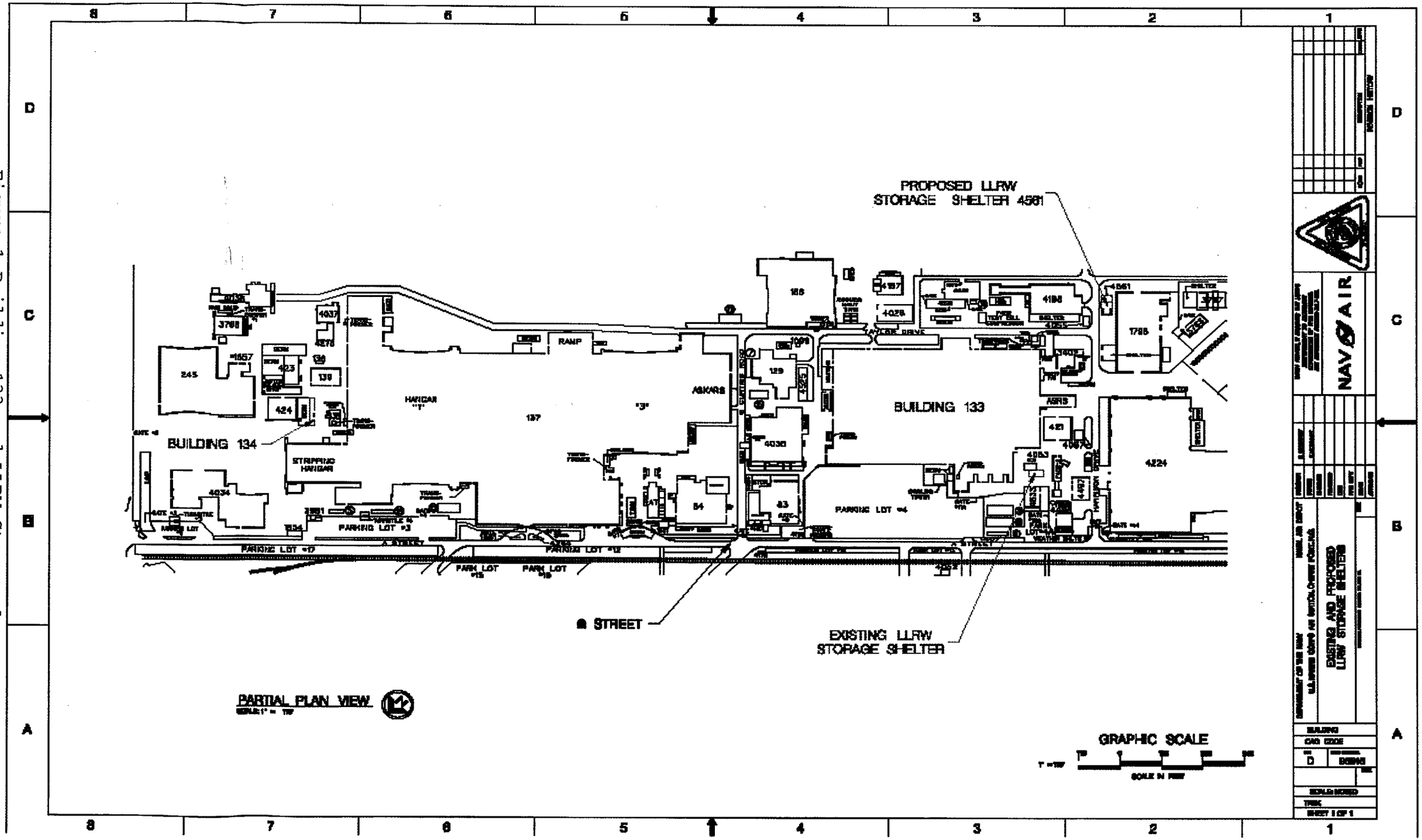


Figure 1 Building 133 and LLRW Storage Areas

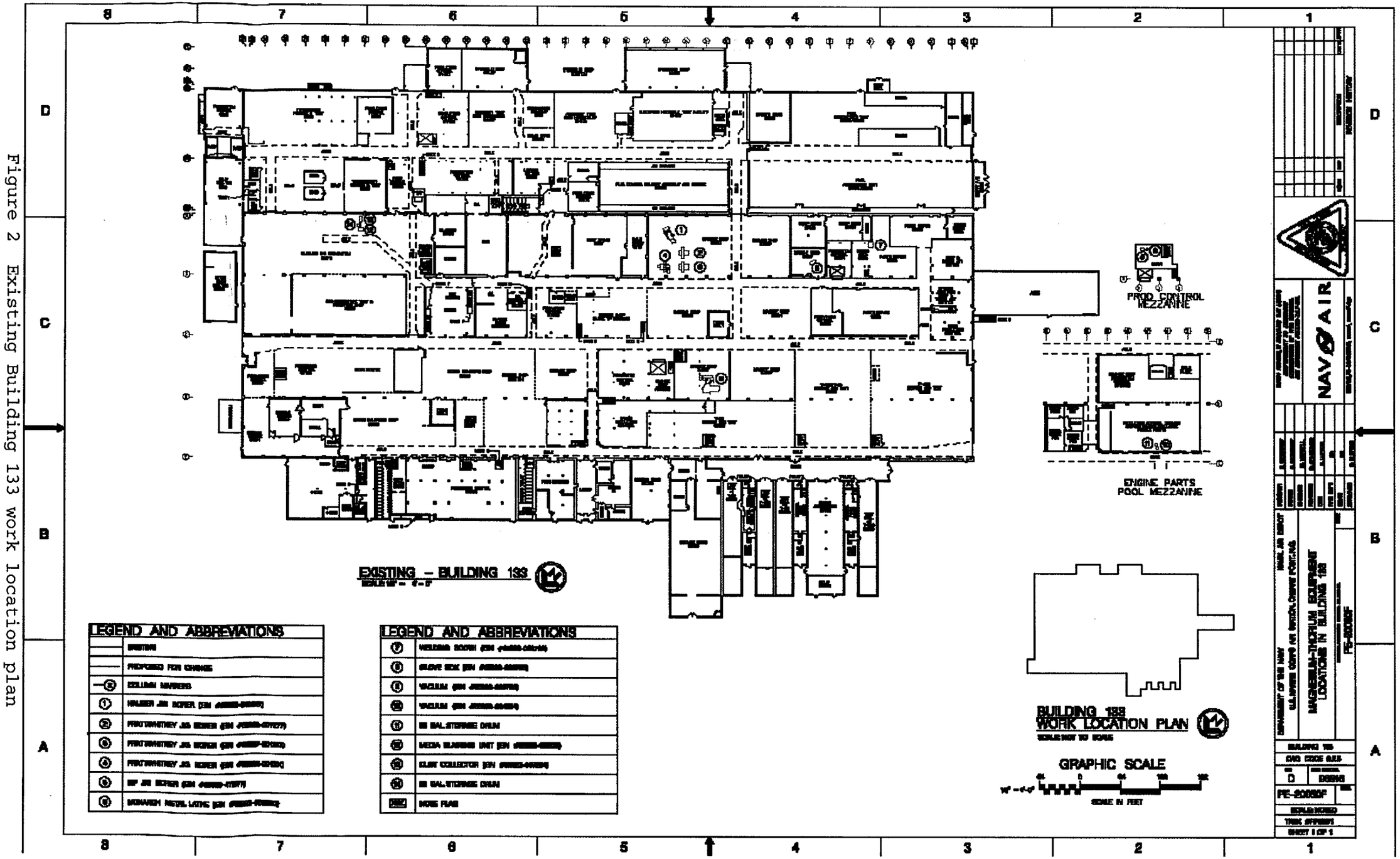


Figure 2 Existing Building 133 work location plan

AIRCRAFT & COMPONENT CLEAN, STRIP AND CORROSION CONTROL SHOP, 93111 (CODE 6.2.5.2.1), BUILDING 133

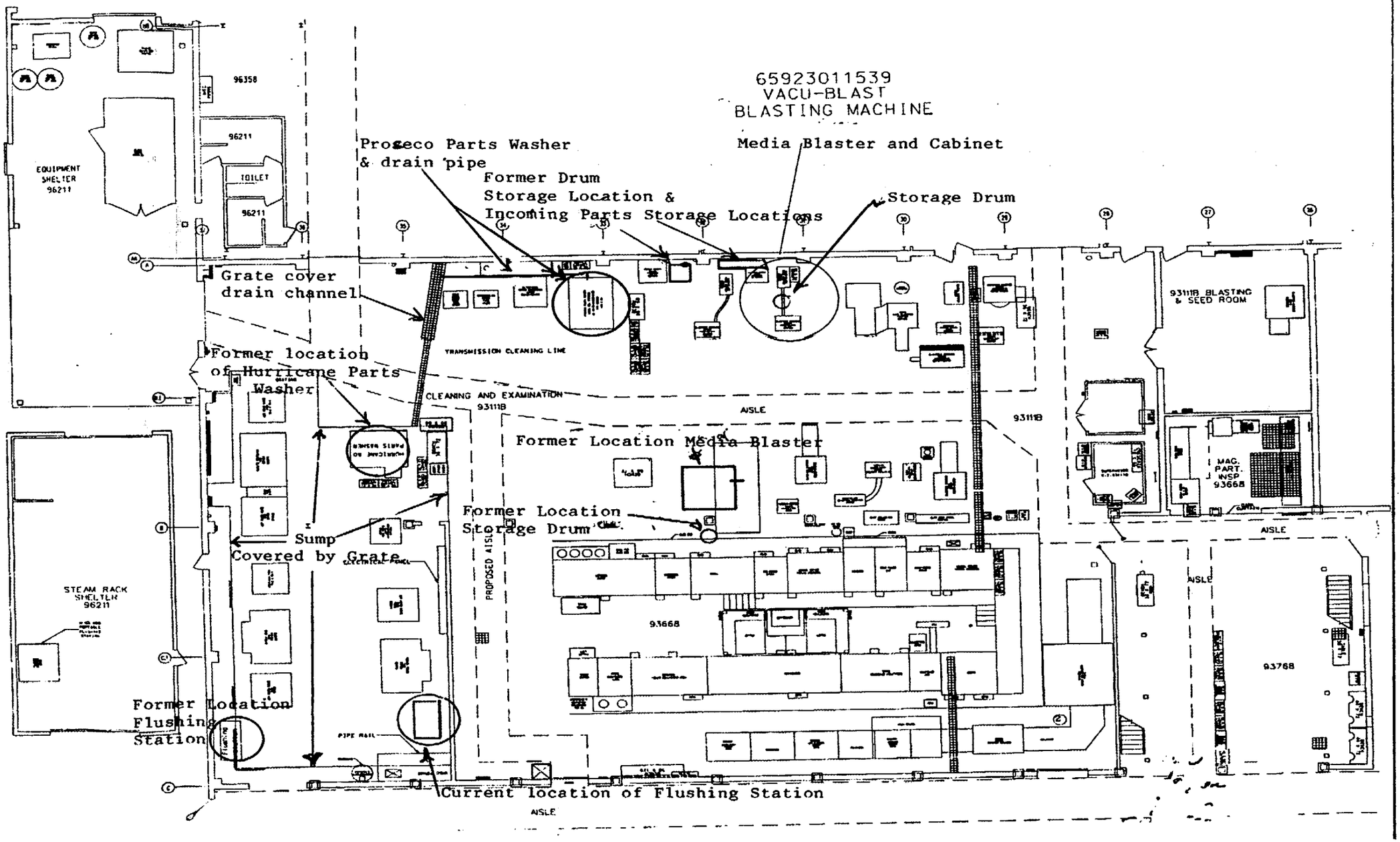


Figure 3 Aircraft & Component Clean Strip & Corrosion Control Shop

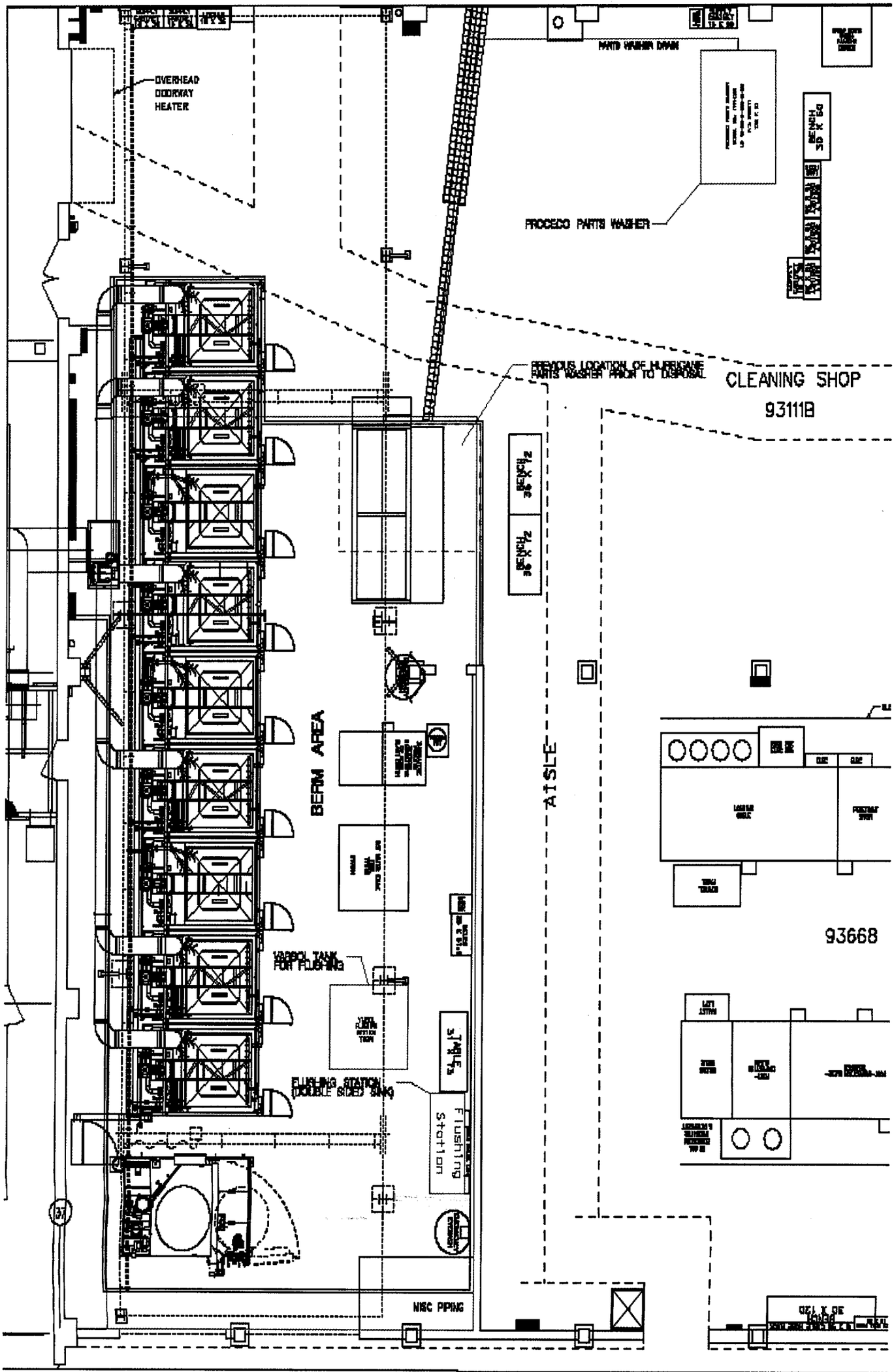


Figure 4 Aircraft & Component Clean, Strip and Corrosion Control Shop
Locations of Parts Washers and Flushing Stations

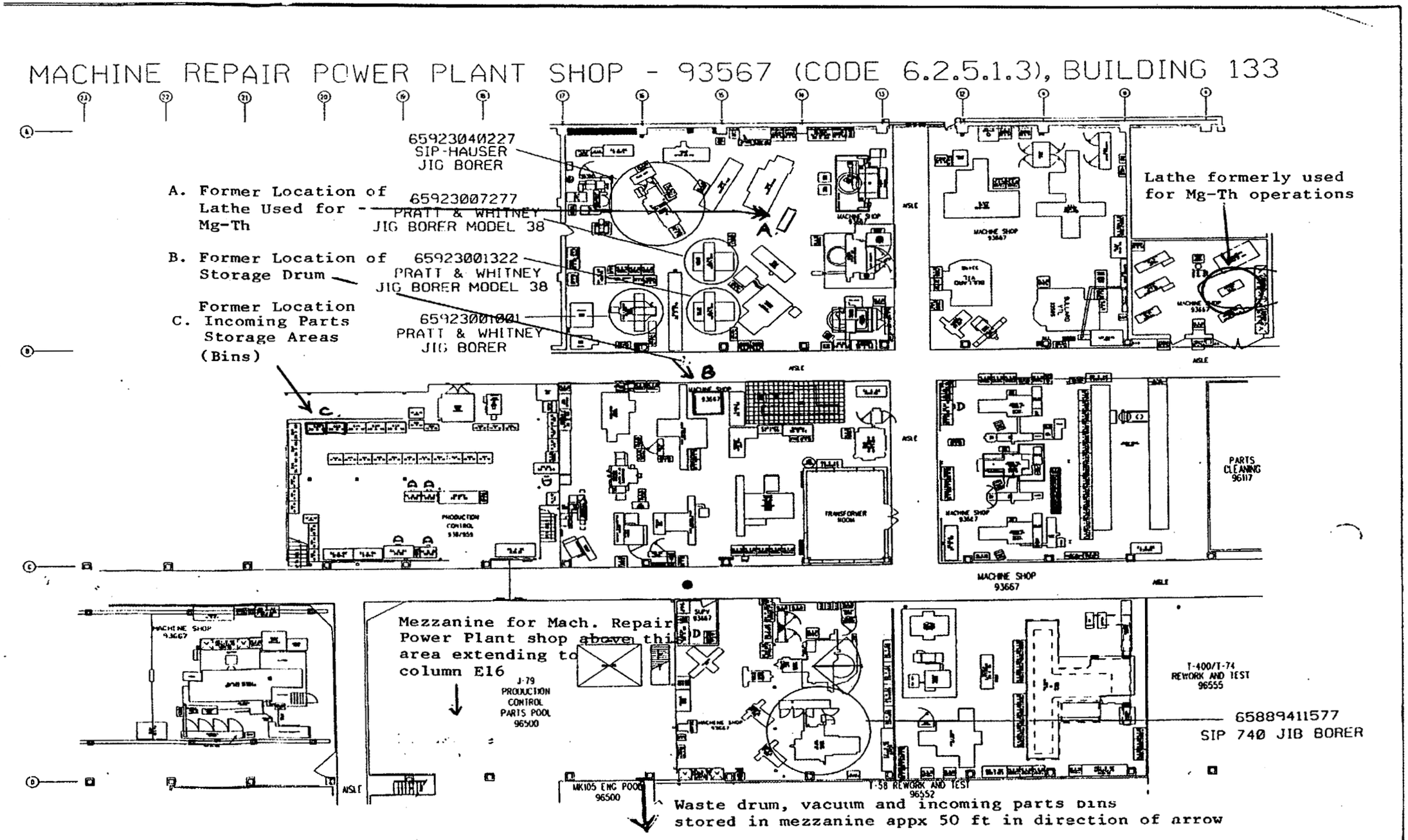


Figure 5 Machine Repair Power Plant Shop

ENGINE PARTS REPAIR SHOP 96551 (CODE 6.2.2.1.6) BUILDING 133

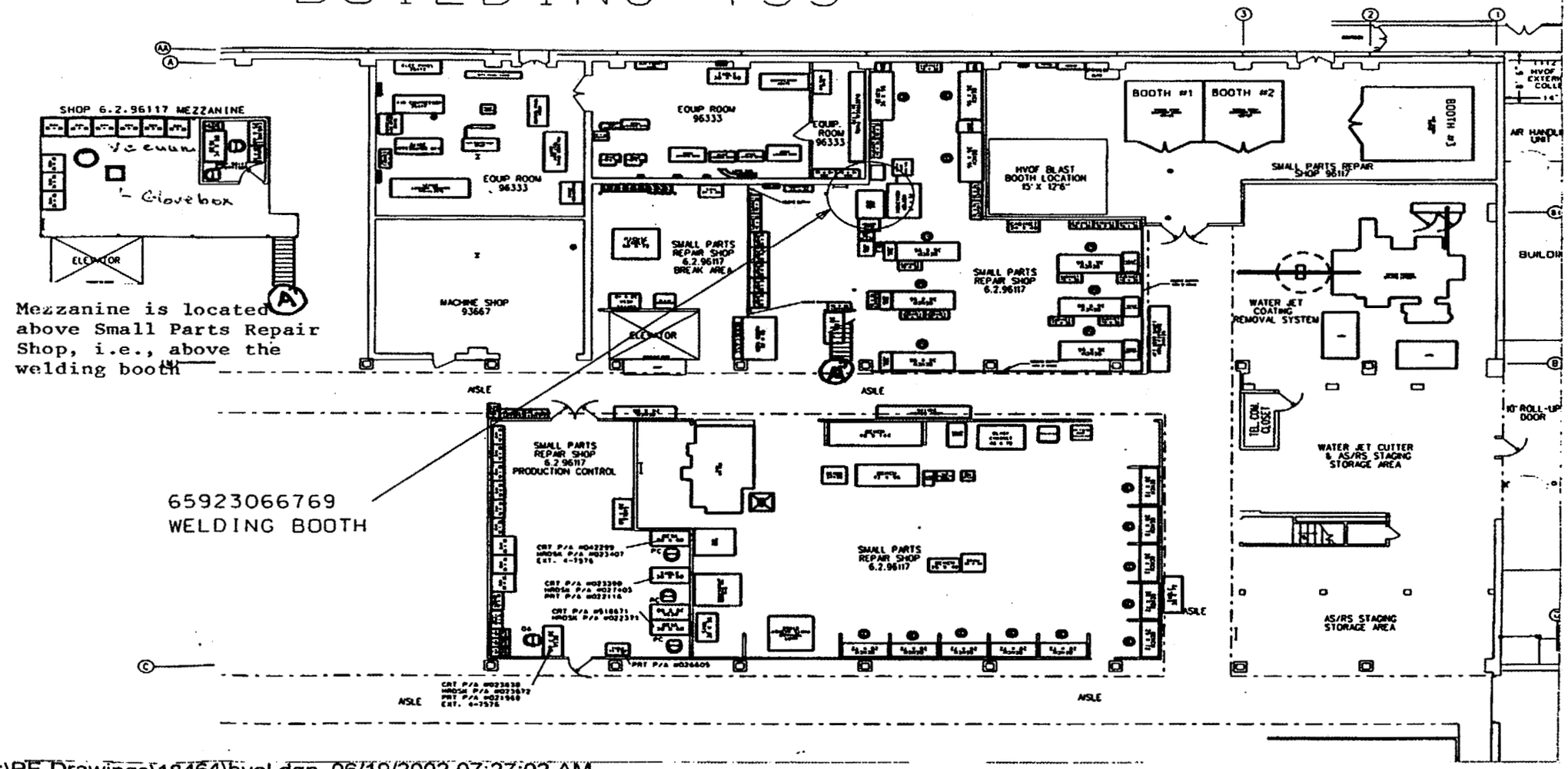


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Figure 6 Engine Parts Repair Shop

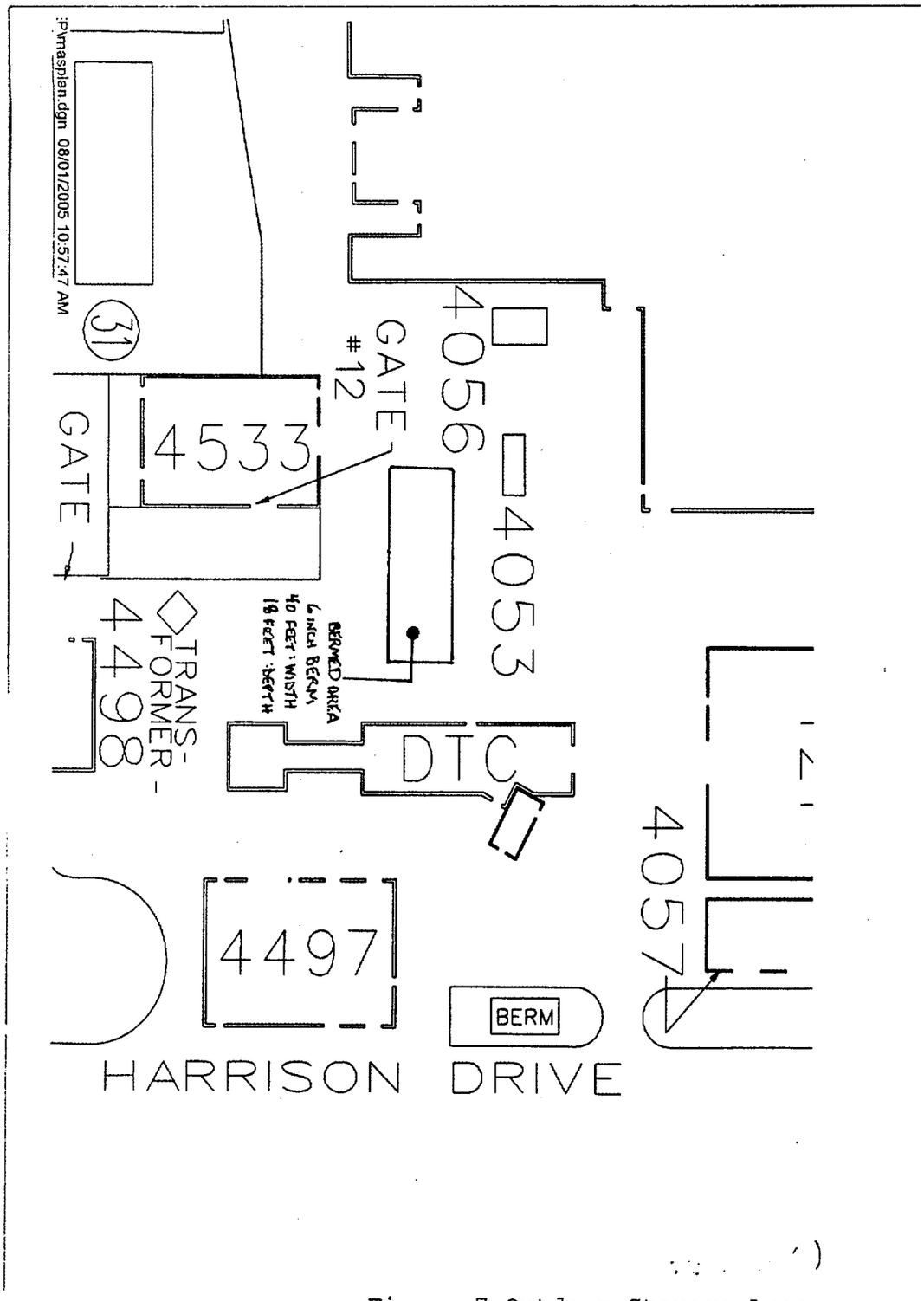
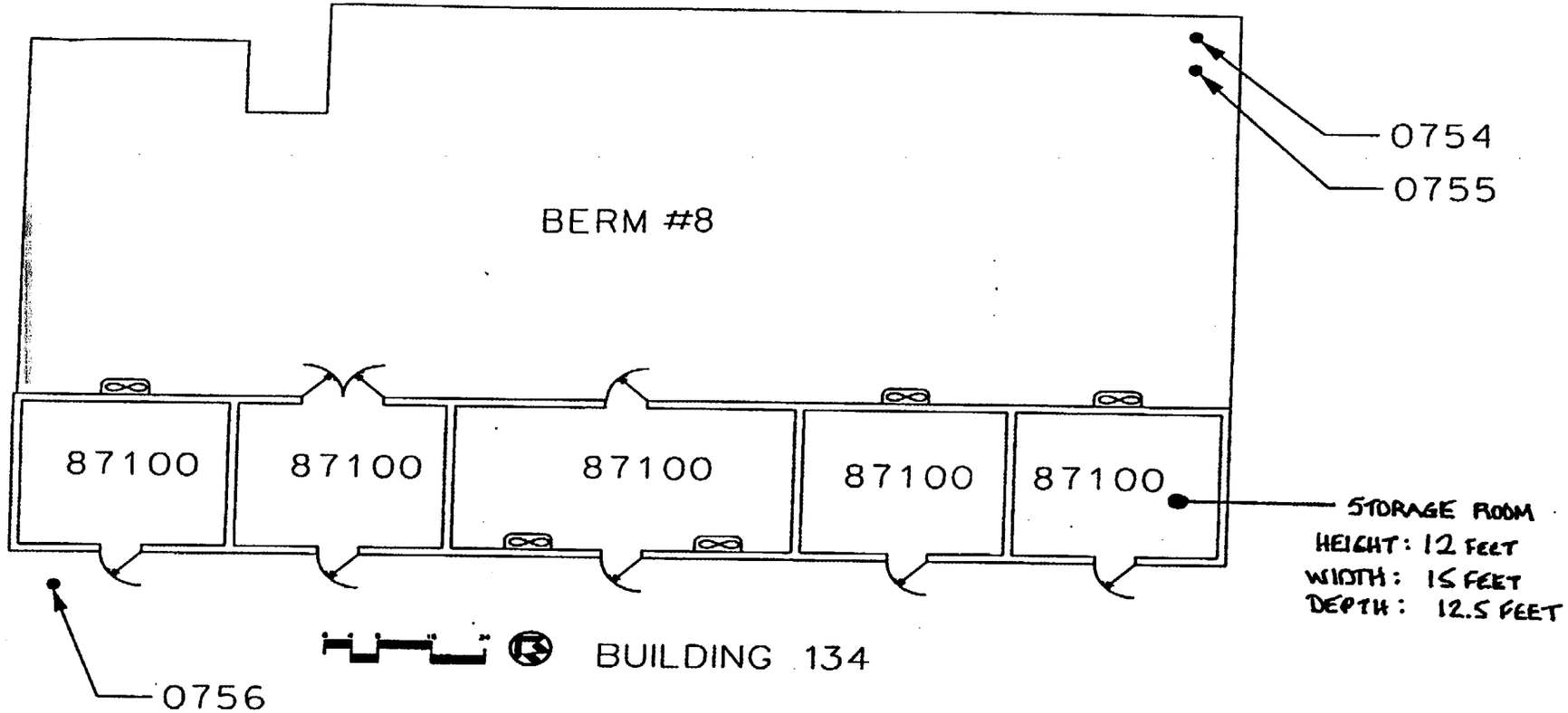


Figure 7 Outdoor Storage Area



REVISED AS OF
19 FEB 2003

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Figure 8 Building 134 Store Room

This is to acknowledge the receipt of your letter/application dated

3/17/2006, and to inform you that the initial processing which includes an administrative review has been performed.

NOTIFICATION 45-23645-01NA

☑ There were no administrative omissions. Your application was assigned to a technical reviewer. Please note that the technical review may identify additional omissions or require additional information.

☐ Please provide to this office within 30 days of your receipt of this card

_____.

A copy of your action has been forwarded to our License Fee & Accounts Receivable Branch, who will contact you separately if there is a fee issue involved.

Your action has been assigned **Mail Control Number** 138615.
When calling to inquire about this action, please refer to this control number.
You may call us on (610) 337-5398, or 337-5260.

NRC FORM 532 (RI)
(6-96)

Sincerely,
Licensing Assistance Team Leader