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NSTC GREAT LAKES, IL  
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PRESENTATION SLIDES FROM HOUSING TOWN MEETING REGARDING  
ENVIRONMENTAL ISSUES 24 JULY 1995 FORT SHERIDAN IL  
7/24/1995  
U S ARMY

HOUSING TOWN MEETING AT FORT SHERIDAN

**ENVIRONMENTAL ISSUES**  
**JULY 24, 1995**

# OVERVIEW

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- BUILDING 208
- HEATING OIL TANKS
- ORDNANCE AREA
- LANDFILL 7
- UPCOMING ARMY ENVIRONMENTAL PROJECTS
- LEAD BASED PAINT
- ASBESTOS

# BUILDING 208

Is this right?  
not an "O"  
as in George Patton?

- BUILDING 208
  - LOCATED AT THE CORNER OF FINLEY RD AND PATTEN RD
  - FORMER AAFES GAS STATION
- HEATING OIL TANK, WASTE OIL TANK, KEROSENE TANK ALL REMOVED
  - ADDITIONAL INVESTIGATION/EXCAVATION CONDUCTED IN JULY 1995
  - ONCE SOIL AT BOTTOM OF HOLES IS CLEARED AS CLEAN, THEY WILL BE FILLED IN
- RELEASES FROM FUEL DISTRIBUTION SYSTEM
  - RECENT INVESTIGATION INDICATES NO CONTAMINATION EAST OF PATTEN ROAD OR SOUTH OF FINLEY ROAD
  - CONTAMINATION WAS FOUND UNDER THE MILITARY PARKING LOT TO THE NORTH
  - ADDITIONAL INVESTIGATION/EXCAVATION IS PLANNED

"O"?

# HEATING OIL TANKS IN HOUSING

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- 28 UNDERGROUND STORAGE TANKS ARE LOCATED IN FRONT OF BUILDINGS 800 - 806
  - THERE ARE 4 TANKS AT EACH BUILDING
  - THE TANKS WERE USED TO CONTAIN HEATING OIL FOR THE QUARTERS
- IN 1980, THE TANKS WERE ABANDONED
  - SURFACE SOIL WAS EXCAVATED
  - TOPS WERE CUT OFF
  - TANKS WERE FILLED WITH PEA GRAVEL
- SAMPLING IS PLANNED AROUND THE TANKS TO MAKE SURE THERE WERE NO RELEASES OF OIL FROM THE TANKS TO THE SURROUNDING SOIL

# ORDNANCE AREA

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- FORMER ARTILLERY FIRING POINT
  - LOCATED ON BLUFF BEHIND BUILDING 368
  - AREA CONTAINS AN OLD MAGAZINE AND A BUNKER
- DURING ARTILLERY TRAINING GUNS WERE FIRED AT <sup>TARGETS IN</sup> THE LAKE
- AREA IS FENCED
  - ARMY WILL PUT UP PERMANENT FENCE AND SIGNS
  - ARMY WILL CONDUCT A SURVEY AND CLEAR ALL UNEXPLODED ORDNANCE OUT OF THE AREA BEFORE THE FENCE COMES DOWN

# LANDFILL 7 - BACKGROUND

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- LANDFILL 7 IS LOCATED BETWEEN CHATFIELD COURT AND GORDON JOHNSON ROAD
- WELLS RAVINE WAS CONVERTED TO A LANDFILL IN THE 1940s
  - A STORM SEWER LINE WAS LAID IN THE BOTTOM OF THE RAVINE
  - WASTE FROM THE FORT WAS DISPOSED OF IN THE LANDFILL IN THE 1940s, 1960s, AND 1970s
- TODAY, THE LANDFILL CONTAINS BETWEEN 178,000 AND 385,000 CUBIC YARDS OF WASTE
  - THE LANDFILL CONTAINS PRIMARILY MUNICIPAL WASTE
  - INDUSTRIAL WASTE, HOSPITAL WASTE, VETERINARY CLINIC WASTE, INCINERATOR ASH, AND CONSTRUCTION DEBRIS MAY HAVE BEEN DISPOSED OF IN THE LANDFILL
- BOUNDARIES WERE VERIFIED IN APRIL 1995
  - WASTE EXTENDS BEYOND FENCE AT ONE POINT BEHIND CHATFIELD COURT
  - ARMY WILL EXTEND FENCE TO ENCLOSE WASTE

# LANDFILL 7 - 1980 CLOSURE

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- LANDFILL 7 WAS CLOSED IN 1980
  - 2 FOOT THICK CLAY CAP WAS INSTALLED ON THE LANDFILL
  - LEACHATE COLLECTION SYSTEM AND GAS VENTS WERE INSTALLED
  - BLUFF FACE WAS STABILIZED WITH RIP RAP
  - STORM DRAIN IN THE BOTTOM OF THE LANDFILL WAS SLOPED
- PROBLEMS WERE IDENTIFIED WITH THE CLOSURE
  - LEACHATE COLLECTION SYSTEM DID NOT OPERATE PROPERLY
    - NEVER COLLECTED LEACHATE
  - GAS LEAKED THROUGH THE CAP
  - LOW AREA DEVELOPED ON TOP OF LANDFILL WHERE CAP IS AS THIN AS 2"
  - WATER AND LEACHATE PONDED ON THE SURFACE OF THE LANDFILL
- STUDIES WERE CONDUCTED IN THE EARLY 1990s TO EVALUATE THE CURRENT CAP
  - SAMPLES OF SOIL, LEACHATE, SURFACE WATER, GROUNDWATER, AND AIR WERE COLLECTED AND ANALYZED
  - WHERE CONTAMINATION WAS FOUND, POTENTIAL FOR HUMAN EXPOSURE AND POTENTIAL RISKS TO HUMAN HEALTH WERE EVALUATED

# SUMMARY OF SAMPLING RESULTS

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- REMEDIAL INVESTIGATION WAS CONDUCTED IN 1991
  - 9 SOIL BORINGS AND MONITORING WELLS WERE COMPLETED AT LANDFILL 7
  - 6 GAS VENTS WERE SAMPLED
- SAMPLES WERE ANALYZED FOR INORGANICS (METALS) AND ORGANICS
  - GAS VENT SAMPLES WERE ANALYZED FOR 14 ORGANIC COMPOUNDS
- NAVY VERIFIED GAS EMISSIONS THROUGH THE CAP IN 1994
  - FIELD TESTING FOR METHANE
- GAS VENT AND SURFACE LIQUIDS WERE SAMPLED IN DECEMBER 1994 AND MAY 1995

# INORGANIC SAMPLING RESULTS

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- 18 SOIL SAMPLES WERE SUBMITTED FOR LAB ANALYSIS
  - THERE WERE 10 OCCURRENCES OF METALS DETECTED
  - NO METALS WERE DETECTED OVER THE REGULATORY LIMIT
- METALS FOUND INCLUDE LEAD, THALLIUM, SELENIUM, ZINC, AND ARSENIC
- 14 GROUNDWATER SAMPLES WERE SUBMITTED FOR INORGANIC ANALYSIS
  - ONLY CADMIUM AND SULFATE EXCEEDED THE REGULATORY LIMITS FOR DRINKING WATER

# ORGANIC SAMPLING RESULTS

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- 11 ORGANIC COMPOUNDS WERE FOUND AT DETECTABLE LEVELS IN SOIL SAMPLES
  - THESE INCLUDE ACETONE, CHLOROFORM, TOLUENE, DI-N-OCTYLPHTHALATE, TRICHLOROFLUOROMETHANE, AND SEVERAL COAL TAR DERIVATIVES
  - NO CONCENTRATIONS EXCEEDED REGULATORY LIMITS
- 3 ORGANIC COMPOUNDS WERE FOUND IN GROUNDWATER SAMPLES
  - THEY WERE METHYLENE CHLORIDE, ETHYL BENZENE, AND TOLUENE
  - NO CONCENTRATIONS EXCEEDED REGULATORY LIMITS
- AIR SAMPLES WERE COLLECTED IN THE GAS VENTS
  - 14 ORGANIC COMPOUNDS WERE ANALYZED FOR, INCLUDING VINYL CHLORIDE AND BENZENE
  - ALL 14 COMPOUNDS WERE DETECTED IN THE GAS

# LEACHATE SAMPLING RESULTS

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- LIQUIDS ON THE SURFACE OF THE LANDFILL AND IN THE GAS VENTS WERE SAMPLED IN DECEMBER 1994 AND MAY 1995
- NO ORGANICS WERE DETECTED DURING EITHER SAMPLING EVENT
- IRON, ARSENIC, LEAD, AND ZINC WERE FOUND IN CONCENTRATIONS EXCEEDING DRINKING WATER STANDARDS

# WHAT IS A RISK ASSESSMENT?

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- REQUIREMENTS FOR THERE TO BE A RISK
  - HAZARD - RELEASE OF THREATENED RELEASE OF HAZARDOUS MATERIAL FROM THE LANDFILL
  - EXPOSURE - PRESENT EXPOSURE OR FUTURE EXPOSURE
- RISK ASSESSMENT
  - HAZARD IDENTIFICATION - WHICH CHEMICALS ARE IMPORTANT
  - EXPOSURE ASSESSMENT - WHERE DO THE CHEMICALS GO, WHO MIGHT BE EXPOSED, HOW
  - TOXICITY ASSESSMENT - DETERMINES NUMERICAL INDICES OF TOXICOLOGY
  - RISK CHARACTERIZATION - MAGNITUDE OF RISK CALCULATED, UNCERTAINTY OF RISK ESTIMATE
- TWO TYPES OF RISK ARE CONSIDERED
  - EXCESS CANCER RISK - CARCINOGENIC
    - INCRIMENTAL INCREASE IN CANCER RISK CAUSED BY LANDFILL 7
    - BACKGROUND LIFETIME CANCER RISK IS 1 IN 4 OR 0.25
    - REPORTED AS AN EXPONENT
      - E-4 OR 1 IN 10,000 AND E-6 OR 1 IN 1,000,000 ARE TYPICAL REPORTED RANGES
  - NONCARCINOGENIC RISKS
    - EFFECTS VARY DEPENDING ON CHEMICAL AND EXPOSURE LEVEL
    - REPORTED IN TERMS OF HAZARD INDEX
    - HAZARD INDEX GREATER THAN 1 INDICATES AN ADVERSE EFFECT

# SUMMARY OF RISK ASSESSMENT RESULTS

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- REMEDIAL INVESTIGATION INCLUDED A RISK ASSESSMENT
- NO CURRENT RESIDENTIAL RISK WAS FOUND AT LANDFILL 7 DUE TO CARCINOGENIC OR NONCARCINOGENIC EFFECTS
- NONCARCINOGENIC RISKS WERE IDENTIFIED FOR FUTURE RESIDENTIAL EXPOSURE AT LANDFILL 7 DUE TO THALLIUM CONCENTRATIONS FOUND IN SOIL SAMPLES
  - THALLIUM ARSENATE WAS A COMMONLY USED RHODENTICIDE
- NO CARCINOGENIC RISKS WERE IDENTIFIED

# REEVALUATION OF RISK ASSESSMENT

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- AIR PATHWAY RISK ASSESSMENT IS BEING REEXAMINED
  - GAS VENTS WERE ONLY SAMPLED ONE TIME
  - GAS MIGRATION THROUGH THE CAP WAS NOT CONSIDERED
- EPA HAS CONDUCTED ADDITIONAL MODELING USING THE DATA COLLECTED IN 1991
  - RISK LEVELS ARE IN AN ACCEPTABLE RANGE
  - SAMPLING NEEDS TO BE DONE TO CONFIRM MODEL RESULTS
- ARMY WILL BE COLLECTING AIR SAMPLES
  - PRELIMINARY VISIT JULY 20
  - *ONE?* ~~ONE~~ WEEK OF SAMPLING TO START ON AUGUST 8
  - SAMPLES WILL BE COLLECTED FROM GAS VENTS AND INSIDE AND OUTSIDE THE HOUSING UNITS ON THE PERIMETER OF THE LANDFILL
- NAVY WILL COLLECT SURFACE SOIL SAMPLES AROUND THE LANDFILL

# CURRENT REMEDIATION PLANS

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- ARMY IS CURRENTLY WORKING TO CLOSE LANDFILLS 6 AND 7 TOGETHER
  - CLOSURE WILL BE IN ACCORDANCE WITH FEDERAL AND STATE REQUIREMENTS
  - PUBLIC COMMENTS WILL BE ALLOWED ON THE PROPOSED ACTIONS
- FOCUSED FEASIBILITY STUDY (FFS) IS BEING PREPARED
  - WILL EXPLAIN ENGINEERING ~~ALTERNATIVES~~ *ALTERNATIVES* FOR CLOSING THE LANDFILLS
  - DOCUMENT WILL BE AVAILABLE TO THE PUBLIC IN NOVEMBER 1995
- FOUR ALTERNATIVES WILL BE EVALUATED
  1. INSTALLATION OF A FULL RCRA CAP
  2. INSTALLATION OF A MODIFIED RCRA CAP
  3. DIGGING UP THE LANDFILL AND DISPOSING OF THE MATERIAL OFF SITE
  4. NO ACTION (REQUIRED BY LAW)

# BASIC REMEDY COMPONENTS

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- THE INITIAL STEPS IN THE FIRST THREE ALTERNATIVES ARE SIMILAR
- FIRST
  - THE STORM DRAIN IN THE BOTTOM OF THE LANDFILL WILL BE REROUTED
- SECOND
  - A LEACHATE COLLECTION SYSTEM WILL BE INSTALLED
  - THE LEACHATE MOUND IN THE LANDFILL WILL BE DRAWN DOWN
- THIRD
  - THE LOW POINTS ON THE SURFACE OF THE LANDFILL WILL BE REGRADED TO PREVENT PONDING AND INFILTRATION OF SURFACE WATER
- ACTIVE GAS COLLECTION WILL BE CONSIDERED

# CAP DESCRIPTION

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- GENERAL REQUIREMENTS
  - LIMIT VERTICAL INFILTRATION OF WATER TO THE WASTE
  - REDUCE PRODUCTION OF LEACHATE THAT COULD IMPACT GROUNDWATER
- RCRA CAP
  - VEGETATIVE COVER - 2 FOOT THICK WITH AT LEAST 15 INCHES OF TOPSOIL, FINAL SLOPE 3-5 PERCENT
  - DRAINAGE LAYER - 1 FOOT THICK, OVERLAIN BY FILTER TO PREVENT CLOGGING
  - LOW PERMEABILITY LINER
    - FLEXIBLE MEMBRANE - 20 MILS THICK
    - SOIL COMPONENT - 2 FEET THICK
  - GAS VENT LAYER - 1 FOOT THICK POROUS MATERIAL WITH PERFORATED HORIZONTAL VENTING PIPES
- MODIFIED RCRA CAP
  - VEGETATIVE COVER - 2 FOOT THICK TOPSOIL LAYER WITH 1 TO 3 FEET OF OTHER BACKFILL TO EXCEED MAXIMUM FROST PENETRATION DEPTH
  - DRAINAGE GEOCOMPOSITE ON ALL SURFACES
  - 40 MIL SYNTHETIC LINER
  - GEOSYNTHETIC CLAY LINER ON ALL SURFACES
- MODIFIED CAP IS EASIER TO CONSTRUCT AND THINNER THAN FULL RCRA CAP

# FINAL REMEDY SELECTION

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- THE FOCUSED FEASIBILITY STUDY WILL CONTAIN A DETAILED DESCRIPTION OF THE FOUR ALTERNATIVES, INCLUDING COST COMPARISONS
- A PROPOSED PLAN WILL <sup>BE</sup> DEVELOPED WHICH SUMMARIZES THE INFORMATION ON THE FOUR ALTERNATIVES IN THE FFS AND DESCRIBES THE SELECTED ALTERNATIVE
- THE FINAL REMEDY AND THE JUSTIFICATION FOR SELECTION WILL BE DISCUSSED IN THE RECORD OF DECISION (ROD)
- OPPORTUNITIES WILL BE PROVIDED FOR PUBLIC COMMENT ON THESE DOCUMENTS
  - COMMENTS WILL BE CONSIDERED BY THE ARMY, EPA AND IEPA WHEN THEY SELECT THE FINAL REMEDY FOR THE LANDFILL
- AFTER THE ROD IS SIGNED, THE CONSTRUCTION CONTRACT CAN BE ADVERTISED AND AWARDED
  - CONSTRUCTION COULD START IN THE FALL OF 1996

# WHERE TO GO FOR MORE INFORMATION

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- FORT SHERIDAN RESTORATION DOCUMENTS ARE AVAILABLE AT:
  - LAKE FOREST PUBLIC LIBRARY, 360 E. DEERPATH RD,  
LAKE FOREST, IL
  - HIGHLAND PARK PUBLIC LIBRARY, 494 LAUREL AVE,  
HIGHLAND PARK, IL
  - FORT SHERIDAN BRAC OFFICE, BLDG 48G, LEONARD WOOD AVE,  
FORT SHERIDAN, IL
- IF YOU HAVE QUESTIONS YOU CAN CONTACT:
  - PWC/EFA ENVIRONMENTAL OFFICE
  - JENNY ROSS 688-5999
  - MARK SCHULTZ 688-~~4198~~ 4693
  - FORT SHERIDAN BRAC OFFICE
  - COLLEEN REILLY 926-7201

# UPCOMING ARMY ENVIRONMENTAL PROJECTS

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- REMOVAL ACTION AT 368 - FORMER AUTO HOBBY SHOP
  - SEDIMENTS IN THE SEWER LINES BEHIND BUILDING 368 ARE CONTAMINATED
  - CONTAMINATED MATERIAL WILL BE REMOVED IN SEPTEMBER 1995
- UNDERGROUND STORAGE TANK PROJECTS
  - *What is OU?*
- DOD OU REMEDIAL INVESTIGATION
  - TO FULLY INVESTIGATE ALL ENVIRONMENTAL CONTAMINATION ON DOD PROPERTY, EVALUATE RISKS, DETERMINE WHAT REMEDIAL ACTION IS NECESSARY
  - CONTRACT RECENTLY AWARDED TO SAIC
  - FIELD WORK PLANNED FOR OCTOBER/NOVEMBER 1995

# LEAD BASED PAINT - BACKGROUND INFORMATION

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- LEAD BASED PAINT PRODUCTION WAS BANNEED IN 1978
  - MOST HOUSES CONSTRUCTED BEFORE 1978 CONTAIN SOME LEAD BASED PAINT
  - THE OLDER THE HOUSE, THE MORE LIKELY IT IS TO CONTAIN LEAD BASED PAINT
- LEAD BASED PAINT IS THE MAIN SOURCE OF LEAD IN HOUSES BUT LEAD IS FOUND IN THE ENVIRONMENT IN MANY OTHER FORMS:
  - SOIL - LEADED GASOLINE USE, INDUSTRIAL USE
  - WATER - LEAD IN PIPES AND SOLDER
  - DUST - PAINT, ETC
  - OTHER HOUSEHOLD ITEMS - POTTERY, ETC FROM OUTSIDE THE ~~COUNTRY~~ UNITED STATES
- WHAT YOU CAN DO
  - GET YOUR CHILD TESTED FOR LEAD POISONING
  - CLEAN FLOORS AND WINDOW SILLS WITH A SOLUTION OF POWDERED DISHWASHER DETERGENT AND WATER
  - REDUCE RISK OF LEAD PAINT -- MAKE SURE YOUR CHILD IS NOT CHEWING ON ANYTHING COVERED WITH LEAD PAINT
  - DON'T TRY TO REMOVE THE LEAD PAINT YOURSELF
  - DON'T BRING LEAD DUST INTO YOUR HOME FROM WORK OR A HOBBY
  - HAVE YOUR WATER TESTED -- IF THE COLD WATER HASN'T BEEN USED FOR MORE THAN 2 HOURS, LET IT RUN FOR 30-60 SECONDS BEFORE DRINKING IT OR USING IT FOR COOKING
  - EAT RIGHT AND DON'T STORE FOOD IN HIGH LEAD-POTTERY

*How about hot H<sub>2</sub>O?*

# LEAD BASED PAINT AT FORT SHERIDAN

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- BUILDING 369 - YOUTH CENTER
  - INDUSTRIAL HYGEINE INITIATED DUST AND PAINT SAMPLING IN THE BUILDING AND FOUND MODERATE LEVELS OF LEAD IN DUST AND AIR SAMPLES
  - SOME MODERATE LEVELS WERE FOUND IN PAINT SAMPLES
  - PWC ENVIRONMENTAL CONFIRMED THE LEAD IN PAINT RESIDUE RESULTS
- HIGH DUST LEVELS CAME FROM THE "CLOAK" STORAGE ROOM AND WERE TRACKED IN FROM OUTSIDE SOURCES
- PWC SHOPS CLEANED THE ENTIRE FACILITY WITH A PHOSPHATE SOLUTION AND HEPA VACUUM
  - CLOAK ROOM HAS BEEN VACATED AND SECURED
  - PROJECT IS IN THE WORKS TO ABATE THE ROOM
- LEAD PAINT SURVEY IN HOUSING AT FORT SHERIDAN IS PLANNED FOR FALL 1995

# ASBESTOS BACKGROUND

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- BACKGROUND INFORMATION ABOUT ASBESTOS
  - ASBESTOS IS A NATURALLY OCCURRING MINERAL FIBER USED IN BUILDING PRODUCTS AND INSULATION MATERIALS UNTIL THE 1970s
  - COMMON HOUSING MATERIALS THAT MIGHT CONTAIN ASBESTOS INCLUDE: INSULATION ON PIPES, BOILERS, AND DUCTS, FLOOR TILES AND ADHESIVES, SOUNDPROOFING OR DECORATIVE MATERIAL SPRAYED ON WALLS AND CEILINGS, AND ROOFING, SHINGLES AND SIDINGS
  - FRIABLE ASBESTOS IS ASBESTOS CONTAINING MATERIAL (ACM) THAT WHEN DRY CAN BE REDUCED TO POWDER BY HAND PRESSURE
- THE MERE PRESENCE OF ASBESTOS IS NOT A HEALTH HAZARD
  - ONLY WHEN THE MATERIAL BECOMES DAMAGED AND RELEASES FIBERS OR IS IN AN AREA WHERE DAMAGE IS LIKELY TO OCCUR DOES IT BECOME A HAZARD
  - IF THE MATERIAL IS IN GOOD CONDITION, THE BEST THING IS TO LEAVE IT ALONE

# ASBESTOS IN FORT SHERIDAN HOUSING

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- ASBESTOS CONTAINING BUILDING MATERIALS HAVE BEEN IDENTIFIED IN NAVY HOUSING AT FORT SHERIDAN
  - IN 1992 AN ASBESTOS SURVEY WAS DONE FOR THE ARMY
    - WESTOVER COURT
      - VARIOUS FLOOR SHEETING, TILE, MASTIC, PIPE INSTULATION AND HARD PLASTER
    - REST OF NAVY HOUSING
      - VARIOUS FLOOR SHEETING, TILE, AND MASTIC
  - AMOUNTS, LOCATIONS AND CONDITIONS OF MATERIAL VARY FROM HOUSE TO HOUSE DUE TO THE MANY VARIETIES OF FLOOR TILE AND PIPE INSULATION USED THROUGHOUT THE NAVY HOUSING AREA
- 