# APPENDIX B

# SITE DEFINITION AND MAPPING FOR DUF6 CONVERSION FACILITY

# CONTENTS

1. INTRODUCTION

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3. SITE TOPOGRAPHIC MAPPING

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5. CYLINDER YARD STORAGE MAPS

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# APPENDIX B

# SITE DEFINITION AND MAPPING FOR DUF6 CONVERSION FACILITY

## 1. INTRODUCTION

The following information and maps are provided to assist in the layout and design of the DUF6 Conversion Facility at the proposed site at the Paducah Gaseous Diffusion Plant. The geophysics mapping, topographic mapping, and wetlands mapping should provide needed information for the development of facility construction specifications. The site photographs and cylinder yard storage maps should provide needed information for the facility layout and operation. Information on the cylinder storage layout and capacity of each yard is also provided.

# Section 2.0, *Excavation/Penetration/Geophysics Report*

# TRENCHING/EXCAVATION/PENETRATION PERMIT PACKAGE (TEP)

1. TEP NO.: 00-Rev.1-06-10

2. WORK PACKAGE OR SUBCONTRACT NO.:

3. ISSUED TO: Tetra Tech

4. TYPE OF WORK: Soil Sampling for Site Investigation

5. LOCATED AT: BLDG.: NA AREA: South of C-100 between access road Rey1. roads

6. FLOOR: NA

7. Is the work being performed in a SWMU? ☐ NO ☒ YES (Environmental Compliance)
*(If yes, provide guidance in info. section below.)* Signature: [signature]

8. Waste requires special handling? ☒ NO ☐ YES (Waste Management)
*(If yes, provide guidance in info. section below.)* Signature: NA

9. THE FOLLOWING UTILITIES ARE AT OR ADJACENT TO THE REQUIRED TRENCH/EXCAVATION/PENETRATION

| | | | |
|---|---|---|---|
| ☐ YES ☒ NO | ACID — Chemical Operations | ☐ YES ☒ NO | NITROGEN — Mechanical Engineering |
| ☐ YES ☒ NO | AIR — Utilities Operations | ☐ YES ☒ NO | OIL — Chemical Operations |
| ☐ YES ☒ NO | CATHODIC PROTECTION — System Engineering | ☐ YES ☒ NO | RAW WATER — Cascade Operations |
| ☐ YES ☒ NO | CHILLED WATER — Utilities Operations | ☐ YES ☒ NO | RECIRCULATING WATER — Cascade Operations |
| ☐ YES ☒ NO | COMMUNICATION — Telecom Services | ☐ YES ☒ NO | SANITARY SEWERS — Utility Operations |
| ☐ YES ☒ NO | CONTAMINATED DRAINS/AREAS — Health Physics | ☐ YES ☒ NO | SANITARY WATER — Utility Operations |
| ☐ YES ☒ NO | ELECTRICAL — Power Operations | ☐ YES ☒ NO | STEAM — Utility Operations |
| ☐ YES ☒ NO | GAS — Mechanical Engineering | ☐ YES ☒ NO | STORM DRAINS — Utility Operations |
| ☐ YES ☒ NO | GROUNDING — Power Operations | ☐ YES ☒ NO | WASTE HEAT — Utility Operations |
| ☐ YES ☒ NO | HIGH PRESSURE FIRE WATER — Cascade Operations | ☐ YES ☒ NO | OTHER- |

COPY

10. ADDITIONAL INFORMATION: Site has been checked by GPR survey and metal detector survey.

| | | |
|---|---|---|
| 11. Permit Issued By: | SIGNATURE: [signature] | DATE: 6-21-00 |
| 12. Permit Reviewed By: | SIGNATURE: | DATE: |
| 13. Work Completed & Permit Released: | SIGNATURE: | DATE: |

CP-3909A (10-8-97)

# TRENCHING/EXCAVATION/PENETRATION PERMIT PACKAGE (TEP)

1. TEP NO.: 00-Rev. 1-06-09

2. WORK PACKAGE OR SUBCONTRACT NO.:

3. ISSUED TO: GeoTek Drilling Co.

4. TYPE OF WORK: Drilling for site investigation

5. LOCATED AT: BLDG.: NA AREA: South of C-100 between access road + cyl. yards

6. FLOOR: NA

7. Is the work being performed in a SWMU? ☐ NO ☒ YES (Environmental Compliance)
*(If yes, provide guidance in info. section below.)* Signature: Rebecca Lowell

8. Waste requires special handling? ☒ NO ☐ YES (Waste Management)
*(If yes, provide guidance in info. section below.)* Signature: NA

9. THE FOLLOWING UTILITIES ARE AT OR ADJACENT TO THE REQUIRED TRENCH/EXCAVATION/PENETRATION

| | | | | | |
|---|---|---|---|---|---|
| ☐ YES ☒ NO | ACID | Chemical Operations | ☐ YES ☒ NO | NITROGEN | Mechanical Engineering |
| ☐ YES ☒ NO | AIR | Utilities Operations | ☐ YES ☒ NO | OIL | Chemical Operations |
| ☐ YES ☒ NO | CATHODIC PROTECTION | System Engineering | ☐ YES ☒ NO | RAW WATER | Cascade Operations |
| ☐ YES ☒ NO | CHILLED WATER | Utilities Operations | ☐ YES ☒ NO | RECIRCULATING WATER | Cascade Operations |
| ☐ YES ☒ NO | COMMUNICATION | Telecom Services | ☐ YES ☒ NO | SANITARY SEWERS | Utility Operations |
| ☐ YES ☒ NO | CONTAMINATED DRAINS/AREAS | Health Physics | ☐ YES ☒ NO | SANITARY WATER | Utility Operations |
| ☐ YES ☒ NO | ELECTRICAL | Power Operations | ☐ YES ☒ NO | STEAM | Utility Operations |
| ☐ YES ☒ NO | GAS | Mechanical Engineering | ☐ YES ☒ NO | STORM DRAINS | Utility Operations |
| ☐ YES ☒ NO | GROUNDING | Power Operations | ☐ YES ☒ NO | WASTE HEAT | Utility Operations |
| ☐ YES ☒ NO | HIGH PRESSURE FIRE WATER | Cascade Operations | ☐ YES ☒ NO | OTHER- | |

COPY

10. ADDITIONAL INFORMATION:
Site has been checked by GPR survey and metal detector survey. Refer to drawing C5E-6533

| | | |
|---|---|---|
| 11. Permit Issued By: | SIGNATURE: John R Elrod | DATE: 6-21-00 |
| 12. Permit Reviewed By: | SIGNATURE: | DATE: |
| 13. Work Completed & Permit Released: | SIGNATURE: | DATE: |

BJC/OR-###

# Geophysical Investigation at Proposed Depleted Uranium Hexafluoride Conversion Facility, Paducah Gaseous Diffusion Plant, Paducah, Kentucky

This document has received the appropriate reviews for release to the public.

**Tetra Tech, Inc.**

contributed to the preparation of this document and should not be considered an eligible contractor for its review.

BJC/OR-xxx

# Geophysical Investigation at Proposed Depleted Uranium Hexafluoride Conversion Facility, Paducah Gaseous Diffusion Plant, Paducah, Kentucky

Date Issued—June 2000

Prepared by
Tetra Tech, Inc.
Oak Ridge, Tennessee
under subcontract [##########]

Prepared for the
U.S. Department of Energy
Office of Environmental Management

BECHTEL JACOBS COMPANY LLC
managing the
Environmental Management Activities at the
East Tennessee Technology Park
Oak Ridge Y-12 Plant Oak Ridge National Laboratory
Paducah Gaseous Diffusion Plant Portsmouth Gaseous Diffusion Plant
under contract DE-AC05-98OR22700
for the
U.S. DEPARTMENT OF ENERGY

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# 1. GEOPHYSICAL INVESTIGATION AT PROPOSED DEPLETED URANIUM HEXAFLUORIDE CONVERSION FACILITY PADUCAH GASEOUS DIFFUSION PLANT, PADUCAH, KENTUCKY

## 1.1 INTRODUCTION

Geophysical methods were used (May 31 through June 2, 2000) to investigate the presence of underground utilities at 19 boring locations at the proposed Depleted Uranium Hexafluoride Conversion Facility site at the Paducah Gaseous Diffusion Plant, Paducah, Kentucky. The site is relatively flat and approximately 39 acres in size. Approximately half of the site is an open field located outside the security fence near the main plant entrance within Solid Waste Management Unit (SWMU) 194. The other half of the site is a wooded area located south of the open field and outside SWMU 194. Ground penetrating radar (GPR) and electromagnetic (EM) metal detection (EM61) techniques were used at each location in the northern area of the site (area within SWMU 194), while only EM61 was used at the locations in the wooded area to the south.

The instruments used for this project use remote sensing methods that rely on the presence of contrasts in the physical characteristics of the target and the surrounding material. The EM and GPR devices can only detect targets such as buried pipes or cables, where significant contrasts in the electrical properties of these targets (signal) and the surrounding soil or fill (noise) exist. Fill materials that contain metallic debris, such as steel reinforced concrete, may have similar electrical properties to the target pipe resulting in an inability to identify the possible presence of buried targets. The presence of demolition debris and foundations may mask the presence of pipes or cables located beneath or within them. The electromagnetic field surrounding overhead and buried power lines may also produce significant noise that could potentially mask the presence of buried pipes or cables.

## 1.2 GPR SURVEY

A GSSI System 2 GPR device equipped with a 300 megahertz (MHz) transducer was used to investigate the presence of metallic and non-metallic pipes, utilities, and cables. GPR techniques are based upon the rapid and repetitive transmission of EM signals (pulses) generated from the device's transducer and propagated into the subsurface. The transmitted EM signal travels through the subsurface and is reflected at interfaces where contrasts in the dielectric permittivity (a function of electrical conductivity) of the media are present. Interfaces where GPR reflections occur include changes in soil mineralogy, soil texture, moisture content, or the presence of a buried man-made feature such as a utility, pipe, or drum. The reflected portion of the transmitted EM signal is received by the device's transducer. The two-way travel time and reflected signal amplitude versus the horizontal distance the instrument traveled are displayed on the output of the instrument.

The time it takes a GPR signal to travel from the transducer, reflect off of a target, and return to the transducer is called the two-way reflection time. Two-way reflection times are displayed in units of nano-seconds and vary depending on the electrical properties of the subsurface materials. As the subsurface material's permittivity increases, the two-way travel time increases and the velocity of the GPR signal decreases. Areas of clayey soils, fill, shales, or saline groundwater have high dielectric permittivities, relatively long two-way reflection times, and slow velocities. GPR signals in these materials also attenuate rapidly, limiting the depths of investigation. Conversely, dry sandy soils have low dielectric permittivities

that result in relatively short two-way reflection times and fast GPR signal velocities. The depth of investigation is often much greater in dry sandy soils relative to clayey soils.

Data were collected in a 25-foot radius around the boring locations along north-south and east-west trending survey lines that were spaced approximately 12.5 feet apart. Some areas required additional data coverage to further define the site features. Data were collected by dragging the transducer across the area of interest at a slow walking pace. The color display was continuously monitored during data collection so that anomalously high amplitude reflections could be delineated. Anomalies were marked with pin flags and 6-inch wooden stakes with PK nails.

## 1.3 HIGH SENSITIVITY METAL DETECTOR SURVEY

A Geonics EM61 High Sensitivity Metal Detector meter (EM61) was used to investigate the presence of underground utilities at Parcel 3. The EM61 is a high sensitivity, high resolution time-domain metal detector which is used to detect both ferrous and non-ferrous metallic objects. It consists of a transmitter that generates a pulsed primary magnetic field, which induces eddy currents in nearby metallic objects. Two receiver coils measure the decay of these currents. By making the measurements at a relatively long time interval after the primary pulse is transmitted, the response is practically independent of the electrical conductivity of the ground.

The EM61 data were collected in a 25-foot radius around the boring locations along north-south and east-west trending survey lines that were spaced approximately 12.5 feet apart. Some areas required additional data coverage to further define the site features. Data were collected with the instrument in wheel mode. Measurements were made approximately every 0.65 feet. Anomalies were marked with pin flags and 6-inch wooden stakes with PK nails.

## 1.4 LOCATION DATA

A Trimble TDC1 Pro-XR beacon global positioning system (GPS) was used to determine the locations of anomalies detected at the boring locations. The GPS data were collected in real time from the CORS beacon in St. Louis, MO.

## 1.5 DESCRIPTIONS OF RESULTS AT PROPOSED BORING LOCATIONS

Anomalies were determined by interpreting the combined data from the GPR and EM61 surveys. In some cases anomalous areas were defined where multiple anomalies were found in close proximity.

### 1.5.1 Proposed Boring Location SB1:

This location is in the northwest corner of the open field (SWMU 194). There is an area of anomalies northwest of the boring location. There is a linear feature and an isolated anomaly to the northeast. There is an isolated anomaly to the south and two isolated anomalies to the southwest. No linear features or isolated point anomalies are within 2 ft of the staked location.

### 1.5.2 Proposed Boring Location SB2:

This location is in the northeast corner of the open field (SWMU 194). There is an apparent footer of a demolished building east of this location. There are four areas of anomalies; one northeast, one southeast, one southwest, and one northwest of the boring location. These anomalous areas are interpreted to be

building demolition debris. No linear features or isolated point anomalies are within 2 ft of the staked location. Due to the presence of apparent building demolition debris, **extra caution is recommended during drilling at this location.**

### 1.5.3 Proposed Boring Location SB3:

This location is in the north-central portion of the open field (SWMU 194). One isolated anomaly was found southeast of the location and one was found to the northwest. It is **recommended that the drilling location be moved 3 feet south** due to the proximity of the anomaly to the northwest.

### 1.5.4 Proposed Boring Location SB4:

This location is in the west-central portion of the open field (SWMU 194). No anomalies were detected at this location.

### 1.5.5 Proposed Boring Location SB5:

This location is in the east-central portion of the open field (SWMU 194). One linear anomaly was identified southeast of the location. One isolated anomaly was found east of the location and one was found to the south. No linear features or isolated point anomalies are within 2 ft of the staked location.

### 1.5.6 Proposed Boring Location SB6:

This location is near the center of the open field (SWMU 194). One isolated anomaly was found north of the location. No linear features or isolated point anomalies are within 2 ft of the staked location.

### 1.5.7 Proposed Boring Location SB7:

This location is in the southwest-central portion of the open field (SWMU 194). Two linear anomalies were identified southeast of the location. One isolated anomaly was found west of the location and one was found to the northeast. No linear features or isolated point anomalies are within 2 ft of the staked location.

### 1.5.8 Proposed Boring Location SB8:

This location is in the southeast-central portion of the open field (SWMU 194). One linear anomaly was identified northwest of the location. Three isolated anomalies were found; one west, one southeast, and one northwest of the location. No linear features or isolated point anomalies are within 2 ft of the staked location.

### 1.5.9 Proposed Boring Location SB9:

This location is in the southwest corner of the open field (SWMU 194). Two isolated anomalies were found north of the location. No linear features or isolated point anomalies are within 2 ft of the staked location.

### 1.5.10 Proposed Boring Location SB10:

This location is in the southeast corner of the open field (SWMU 194). One linear feature north of the location and one to the east were identified. There was an area of anomalies northwest of the location. There were also numerous isolated anomalies detected; five to the northeast, one to the southeast, one to the

southwest, and three to the west of the proposed boring location. It is **recommended that the drilling location be moved 3 feet south** due to the proximity of the anomalies.

### 1.5.11 Proposed Boring Location SB11:

The location is near the southeastern corner of the wooded area south of SWMU 194. **This location was moved approximately 6 feet east to allow for drilling rig access.** No geophysical data were collected in the woods (approximately the western one third of a 25-foot radius circle around the location) because a drilling rig could not operate in this area. No anomalies were detected at this location.

### 1.5.12 Proposed Boring Location SB12:

The location is situated in the northeastern corner of the wooded area south of SWMU 194. Two linear features were observed southeast of the location and one was found to the northwest. No isolated point anomalies or linear features are within 2 ft of the staked location.

### 1.5.13 Proposed Boring Location SB13:

The location is near the northeastern corner of the wooded area south of SWMU 194. One linear anomaly was found south of the location. No isolated point anomalies or linear features are within 2 ft of the staked location.

### 1.5.14 Proposed Boring Location SB14:

This location is situated near the north-central edge of the wooded area south of SWMU 194. **This location was moved approximately 3 feet north to allow for drilling rig access.** No geophysical data were collected in the woods (approximately the southern one third of a 25-foot radius circle around the location) because a drilling rig could not operate in this area. No anomalies were identified at the site.

### 1.5.15 Proposed Boring Location SB15:

The proposed boring location was along the north-central edge of the wooded area south of SWMU 194. **This location was deleted** because the proposed location was within the wetland area. It could not be moved due to overhead power lines to the north, the wetland area to the east and west, and large trees in the wooded area to the south.

### 1.5.16 Proposed Boring Location SB16:

The location is near the northwestern corner of the wooded area south of SWMU 194. Two isolated anomalies were found; one northwest of the location and the other to the east. No isolated point anomalies or linear features are within 2 ft of the staked location.

### 1.5.17 Proposed Boring Location SB17:

This location is on the west-central edge of the wooded area south of SWMU 194. No geophysical data were collected in the woods (approximately the eastern one third of a 25-foot radius circle around the location) because a drilling rig could not operate in this area. No anomalies were identified at the site.

### 1.5.18 Proposed Boring Location SB18:

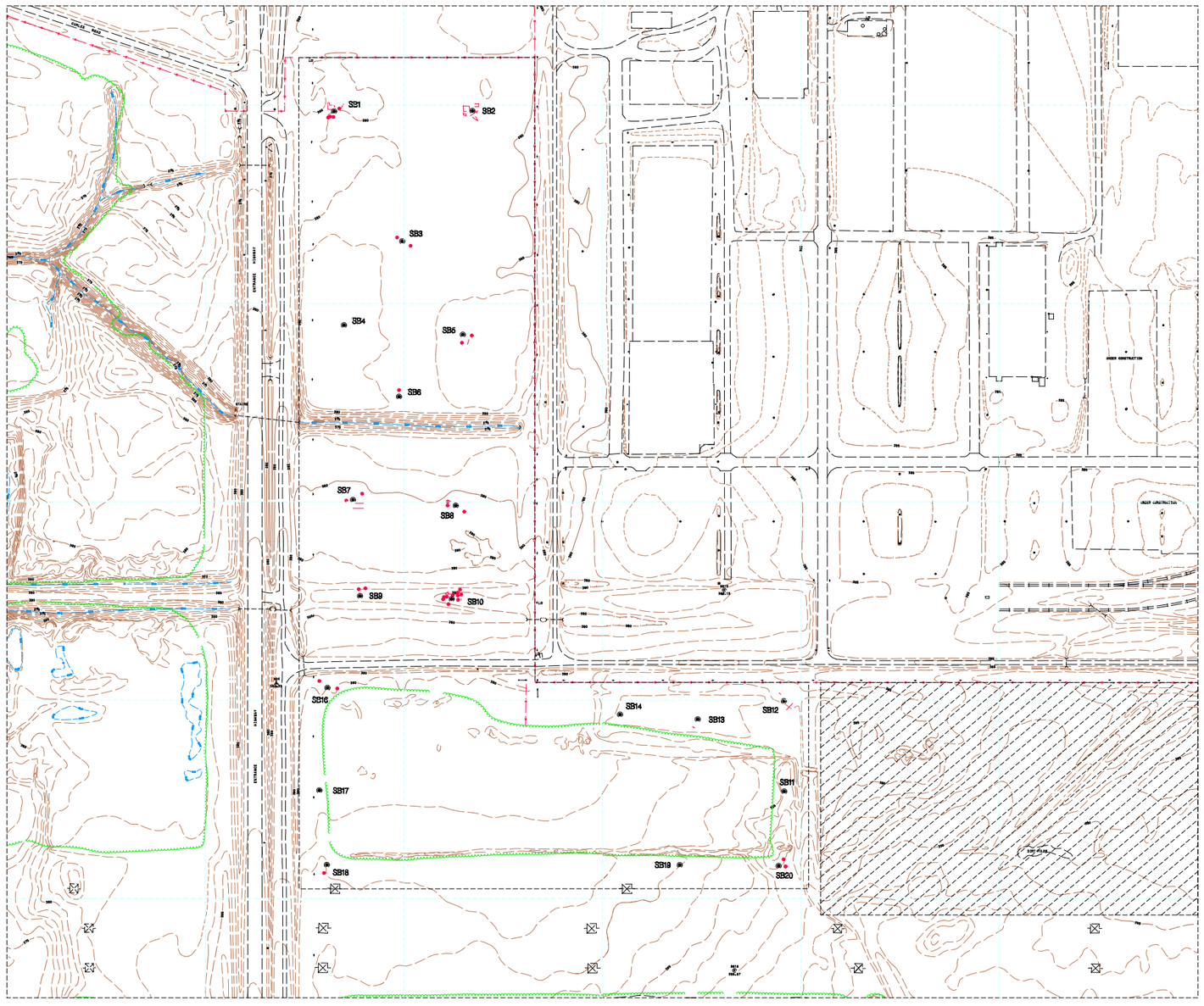
The location is at the southwest corner of the wooded area south of SWMU 194. One isolated anomaly was detected southwest of the location. No isolated point anomalies or linear features were observed within 2 ft of the boring location.

### 1.5.19 Proposed Boring Location SB19:

This location is on the southern edge of the wooded area south of SWMU 194, approximately 250 feet west of SB20. No geophysical data were collected in the woods (approximately the northern one third of a 25-foot radius circle around the location) because a drilling rig could not operate in this area. No anomalies were identified at the site.

### 1.5.20 Proposed Boring Location SB20:

The location is at the southeast corner of the wooded area south of SWMU 194. No geophysical data were collected in the woods (approximately the northwestern quarter of a 25-foot radius circle around the location) because a drilling rig could not operate in this area. One isolated anomaly was detected east of the location and another was found to the northeast. No isolated point anomalies or linear features were observed within 2 feet of the boring location.




PADUCAH GRID

N

200 100 0 100 200

SCALE: 1" = 100'

## LEGEND

- SAMPLE LOCATION
- AREA ANOMALY
- LINEAR ANOMALY
- POINT ANOMALY
- DUFS AREA
- TREE LINE
- C-745-T YARD

NOTE: CONTOUR INFORMATION OBTAINED FROM 1990 AERIAL FLYOVER DATA, PRIOR TO CONSTRUCTION OF C-745-T.

Tetra Tech, Inc
OAK RIDGE, TENNESSEE
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FAX (865) 483-2014

NO REPRESENTATION OR WARRANTY, EXPRESSED OR IMPLIED, IS MADE AS TO THE ACCURACY, COMPLETENESS OR USEFULNESS OF THE INFORMATION OR STATEMENTS CONTAINED IN THESE DRAWINGS, OR THAT THE USE OR DISCLOSURE OF ANY INFORMATION, APPARATUS, METHOD, OR PROCESS DISCLOSED IN THESE DRAWINGS MAY NOT INFRINGE PRIVATE RIGHTS OF OTHERS. NO LIABILITY IS ASSUMED WITH RESPECT TO THE USE OF, OR FOR DAMAGES RESULTING FROM THE USE OF ANY INFORMATION, APPARATUS, METHOD, OR PROCESS DISCLOSED IN THESE DRAWINGS. DRAWINGS MADE AVAILABLE FOR INFORMATION TO BIDDERS ARE TO BE USED FOR OTHER PURPOSES AND ARE TO BE RETURNED UPON REQUEST OF THE FORWARDING CONTRACTOR.

NUMBER OF SECTION OR DETAIL

DRAWING ON WHICH SECTION OR DETAIL IS TAKEN

DRAWING ON WHICH SECTION OR DETAIL IS SHOWN

SECTION AND DETAIL KEY

MICROSTATION 95 FILE

$DATE$ $TIME$

$FILE$

RPE

PROFESSIONAL SEAL

| NUMBER | TITLE/DESCRIPTION / REFERENCE DRAWINGS/INFORMATION | DATE | REV. | DATE | DESCRIPTION / DRAWING REVISIONS | DRAWN BY | CHKD BY | ENGR CHK | LE | QA | SAFETY | PROJ ENGR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | / / | 0 | 06/19/00 | ISSUED FOR INFORMATION | AVP | AVP | GSL | KJC | | | |

BECHTEL JACOBS

BECHTEL JACOBS COMPANY, LLC
managed for the DEPARTMENT OF ENERGY under U.S. GOVERNMENT contract DE-AC-05-98OR22700

| BECHTEL JACOBS JOB NO. | DOE CONTRACT NO. |
|---|---|
| 23900 | DE-AC-05-98OR22700 |

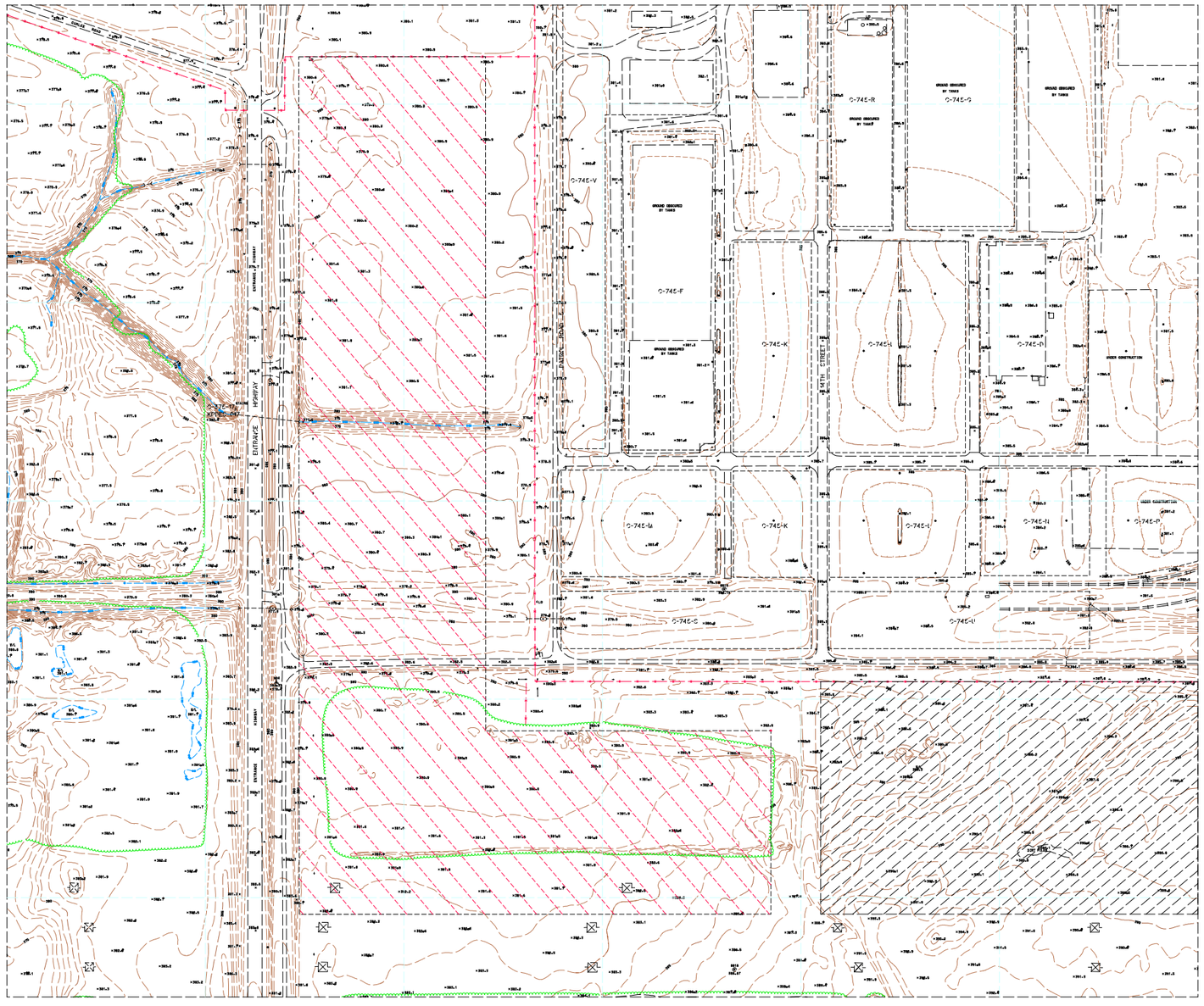
PROJECT NAME: PADUCAH DUFS STORAGE AREA

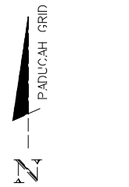
TITLE: GEOPHYSICAL SURVEY FOR DUFS AREA PLAN

| EDCS CAD FILENAME | BUILDING | PLANT | CLASS |
|---|---|---|---|
| CSEN24J47J42 | C-AREA | PAD | U |

| SCALE | TYPE | DRAWING NUMBER | REV |
|---|---|---|---|
| 1" = 100' | DD | CSECSCCCCAC97 | 0 |

# Section 3.0, *Site and Topographic Mapping*




200 100 0 100 200

SCALE: 1" = 100'

LEGEND

FOOTPRINT ~125 FT. FROM SECURITY FENCE AND ACCESS ROAD

TREE LINE

C-745-T YARD

NOTE: CONTOUR INFORMATION OBTAINED FROM 1990 AERIAL FLYOVER DATA, PRIOR TO CONSTRUCTION OF C-745-T.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NUMBER OF SECTION OR DETAIL

DRAWING ON WHICH SECTION OR DETAIL IS TAKEN

DRAWING ON WHICH SECTION OR DETAIL IS SHOWN

SECTION AND DETAIL KEY

MICROSTATION 95 FILE

$DATE$
$FILE$
$TIME$

RPE

PROFESSIONAL SEAL

| NUMBER | TITLE/DESCRIPTION | DATE |
|---|---|---|
| | REFERENCE DRAWINGS/INFORMATION | |

| REV. | DATE | DESCRIPTION | DRAWN BY | CHK'D ENGR | ENGR CHK | LE | QA | SAFETY | PROJ ENGR |
|---|---|---|---|---|---|---|---|---|---|
| 0 | 09/27/00 | ISSUED FOR INFORMATION | AVP | AVP | BS | TH | | | |

DRAWING REVISIONS

BECHTEL JACOBS

BECHTEL JACOBS COMPANY, LLC
managed for the DEPARTMENT OF ENERGY under U.S. GOVERNMENT contract DE-AC-05-980R22700

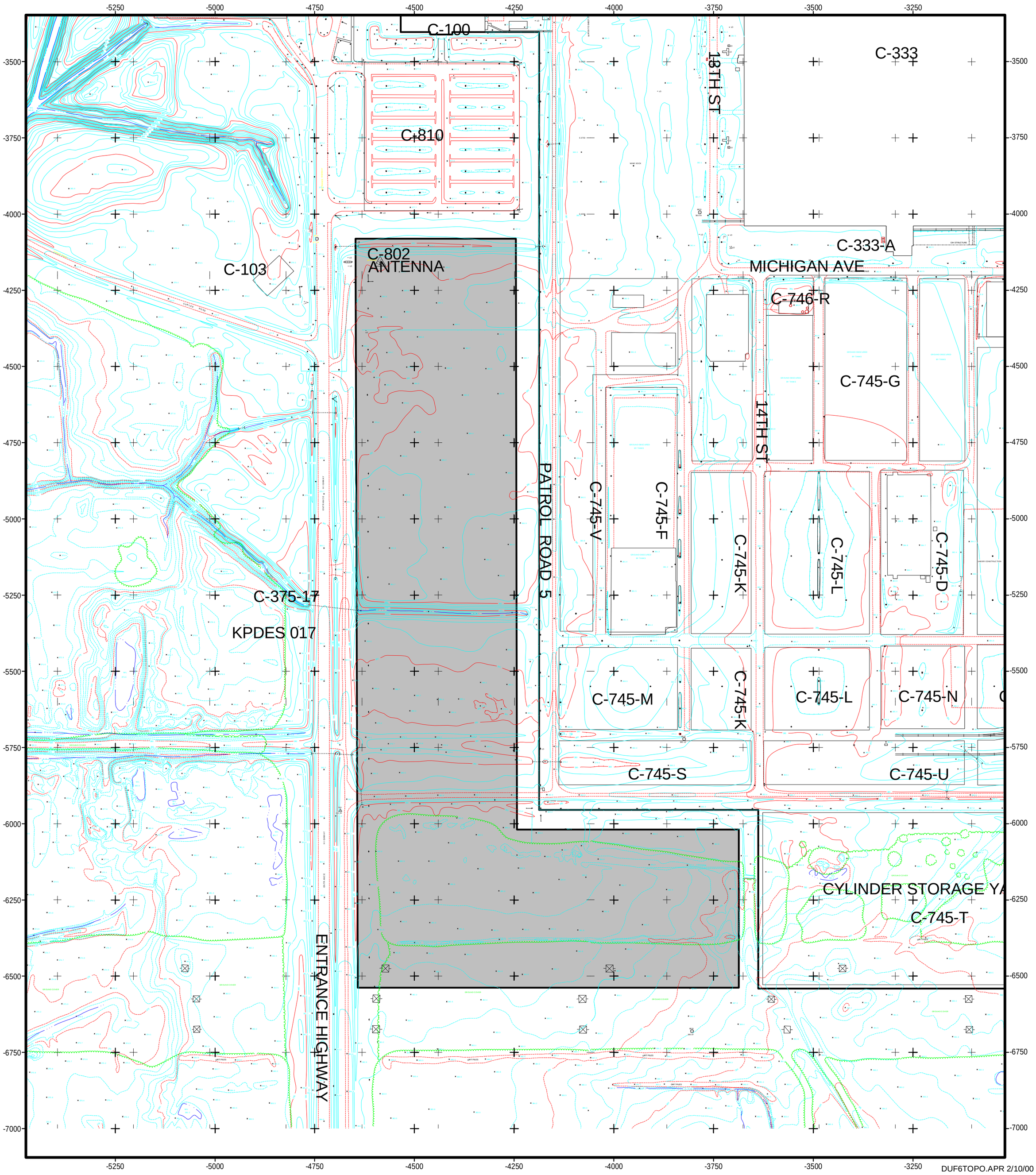
| BECHTEL JACOBS JOB NO. | DOE CONTRACT NO. |
|---|---|
| 23900 | DE-AC-05-98OR22700 |

PROJECT NAME: PADUCAH DUF6 STORAGE AREA

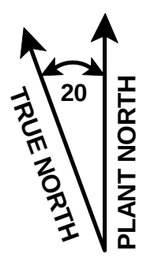
TITLE: DUF6 CONVERSION FACILITY PROPOSED SITE LOCATION PLAN

| EDCS CAD FILENAME | BUILDING | PLANT | CLASS |
|---|---|---|---|
| C4E9A121LP0 | C-AREA | PAD | U |

| SCALE: | TYPE | DRAWING NUMBER | REV |
|---|---|---|---|
| 1" = 100' | DD | C4ECSCCCCA1C1 | 0 |



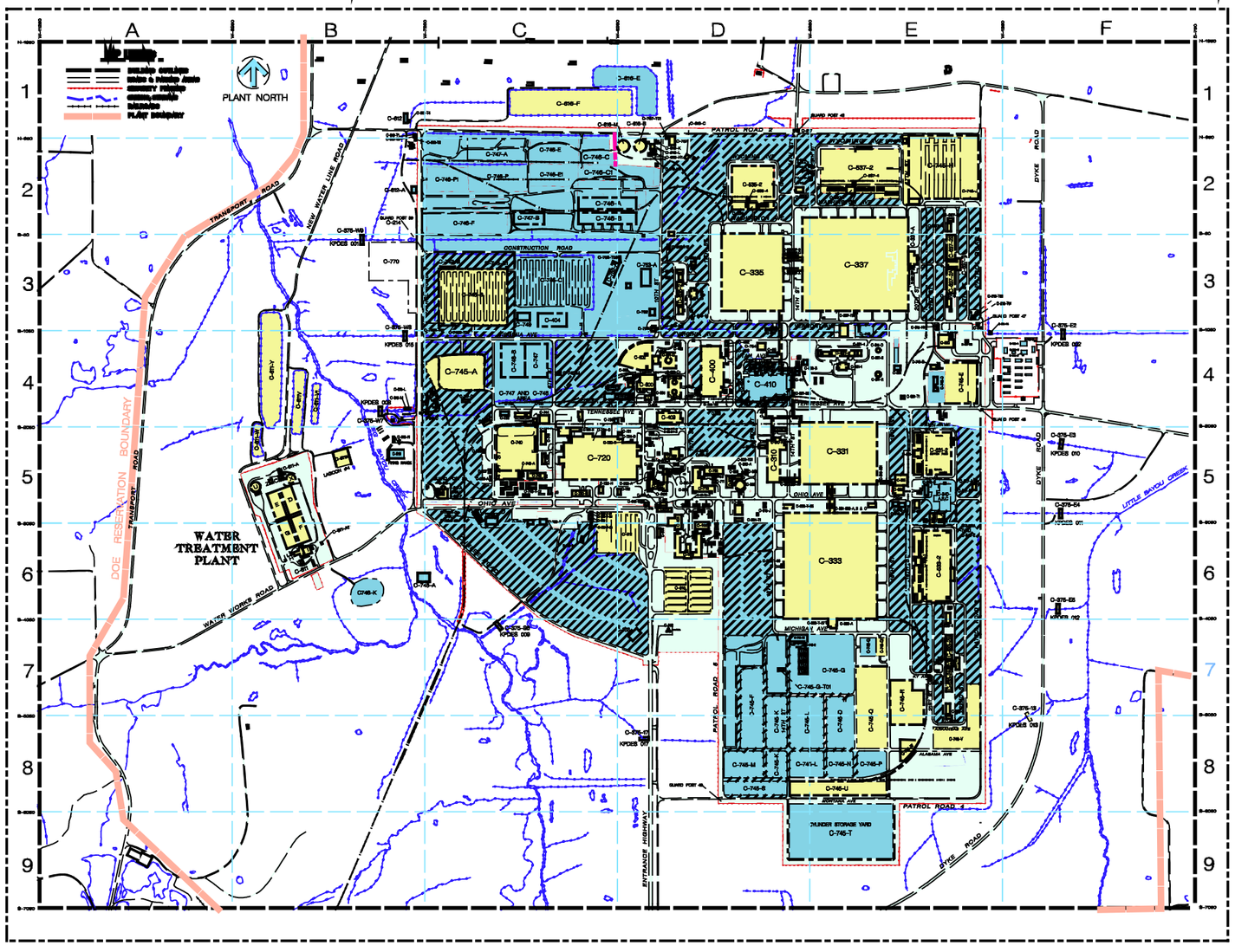

# Paducah Gaseous Diffusion Plant
# $DUF_6$ Conversion Facility Proposed Site




250 0 250 500 750 Feet

**Footprint ~125 feet from Security fence and Access road**

# PADUCAH GASEOUS DIFFUSION PLANT BUILDING LEASE STATUS



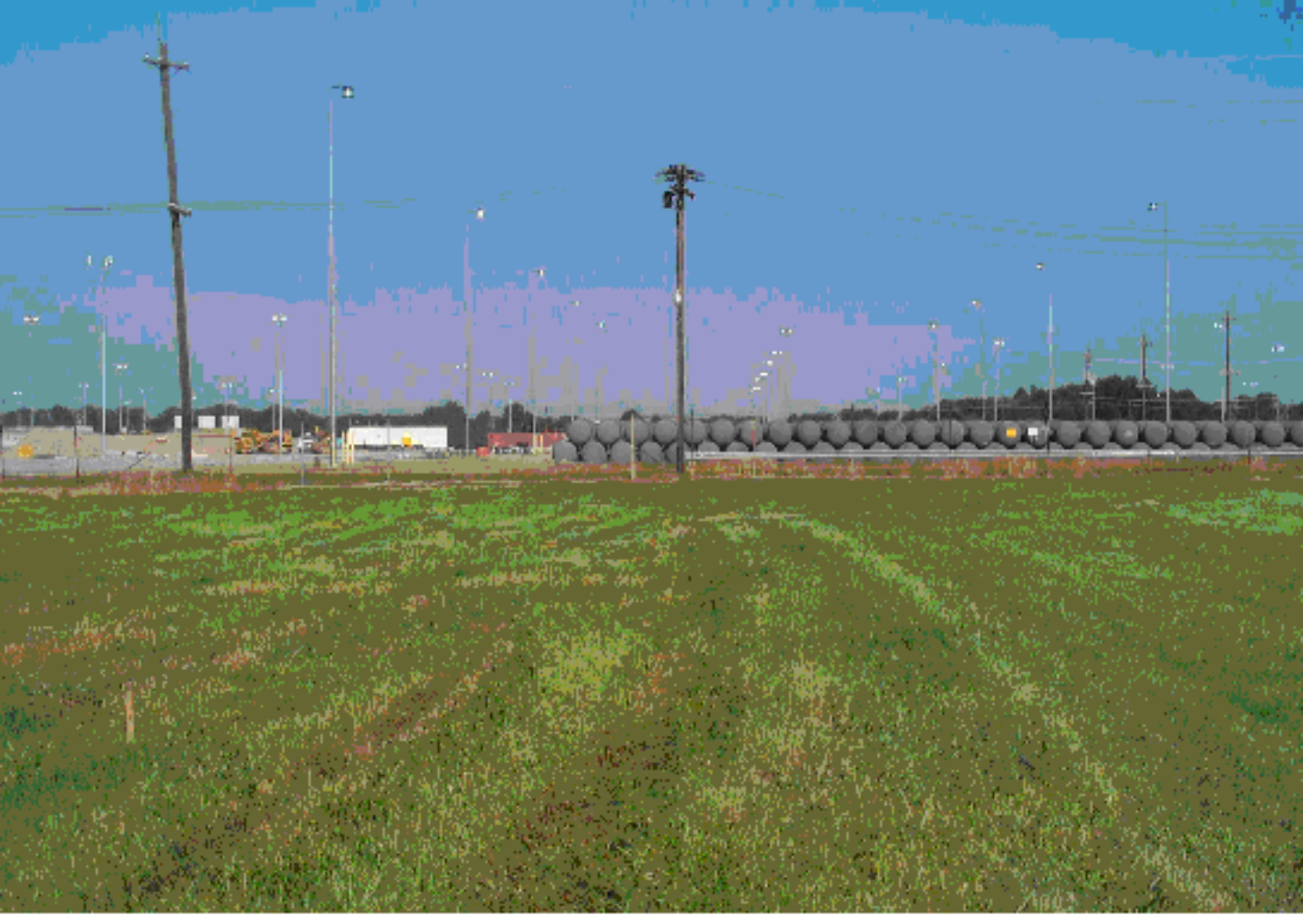

## FACILITY NUMBER / MAP LOCATION

| FACILITY NUMBER | | MAP LOCATION |
|---|---|---|
| C-100 | ADMINISTRATION BLDG. | D-5 (L) |
| C-101 | OFFICE TRAILER | D-5 (L) |
| C-102 | TEMPORARY OFFICE | D-5 (L) |
| C-103 | TEMPORARY OFFICE | D-5 (L) |
| C-104 | TEMPORARY OFFICE | D-5 (L) |
| C-105 | TEMPORARY OFFICE & STORAGE | D-5 (L) |
| C-106 | OFFICE TRAILER | D-5 (L) |
| C-107 | TEMPORARY OFFICE | D-5 (L) |
| C-108 | TEMPORARY OFFICE | D-5 (L) |
| C-109 | TEMPORARY OFFICE | D-5 (L) |
| C-110 | TEMPORARY OFFICE | D-5 (L) |
|

# Section 4.0, *Site Photographs*

Paducah DUF6 Site - West View

Paducah DUF6 Site - Southwest View



**Paducah DUF6 Site - East View**

# Section 5.0, *Cylinder Yard Storage Maps*

## Estimated Cylinder Yard Capacities for 48-inch Cylinder Storage

| Yard Name | Quantity | Comment |
|---|---|---|
| C-745-D | 611 | *Actual |
| C-745-F | 10,432 | |
| C-745-G | 5,777 | *Actual |
| C-745-K (south) | 1,360 | |
| C-745-K (north) | 2,705 | |
| C-745-L (south) | 2,275 | |
| C-745-L (north) | 4,332 | |
| C-745-M | 2,504 | |
| C-745-N | 1,668 | |
| C-745-P | 1,876 | |
| C-745-S | 2,224 | *Actual |
| C-745-T | 8,750 | |
| Total | 44,514 | |

*Actual capacities are as of September 10, 1998.

## ELECTRICAL LEGEND:

- TWO-HEAD LIGHT POLE
- OR THREE-HEAD LIGHT POLE
- FOUR-HEAD LIGHT POLE

## STORM DRAIN LEGEND:

- CATCH BASIN
- OR MAN HOLE

## FENCE LEGEND:

- EXISTING SECURITY FENCE
- NEW SECURITY FENCE

TRUE NORTH / PLANT NORTH 20°

4250-W 4000-W 3750-W 3500-W 3250-W 3000-W 2750-W 2500-W 2250-W 2000-W 1750-W

3500-S 3750-S 4000-S 4250-S 4500-S 4750-S 5000-S 5250-S 5500-S 5750-S 6000-S 6250-S 6500-S

C-333 C-333-A C-746-Q

MICHIGAN AVE. ALABAMA AVE. ALASKA AVE. ARIZONA AVE. KY. AVE.

13 TH. ST. 14 TH. STREET 15 TH. STREET 16 TH. STREET 18 TH STREET

CONCRETE DEBRIS CONCRETE PAD PAVED STORM WATER BASIN TRENCH DRAIN

C-745-F AREA = 246,536 SQ. FT. CYL. CAPACITY = 4,108

C-745-K (NORTH) AREA = 128,945 SQ. FT. CYL. CAPACITY = 2,815

C-745-L (NORTH) AREA = 195,885 SQ. FT. CYL. CAPACITY = 3,263

C-745-G AREA = 147,782 SQ. FT. CYL. CAPACITY = 3,295

C-745-G AREA = 173,124 SQ. FT. CYL. CAPACITY = 2,885

C-745-O AREA = 154,983 SQ. FT. CYL. CAPACITY = 2,581

C-745-M AREA = 118,531 SQ. FT. CYL. CAPACITY = 1,975

C-745-K (SOUTH) AREA = 63,152 SQ. FT. CYL. CAPACITY = 1,052

C-745-L (SOUTH) AREA = 186,825 SQ. FT. CYL. CAPACITY = 1,888

C-745-N AREA = 77,968 SQ. FT.

C-745-P AREA = 85,689 SQ. FT.

C-745-S AREA = 93,474 SQ. FT. CYL. CAPACITY = 1,557

C-745-SA GRAVEL YARD FOR CHOCK STORAGE

C-745-T AREA = 478,489 SQ. FT.

C-633-2A C-633-1 C-633-2B

21 ST ST. 22 ND ST.

ALABAMA AVE.

SECURITY FENCE PATROL ROAD 5 SERVICE DRIVE

DITCH No. 13

PATROL ROAD 4

FUTURE 18' PCC CONC ROAD

PATROL ROAD NO. 3

NEW SECURITY FENCE

GATE PLUG M.H. C.B. 18" PIPE 24" PIPE

# UF6 CYLINDER STORAGE YARDS DEVELOPMENT PLAN P.G.D.P.

SCALE: 1" = 100'

SECTION AND DETAIL KEY

THIS DOCUMENT CONTROLLED BY CHANGE CONTROL SYSTEM ENGINEERING PROCEDURE EP-C-18

| REV | CA | MD | TE | CP | EE | CE |
|---|---|---|---|---|---|---|
| 0 | --- | --- | --- | --- | --- | --- |

SQUAD CHECK

| REV | DESCRIPTION | BY | CHK | SECT | DEPT | DATE | PE | REQ | DATE | PRE | NO | DATE | IND | SAF | SECURITY | FIRE | MAINT'N | PRV | IND | CIV | ENV | COMP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | ORIGINAL ISSUE | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |

REVISION OR ISSUE PURPOSE — REVISION APPROVALS

PGD020 ESO NO.

DESIGN P.A. CRABTREE
DRW J.W. PORSLEY
CHK
SECT
DEPT
PE
PJ
REQ
4/2/97
4/2/97

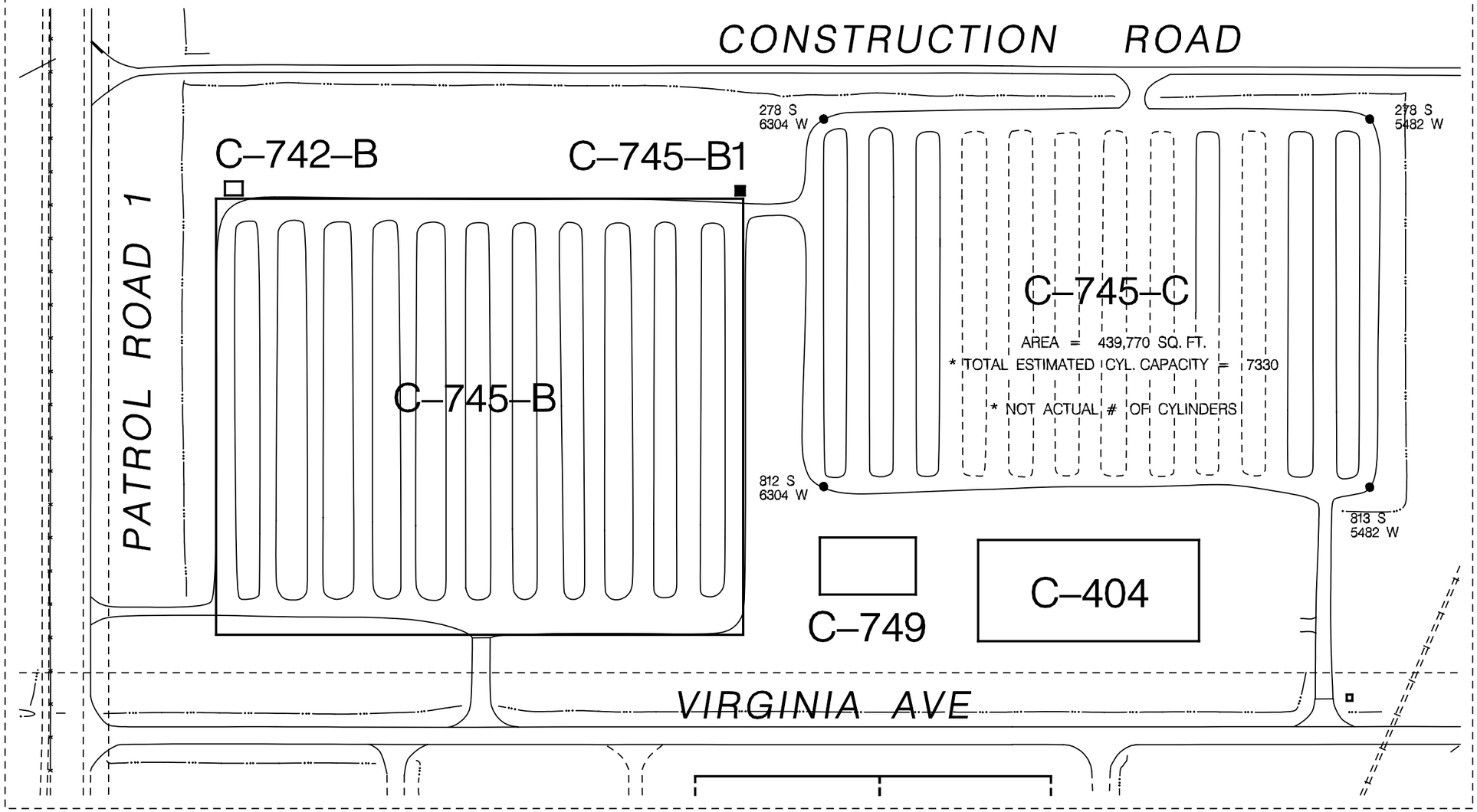
BECHTEL JACOBS COMPANY LLC
Oak Ridge, Tennessee • Portsmouth, Ohio
PREPARED FOR THE U.S. DEPARTMENT OF ENERGY

UF6 CYLINDER STORAGE YARDS
DEVELOPMENT PLAN
P.G.D.P.

| 1 | 3 | C | 48 | 49 | 58 | PLANT | BLDG | AREA | FL | SH. | OF | TYPE | CLASS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 51 | | P | N | PGDP | CAREA | | A | 1 | 1 | P | U | |
| NC | | P | N | PGDP | CAREA | | A | 1 | 1 | P | U | |
| NA | | P | N | PGDP | CAREA | | A | 1 | 1 | P | U | |
| IN | | P | N | PGDP | CAREA | | A | 1 | 1 | P | U | |
| 52 | | P | N | PGDP | CAREA | | A | 1 | 1 | P | U | |
| 53 | | P | N | PGDP | CAREA | | A | 1 | 1 | P | U | |

C5EC90000A044 | REV 0

C5EC90000A044




U.S. DEPARTMENT OF ENERGY

DOE OAK RIDGE OPERATIONS

PADUCAH GASEOUS DIFFUSION PLANT

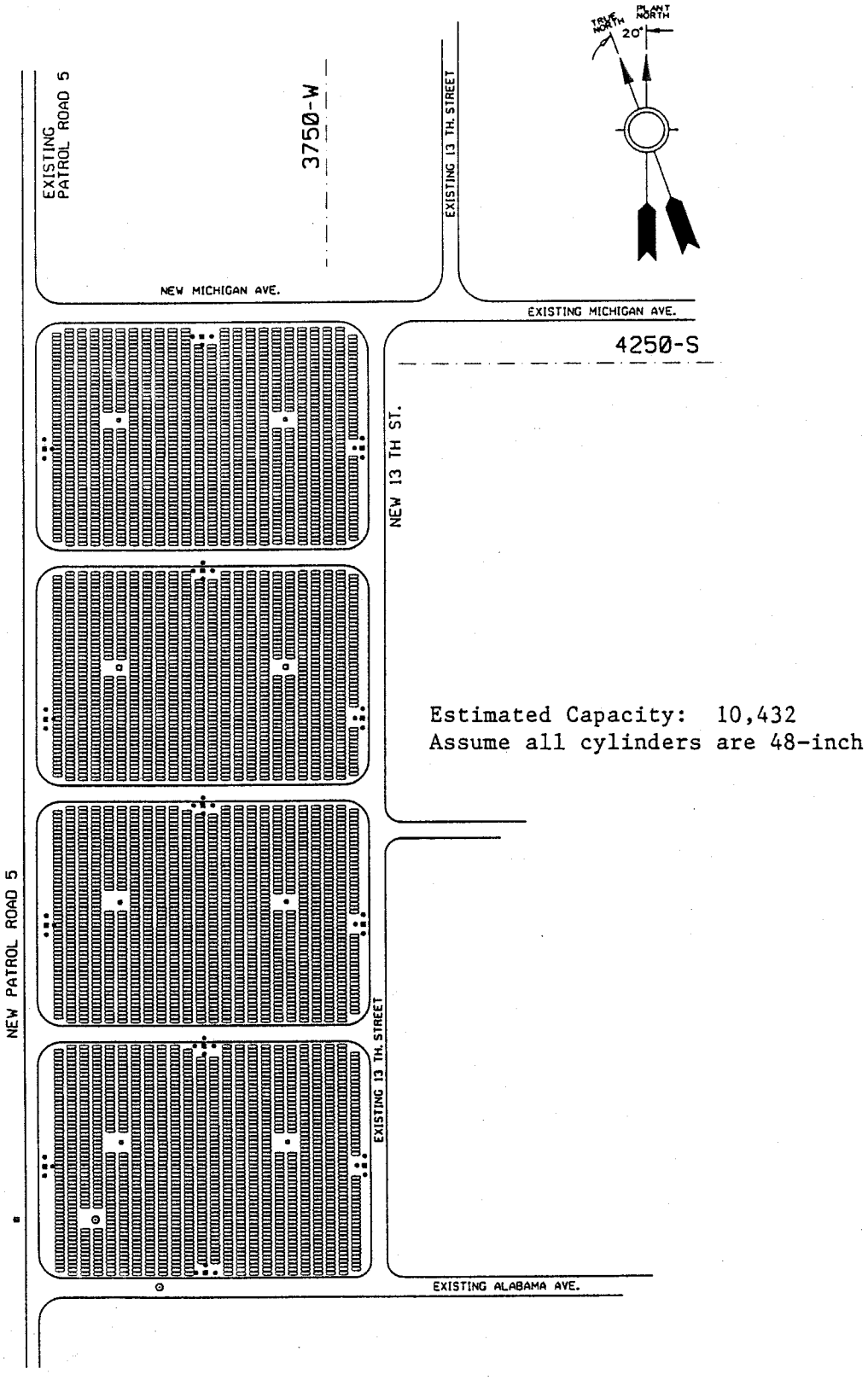
BECHTEL JACOBS COMPANY, LLC

managed for the [illegible]

Tetra Tech, Inc
OAK RIDGE, TENNESSEE
(865) 483-9900
FAX (865) 483-2014

FIGURE No. CYLYARDS.DGN

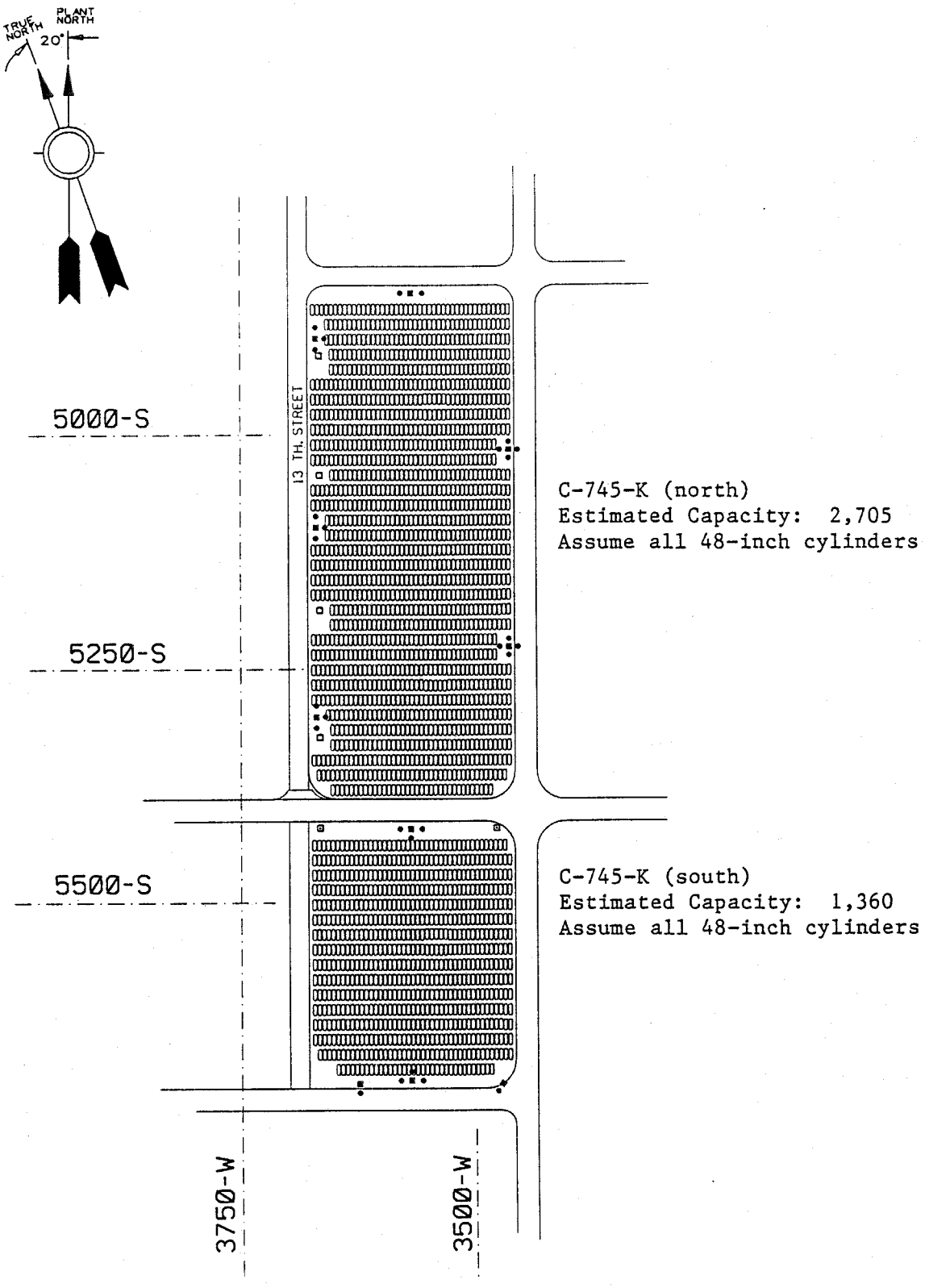
DATE 9–26–00




Estimated Capacity: 10,432
Assume all cylinders are 48-inch

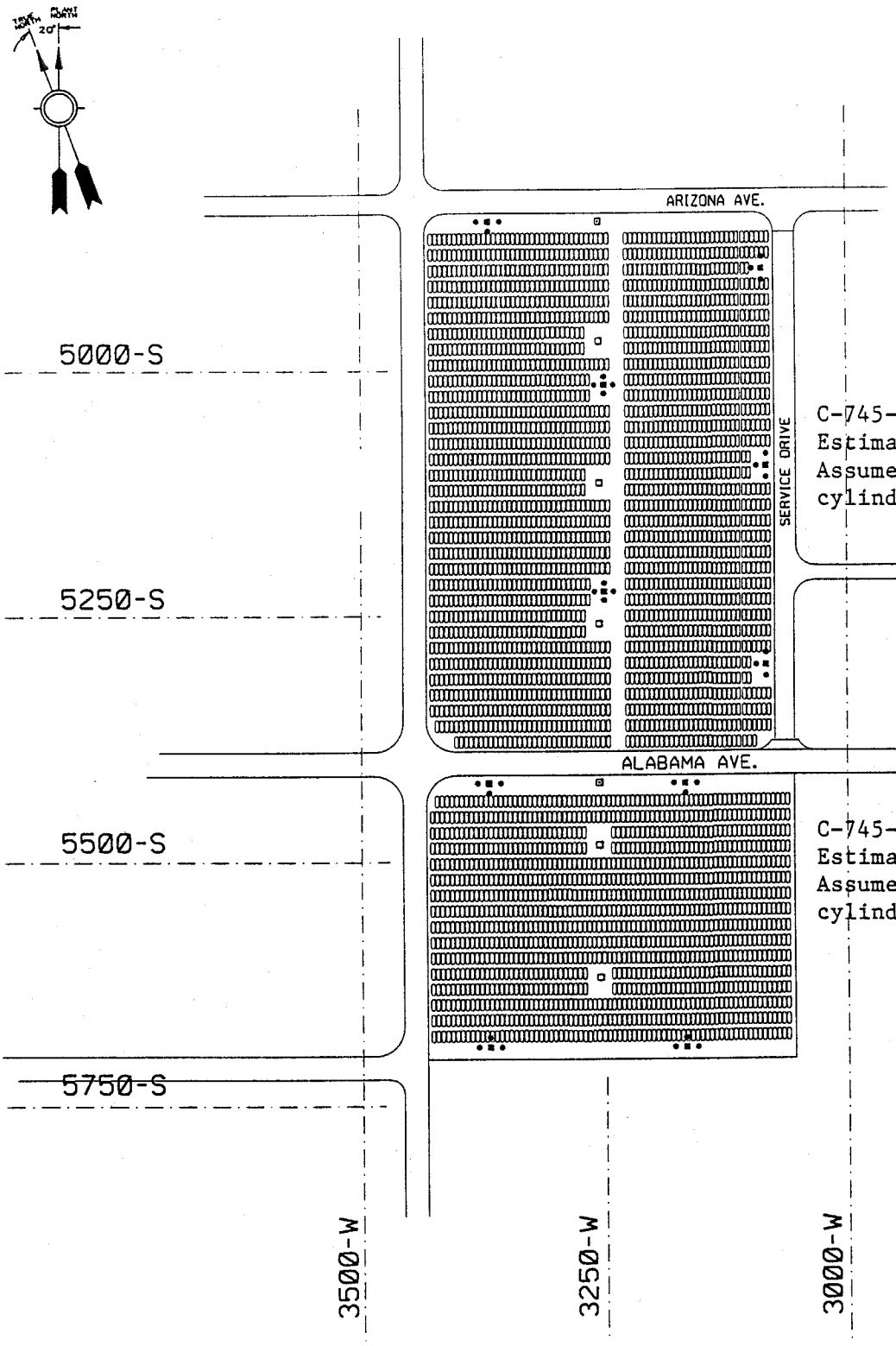
# P L A N

C-745-F CYLINDER STORAGE YARD



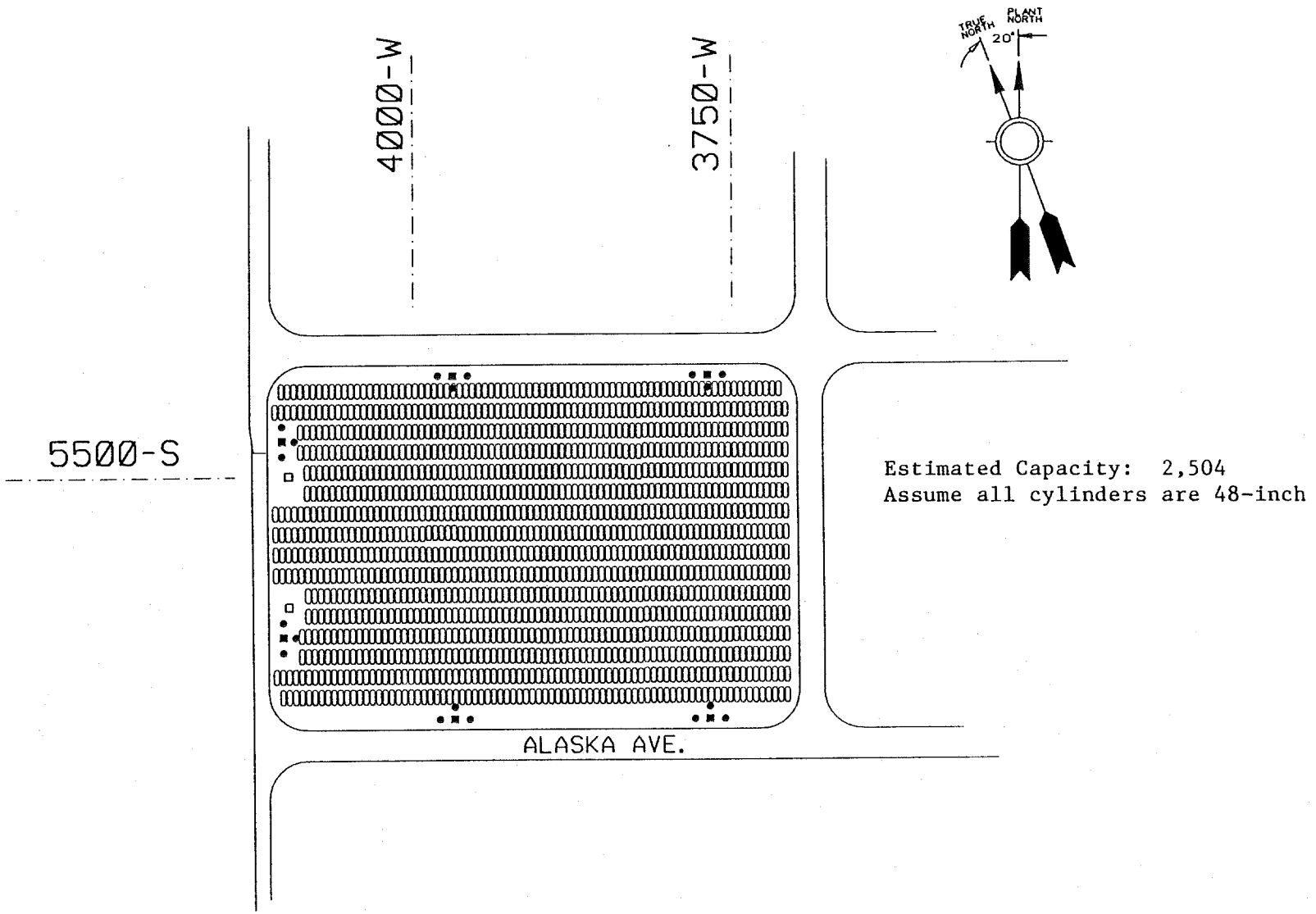

# P L A N

C-745-K CYLINDER STORAGE YARD




# P L A N

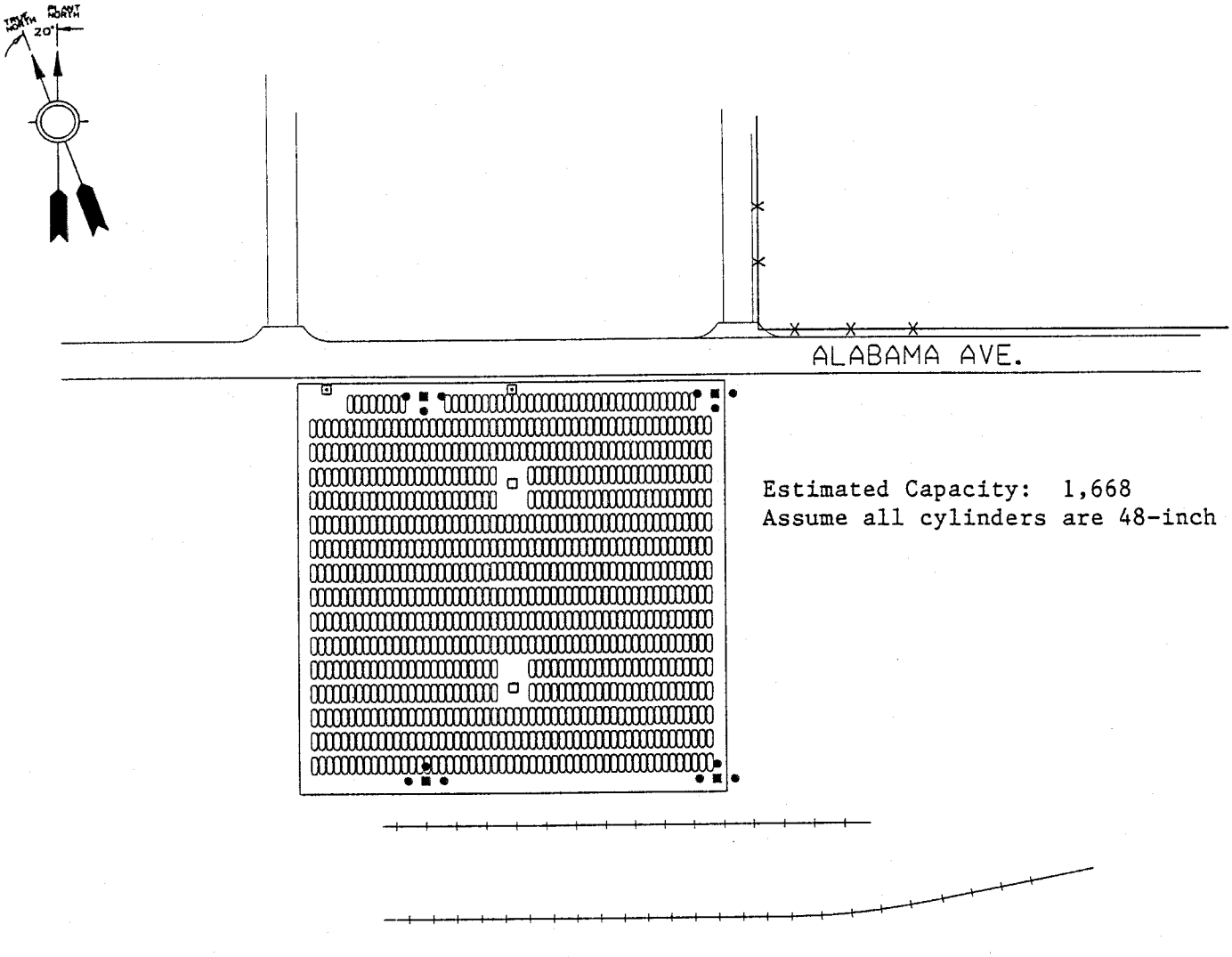
C-745-L CYLINDER STORAGE YARD




Estimated Capacity: 2,504
Assume all cylinders are 48-inch

# P L A N

C-745-M CYLINDER STORAGE YARD




Estimated Capacity: 1,668
Assume all cylinders are 48-inch

# P L A N

## C-745-N CYLINDER STORAGE YARD

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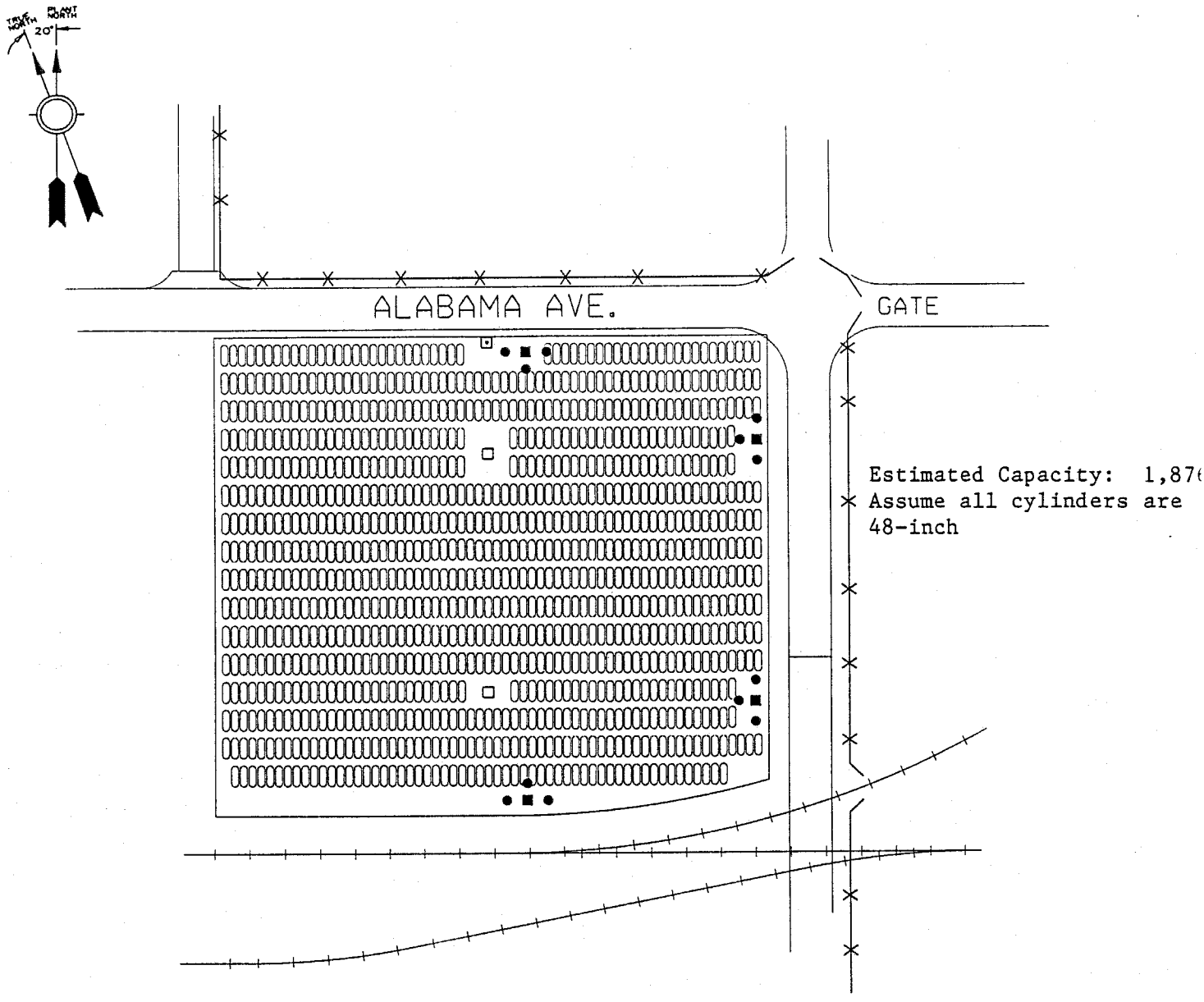
DATE: 4-Jun-98 08:19




# P L A N

## C-745-P CYLINDER STORAGE YARD

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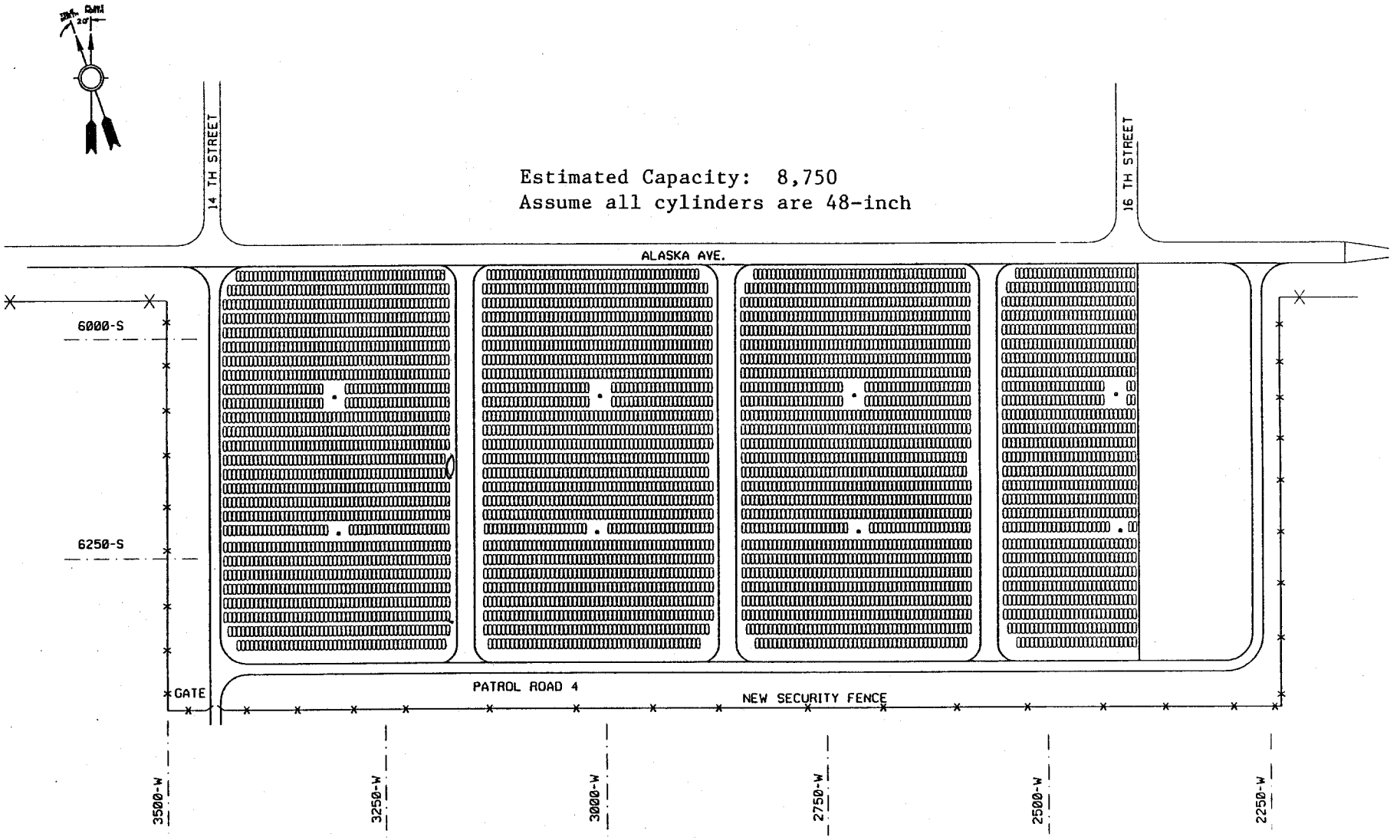
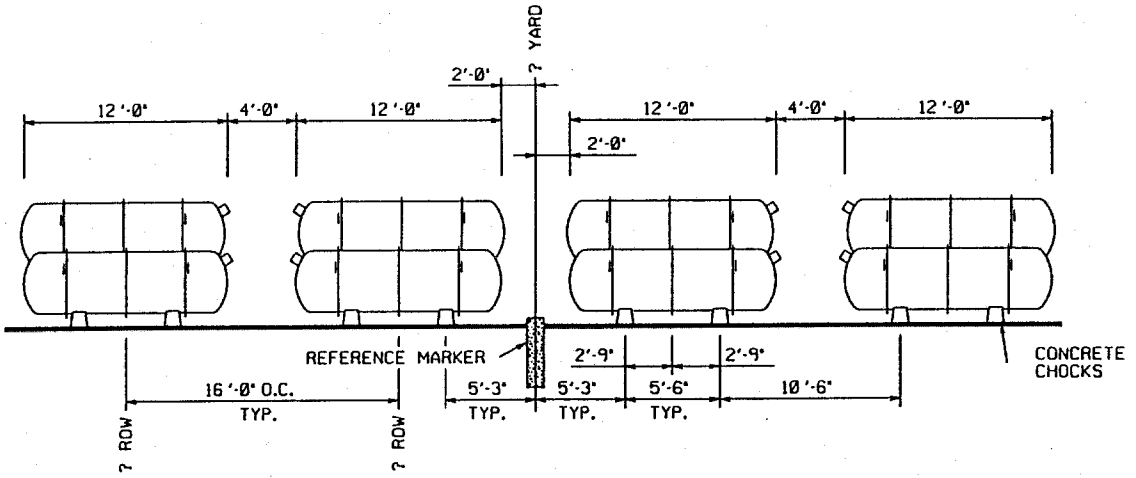
DATE: 4-Jun-98 09:00



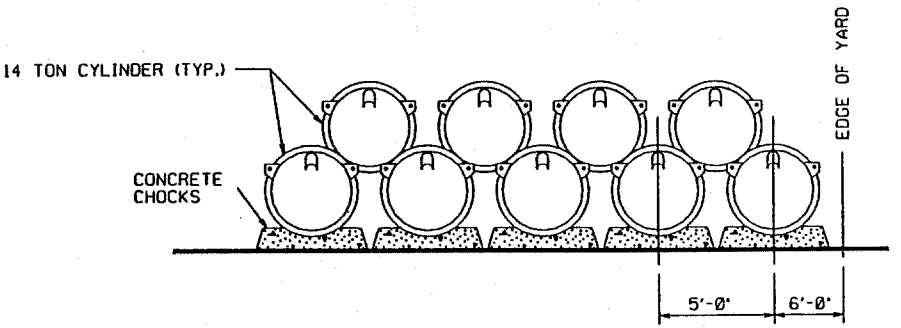

# PLAN

## C-745-T CYLINDER STORAGE YARD

FIGURE 1

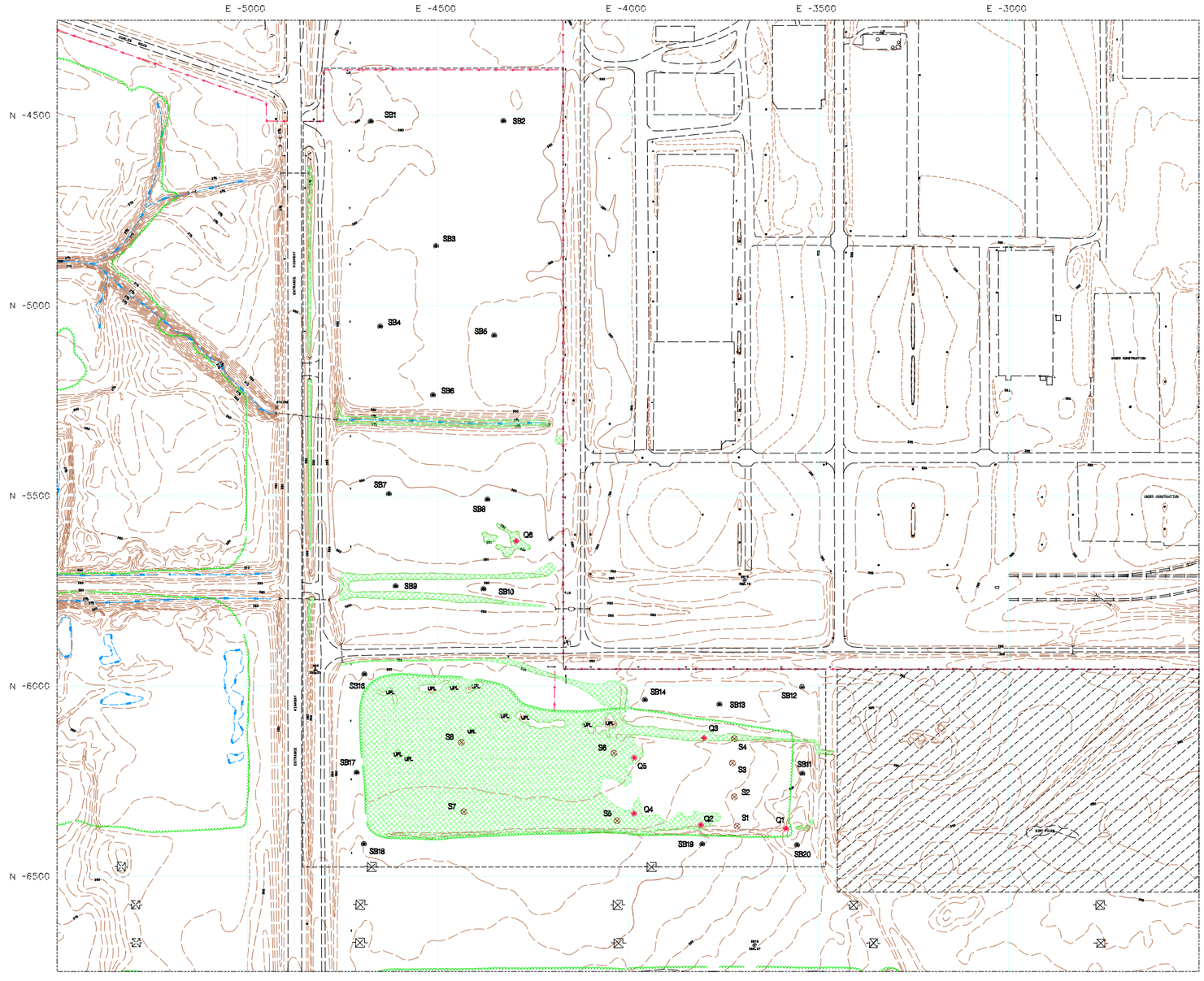



TYPICAL CYLINDER ROW SECTION




TYPICAL CYLINDER YARD SECTION

# Section 6.0, *Wetlands Mapping*




PADUCAH GRID

N

200 100 0 100 200

SCALE: 1" = 100'

## LEGEND

- SITE CHARACTERIZATION SAMPLE LOCATION
- PRELIMINARY WETLAND BOUNDARY (VEGETATION, SOILS & HYDROLOGY)
- WETLAND SAMPLE QUADRAT
- SOIL SAMPLE POINTS
- UPL UPLAND AREA
- D&D AREA
- TREE LINE
- C-745-T YARD

NOTE: CONTOUR INFORMATION OBTAINED FROM 1990 AERIAL FLYOVER DATA, PRIOR TO CONSTRUCTION OF C-745-T.

Tetra Tech, Inc
OAK RIDGE, TENNESSEE
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SECTION AND DETAIL KEY

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| | | | 0 | 06/30/00 | ISSUED FOR INFORMATION | | | | | | | | | | | |

BECHTEL JACOBS COMPANY, LLC
managed for the DEPARTMENT OF ENERGY under
U.S. GOVERNMENT contract DE-AC-05-98OR22700

BECHTEL JACOBS JOB NO. 23900

DOE CONTRACT NO. DE-AC-05-98OR22700

PROJECT NAME: PADUCAH DUF6 STORAGE AREA

TITLE: DUF6 CONVERSION AREA WETLAND SURVEY MAP

EDCS CAD FILENAME: DSE96048.R0

BUILDING: C-AREA

PLANT: PAD

CLASS: U

SCALE: 1" = 100'

TYPE: DD

DRAWING NUMBER: CRECSCCCAC98

REV: 0