



**KERR-McGEE CHEMICAL CORPORATION
REED KEPPLER PARK SITE
WEST CHICAGO, ILLINOIS**

PROPERTY EXCAVATION AND RESTORATION WORK ORDER

Property Owner: City of West Chicago

Property Location: Reed Keppler Park
Boy Scout Parking Lot

Parcel Id. No.: 200004-4

Excavation No.: 20000404

I. INTRODUCTION

This work order describes the site preparation, excavation, and restoration work needed to remove thorium contaminated soils from a portion of Reed Keppler Park known as the "boy scout parking lot." Kerr-McGee Chemical Corporation (Kerr-McGee) requests approval of the work order by signature of the property owner and Kerr-McGee in the space provided on Page No. 6. Construction work is scheduled to be completed during the 1997 construction season. Total elapsed time to complete all construction work on the boy scout parking lot, including approvals and verifications by governmental agencies, is estimated to be approximately 30 calendar days. All work will be done in accordance with the Kerr-McGee Scoping and Planning Documents for the Reed Keppler Park Site (a copy of this document may be reviewed at the Kerr-McGee Site at 800 Weyrauch Street, W. Chicago, IL 60185).

Section II of this work order describes the location of the contaminated material, and the location of surface features, utilities, trees, etc., that need to be addressed as part of the boy scout parking lot remediation. The location of these items are shown on Drawing Nos. 160-CV-001 through 160-CV-004.

Section III of this work order describes site preparation, excavation, and restoration activities required to remediate the boy scout parking lot. The site preparation subsection describes the type and sequencing of the work to prepare the boy scout parking lot for the excavation of contaminated soils and removal of items and other landscaping features such as paving, fences and trees. The excavation subsection describes the type and sequencing of the excavation work. The restoration subsection describes the type and sequencing of the restoration work.

Section IV of this work order contains the property owner and Kerr-McGee acceptance of the work order and describes the final inspection process which will be completed at the end of construction.

II. DESCRIPTION OF THE PROPERTY.

A. Location of Soils Containing Radioactive Materials Above Clean-up (Action) Levels.

The known extent of the contamination is shown on Drawing Nos. 160-CV-002 and 160-CV-003. The depth of contamination varies from surface contamination to a depth of nine feet. The horizontal and vertical limits of the excavation may be adjusted, if more or less contaminated materials are discovered during the EPA's verification sampling process. The property owner will be notified if the limits of excavation need to be extended and any other changes in construction which result from an increase in excavation limits.

B. Description of Property Items Potentially Affected by Remediation Work.

Drawing No. 160-CV-001 of this Work Order includes an inventory of the items located on the boy scout parking lot which will be or may be affected by the removal of contaminated soils. Drawing No. 160-CV-001 also includes the construction activity for each affected item.

Kerr-McGee will conduct a design meeting(s) with the property owner prior to commencing any construction activities on the property. During this design meeting(s), Kerr-McGee and the property owner will review and discuss the Work Order. Based upon the results of this meeting(s), the Work Order will be finalized prior to Kerr-McGee and the property owners signing same.

1. Utilities

Drawing No. 160-CV-001 depicts the locations of above ground and buried utilities. The locations of buried utilities will be cross-checked with the locations marked in the field by the utility locate service (JULIE). Potential hazards such as overhead electrical or phone lines near the area of excavation and buried water or power lines near the surface will be noted and discussed with the excavation and restoration crews. Buried lines will be marked with stakes or pin flags.

Overhead utility lines are a potential safety hazard to workers. Care will be taken to eliminate this safety hazard by selecting appropriate equipment and construction techniques to perform earthwork in areas under and near these low hanging overhead lines.

The location of buried lines will be marked prior to excavation activities. Contaminated soils which are located near buried utility lines will be hand excavated in order to prevent damaging the lines and ensure the safety of workers and property owners. In general, buried utilities and buried culverts will remain in place and be protected during construction.

III. DESCRIPTION OF THE WORK

A. Construction Schedule.

Construction work at the boy scout parking lot is scheduled to commence on September 4, 1997. Total elapsed time to complete all construction work on the property, including approvals and verifications by governmental agencies, is estimated to be approximately 30 calendar days. Verification soil sampling and any additional excavation work required to remove all contaminated material is included in this time frame. The estimated time frame may be extended as a result of a significant increase in the amount of contaminated materials which must be removed, delays in verification sampling and testing, rain delays, etc.. Kerr-McGee will notify the property owner of any delays in this schedule that may be encountered. Kerr-McGee shall provide the City Administrator with 36 hours notice before proceeding with any activities on the boy scout parking lot.

B. Site Preparation Activities.

The existing elevation and/or location of the ground, sidewalks, concrete work, paving and other property improvements which are to be removed will be surveyed prior to initiating any site clearing or selective demolition activities. This survey information will be used to reconstruct property improvements back to their original locations and elevation. Kerr-McGee will photograph and/or video tape the boy scout parking lot to document the existing condition of structures and other property improvements. These photos and videos will be stored in the Kerr-McGee files and are available for property owner inspection.

Site clearing and selective demolition work will be performed in accordance with Drawing No. 160-CV-001. Construction means and methods will be selected which minimize the potential of damage to existing property improvements which are not being removed as part of construction activities. *Any damage to existing property improvements which result from Kerr-McGee's construction activities will be repaired or replaced by Kerr-McGee at their option.* Kerr-McGee shall indemnify and hold the City harmless for any property damage and/or death or injury to persons which result from Kerr-McGee's activities or omissions on this property. Site clearing and selective demolition debris which have visible soil deposits on them will be radiologically surveyed to determine if it is appropriate to dispose of the debris at a landfill or the Rare Earth Facility (REF). Appropriate construction and decontamination techniques will be used to minimize the quantity of material which must be shipped to the REF.

C. Excavation Activities.

Temporary orange fencing will be placed outside the expected limits of excavation to clearly mark and establish construction zones. All exclusion zones shall be clearly marked with magenta (purple) and yellow rope fencing.

There are several areas located on the boy scout parking lot where "clean" soil exists over the top of contaminated soil. These layers of "clean" soil will be excavated, transported to the football field and laid out in lifts. These lifts will be gamma surveyed and sampled to provide documentation that each lift has passed the activity criteria required for this material to be used as backfill. If an elevated gamma area is detected, the elevated area will be removed and shipped to the REF and the lift will be resurveyed. Only after each lift has passed the activity criteria for use as backfill material will the lift be moved to a stockpile. The stockpile will be located on the east side of the football field. At the end of each day the stockpile will be covered with a tarp.

The south side of the excavation will be utilized for loading trucks (load out) and decontaminating equipment during excavation of contaminated soils at this property. A temporary bark road will be installed so dump trucks can drive up to the contaminated area without getting mud on the tires. Temporary contaminated soil stockpiles will be located as necessary to support the efficient execution of excavation and truck loading activities. In order to promote the timely and cost effective removal of contaminated soils, the exact location of load out areas, decontamination areas, stockpiles and air monitors will be established and adjusted based upon construction conditions in the field.

1. Limits of Excavation.

Paint and wood stakes will be used to mark excavation areas and to show the estimated depth of excavation. After the contamination has been excavated to the depth indicated on Drawing Nos. 160-CV-002 and 160-CV-003, a surface gamma scan will verify if additional excavation work is needed to remove any remaining contamination. Additional excavation will continue as necessary. The process of excavating and scanning will continue until all contamination above the clean-up level is removed.

2. Excavation Sequence.

Excavation activities will proceed in accordance with the sequence shown on Drawing Nos. 160-CV-003. A variety of construction equipment will be used during excavation activities. In order to promote the timely and cost effective removal of contaminated soils, the excavation sequence may be adjusted based upon construction conditions in the field. The Traffic Control Plan Map which is attached to this Work Order depicts the truck haul route which will be used to transport excavated soils to the REF.

During all excavation and back filling activities, measures will be taken to control dust. It is anticipated that wetting all exposed soils with water will be sufficient to control dust. Kerr-McGee will supply their own water, hoses and dust control equipment.

Following the sampling of excavated areas and verification that all contamination has been removed, magenta and yellow rope marking the exclusion zones will be removed. The temporary orange fencing will be left in place until backfill operations are completed.

3. Restoration Activities.

Restoration work shall be completed in accordance with Drawing No. 160-CV-001. Survey stakes will be placed in excavated areas to mark the elevation of original grades. Excavated areas will then be filled with clean soil as close as possible to original grade. Abrupt peaks and valleys in the original grade will be eliminated. The location and elevation of any concrete, gravel and asphalt work will then be surveyed and completed. *The asphalt will be replaced with asphalt. Temporary Stone made used elsewhere with later city approval if asphalt parking lot is replaced elsewhere.*

D. Temporary Facilities.

The following temporary facilities for the support of construction activities will be provided by Kerr-McGee as long as necessary and removed prior to completion of work on the property:

1. A load out and decontamination station.
2. Temporary water supplies, if necessary (water truck with pump and hose).
3. Temporary power supplies (gas-powered generators).
4. Temporary sanitary facilities (portable chemical toilet)

E. Use of the Property During Excavation and Restoration

During construction work hours, access to those portions of the boy scout parking lot which are contaminated will be restricted while they are being excavated and backfilled. Once an area has been excavated and backfilled with clean soil, temporary fencing will be removed or relocated and access will be restored.

F. Emergency Telephone Numbers.

- | | | |
|------------------------------|--------------------|-----------------------|
| 1. Dave Jedlicka, Kerr-McGee | WK: (630) 293-6332 | Pager: (630) 276-8558 |
| 2. Mark Krippel, Kerr-McGee | WK: (630) 293-6331 | Pager: (630) 276-8557 |
| 3. Site Security, Kerr-McGee | (630) 293-6361 | |
| 4. Commonwealth Edison | (630) 691-4860 | |
| 5. Northern Illinois Gas | (630) 892-8821 | |

IV. WORK ORDER/RESTORATION ACCEPTANCE.

Prior to beginning site clearing, demolition, excavation or any other construction work on the property, the property owner/agent will be asked to review and agree to the work to be performed by executing the following:

The property owner/agent certifies that they are fully aware of the information contained in this work order and by, signing this document, agree to the actions contained therein.

PROPERTY OWNER/AGENT ACCEPTANCE OF THE WORK ORDER.

John H. Moore, City of W.C. David A. Thomas 8/15/97
Signature of Property Owner/Agent W.C. Park Dist. Date

KERR-MCGEE ACCEPTANCE OF THE WORK ORDER.

Dave Gedlicka August 15, 1997
Signature of Kerr-McGee Representative Date

PROPERTY OWNER ACCEPTANCE OF THE WORK.

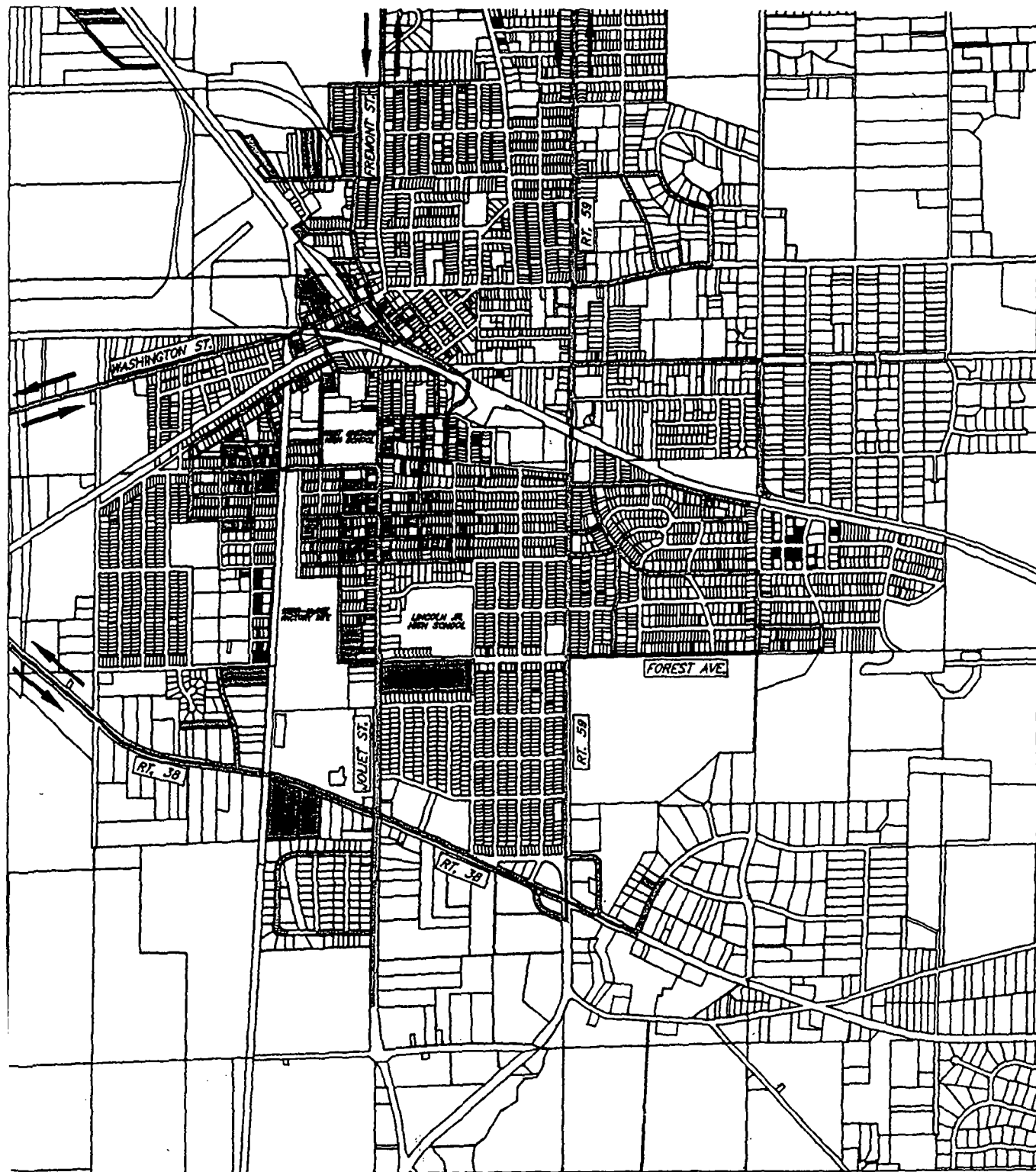
Kerr-McGee will work with the property owner during construction to ensure that the work complies with the above work order. At completion of property restoration, the property owner or tenant may inspect the property and inform Kerr-McGee of their acceptance of the work by executing the following:

The property owner/agent has inspected the premises and hereby acknowledges that the completed restoration complies with the above work order.

Signature of Property Owner/Agent Date

The property owners signature is not mandatory.

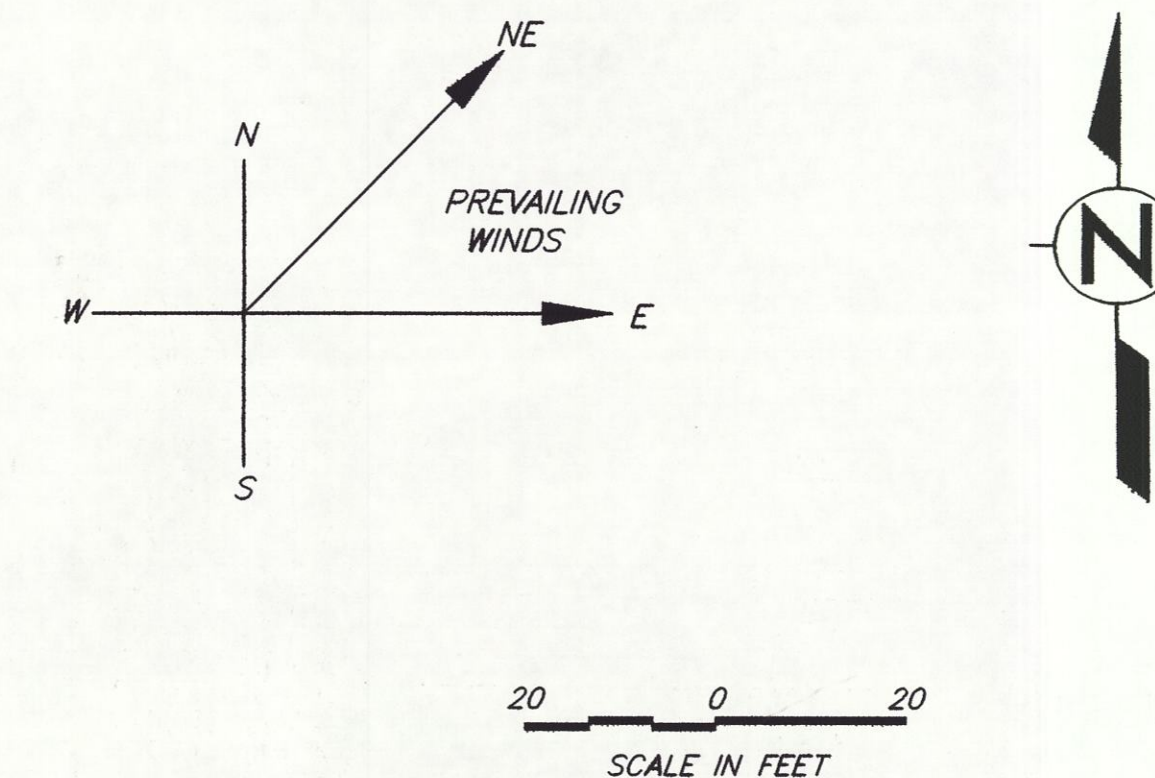
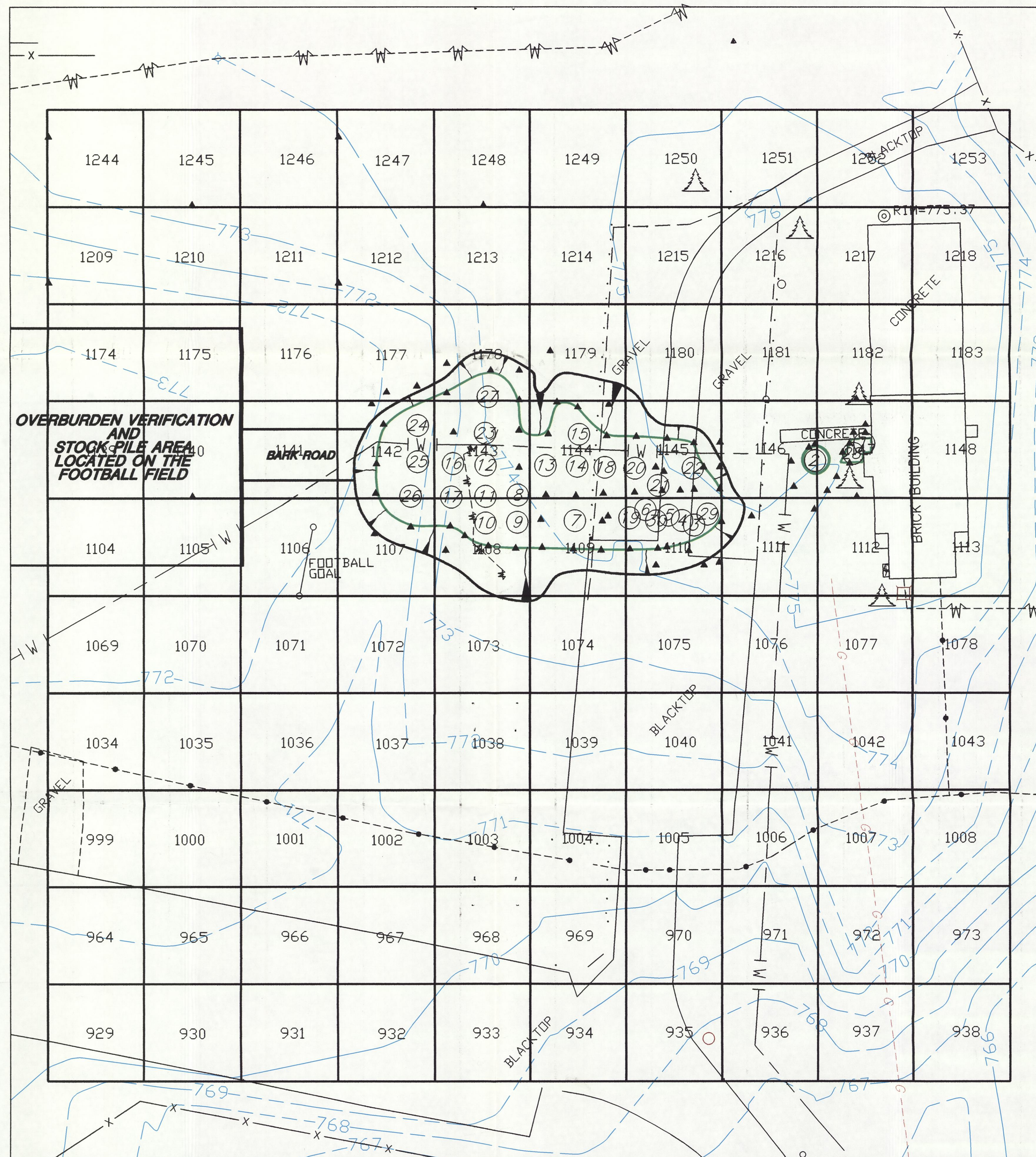
In the event Kerr-McGee and the property owner can not reach an agreement on whether the property has been properly restored, the U.S. EPA Remedial Project Manager/On-Scene Coordinator (RPM/OSC) shall resolve the dispute.



ANN ST.
 ALLEN AVE.
 ARBOR AVE.
 AURORA ST.
 BARBER AVE.
 BISHOP AVE.
 BLAIR ST.
 BLAKELY AVE.
 BROWN ST.
 CENTER ST.
 CHURCH ST.
 CONDE ST.
 EASTON AVE.
 ELMWOOD AVE.
 FACTORY ST.
 FOREST AVE.
 FREMONT ST.
 GALENA ST.
 GEORGE ST.
 GENEVA RD.
 HIGH ST.
 JOLIET ST.
 LANE RD.
 MAIN ST.
 McCONNELL AVE.
 PARKER ST.
 PEARL ST.
 PINE ST.
 POMEROY ST.
 PRINCE CROSSING RD.
 RIDGELAND AVE.
 RIVER GLEN RD.
 SHERMAN ST.
 SPENCER ST.
 STIMMEL ST.
 ROUTE 38
 ROUTE 59
 WASHINGTON ST.
 WEYRAUCH ST.
 WOOD ST.
 YORK AVE.

West Chicago Police
 Dept. Approval of Design:

Date: 2/13/97



BOREHOLE LOCATIONS AND RESULTS				
ID.	ENVIROCON AND STS BOREHOLE LOCATIONS	SAMPLE DATE	YANKEE ATOMIC SAMPLING RESULTS CLEAN OVERBURDEN DEPTH	CONTAMINATION DEPTH
1	GAMMA HOLE #2	970422	0'-24"	0'-24"
2	GAMMA HOLE #8	970422	0'-24"	0'-24"
3	GAMMA HOLE #14	970423	30'-36"	0'-30"
4	GAMMA HOLE #15	970423	0'-12"	36'-42"
5	GAMMA HOLE #16	970423	0'-18"	12'-24"
6	GAMMA HOLE #17	970423	0'-54"	18'-54"
7	GAMMA HOLE #30	970710	0'-54"	54'-72"
8	GAMMA HOLE #33	970710	0'-42"	42'-48"
9	GAMMA HOLE #35	970710	0'-78"	78'-96"
10	GAMMA HOLE #36	970710	0'-54"	54'-72"
11	GAMMA HOLE #37	970710	0'-54"	54'-66"
12	GAMMA HOLE #38	970710	0'-36"	36'-42"
13	GAMMA HOLE #40	970711	0'-72"	72'-78"
14	GAMMA HOLE #42	970711	0'-42"	42'-48"
15	GAMMA HOLE #43	970711	0'-24"	24'-48"
16	GAMMA HOLE #49	970711	0'-48"	48'-54"
17	GAMMA HOLE #50	970711	0'-48"	48'-60"
18	GAMMA HOLE #54	970711	0'-60"	60'-78"
19	GAMMA HOLE #59	970711	0'-54"	54'-84"
20	GAMMA HOLE #61	970711	0'-36"	36'-42"
21	GAMMA HOLE #64	970714	0'-12"	12'-24"
22	GAMMA HOLE #70	970714	0'-12"	12'-24"
23	GAMMA HOLE #71	970714	0'-42"	42'-48"
24	GAMMA HOLE #78	970714	0'-18"	18'-36"
25	GAMMA HOLE #79	970714	0'-42"	42'-48"
26	GAMMA HOLE #80	970714	0'-48"	48'-60"
27	GAMMA HOLE #90	970718	0'-24"	24'-30"
28	E264/N245	970324	0'-12"	0'-12"
29	E248/N238	970328	0'-30"	0'-30"
30	E243/N238	970401	0'-48"	48'-60"

- LEGEND:
- EVERGREEN OR DECIDUOUS TREE TO REMAIN IN PLACE
 - EVERGREEN OR DECIDUOUS TREE TO BE REMOVED
 - CLEAN SAMPLE LOCATION
 - MANHOLE
 - LIGHT POLE
 - TRANSFORMER
 - PBST
 - WATER MAIN
 - NATURAL GAS LINE
 - UNDERGROUND ELECTRIC LINE
 - UNDERGROUND TELEPHONE LINE
 - CHAIN LINK FENCE
 - WEBSTER, McGRATH & AHLBERG TOPOGRAPHIC SURVEY
 - ESTIMATED HORIZONTAL PERIMETER OF RADIOACTIVE CONTAMINATION
 - EXCAVATION LIMIT BASED UPON 2:1 CUT SLOPE
 - BOREHOLE LOCATION

PREPARED FOR: **KERR-McGEE CHEMICAL CORPORATION**
WEST CHICAGO REED KEPPLER
PARK SITE

PREPARED BY: **ENVIROCON, INC.**
500 TAYLOR ST.
MISSOULA, MONTANA 59807

BOY SCOUT PARKING LOT
10 METER VERIFICATION GRID

PROJ. ENGINEER: **R.K.L.** FIELD CREW: **M.R.K., C.A.H.** SCALE: **1"=20'** REV. **A**

DRAWN BY: **C.A.H.** CHECKED BY: **R.K.L.** DATE: **9/4/97** DRAWING NO. **160-CV-005**