## AREA 1995

### 1 – MPE PIPING

| ITEM | DESCRIPTION | QUANTITY | UNIT |
|---|---|---|---|
| 1 | 6" HDPE PIPE | 400 | FT |
| 2 | 6" X 2" HDPE REDUCER TEE | 10 | EACH |
| 3 | 6" X 4" HDPE REDUCER FITTING | 1 | EACH |
| 4 | 4" HDPE PIPE | 310 | FT |
| 5 | 4" HDPE TEE | 1 | EACH |
| 6 | 4" HDPE 90° BEND | 3 | EACH |
| 7 | 4" X 2" HDPE REDUCER TEE | 2 | EACH |
| 8 | 4" X 2" HDPE REDUCER FITTING | 2 | EACH |
| 9 | 2" HDPE PIPE | 510 | FT |
| 10 | 2" HDPE 90° BEND | 30 | EACH |
| 11 | 6" HDPE 90° BEND | 1 | EACH |
| 12 | 6" X 2" HDPE REDUCER FITING | 1 | EACH |

### 2 – MPE VAULT

| ITEM | DESCRIPTION | QUANTITY | UNIT |
|---|---|---|---|
| 1 | 2' X 2' STEEL TRAFFIC RATED WELL VAULT | 15 | EACH |
| 2 | 2" HDPE FEMALE ADAPTER | 15 | EACH |
| 3 | 2" X 0.75" PVC REDUCER BUSHING RH #3439-248 | 15 | EACH |
| 4 | 0.75" BRASS BALL VALVE GRAINGER STOCK #5X716 | 15 | EACH |
| 5 | 0.75" THREADED NIPPLE (2" LONG) | 45 | EACH |
| 6 | 0.75" PVC TEE (FPT) RH #3405-007 | 15 | EACH |
| 7 | 0.75" X 0.50" REDUCER BUSHING RH #3439-101 | 15 | EACH |
| 8 | 0.75" PVC THREADED ELBOW (FPT X FPT) RH #3408-007 | 15 | EACH |
| 9 | 0.75" QUICK-CONNECT MALE COUPLER RH #1304-007 | 15 | EACH |
| 10 | 0.75" QUICK-CONNECT SHANK ADAPTER RH #1303-007 | 15 | EACH |
| 11 | HOSE CLAMP FOR 0.75" HOSE | 15 | EACH |
| 12 | 0.75" TIGERFLEX HOSE (30' X 15 WELLS) | 450 | FT |
| 13 | 0.5" BRASS BALL VALVE GRAINGER STOCK #5X715 | 15 | EACH |
| 14 | 0.5" THREADED NIPPLE (2" LONG) | 15 | EACH |
| 15 | 0.5" PUSH-TO-CONNECT HOSE FITTING GRAINGER STOCK #3LZ77 | 15 | EACH |
| 16 | 2" PVC WYE TEE RH #38705-020 | 15 | EACH |
| 17 | 2" WELL COMPRESSION CAP | 15 | EACH |
| 18 | 2" X 0.75" RUBBER FERNCO REDUCER | 15 | EACH |

### 3 – AIR SPARGE PIPING

| ITEM | DESCRIPTION | QUANTITY | UNIT |
|---|---|---|---|
| 1 | 4" HDPE PIPE | 330 | FT |
| 2 | 4" HDPE 90° BEND | 1 | |
| 3 | 4" X 2" HDPE REDUCER TEE | 7 | EACH |
| 4 | 4" X 2" HDPE REDUCER FITTING | 1 | EACH |
| 5 | 2" HDPE PIPE | 350 | FT |
| 6 | 2" HDPE TEE | 2 | EACH |
| 7 | 2" HDPE 90° BEND | 21 | EACH |

### 4 – AIR SPARGING VAULT

| ITEM | DESCRIPTION | QUANTITY | UNIT |
|---|---|---|---|
| 1 | 18"-DIA. STEEL TRAFFIC RATED WELL VAULT | 10 | EACH |
| 2 | 2" HDPE 90° BEND | 10 | EACH |
| 3 | 2" HDPE FEMALE ADAPTER | 10 | EACH |
| 4 | 1.5" PVC TEE (SXSXS) RH #3401-010 | 10 | EACH |
| 5 | 1.5" PVC MALE ADAPTER (SXMPT) RH #3436-010 | 20 | EACH |
| 6 | 1.5" PVC THREADED CAP (FPT) RH #3448-010 | 10 | EACH |
| 7 | 1.5" PVC GATE VALVE RH #5481-010 | 10 | EACH |
| 8 | 1.5" PVC UNION (SXS) RH #3857-010 | 20 | EACH |
| 9 | 2" X 1.5" PVC REDUCER BUSHING (MPTXFPT) RH #3439-249 | 10 | EACH |
| 10 | 0.5" BRASS BALL VALVE GRAINGER STOCK #5X715 | 10 | EACH |
| 11 | 0.5" THREADED NIPPLE (2" LONG) | 10 | EACH |
| 12 | 0.5" PUSH-TO-CONNECT HOSE FITTING GRAINGER STOCK #3LZ77 | 10 | EACH |

## AREA 3805 SYSTEM 'A'

### 1 – MPE PIPING

| ITEM | DESCRIPTION | QUANTITY | UNIT |
|---|---|---|---|
| 1 | 6" HDPE PIPE | 2130 | FT |
| 2 | 6" X 2" HDPE REDUCER TEE | 19 | EACH |
| 3 | 6" X 4" HDPE REDUCER TEE | 2 | EACH |
| 4 | 6" X 4" HDPE REDUCER FITTING | 4 | EACH |
| 5 | 4" HDPE PIPE | 1240 | FT |
| 6 | 4" HDPE 90° BEND | 3 | EACH |
| 7 | 4" X 2" HDPE REDUCER TEE | 19 | EACH |
| 8 | 4" X 2" HDPE REDUCER FITTING | 6 | EACH |
| 9 | 2" HDPE PIPE | 1730 | FT |
| 10 | 6" HDPE 90° BEND | 2 | EACH |
| 11 | 6" HDPE 45° BEND | 4 | EACH |
| 12 | 4" HDPE 45° BEND | 2 | EACH |

### 2 – MPE VAULT

| ITEM | DESCRIPTION | QUANTITY | UNIT |
|---|---|---|---|
| 1 | 2' X 2' STEEL TRAFFIC RATED WELL VAULT | 45 | EACH |
| 2 | 2" HDPE FEMALE ADAPTER | 45 | EACH |
| 3 | 2" X 0.75" PVC REDUCER BUSHING RH #3439-248 | 45 | EACH |
| 4 | 0.75" BRASS BALL VALVE GRAINGER STOCK #5X716 | 45 | EACH |
| 5 | 0.75" THREADED NIPPLE (2" LONG) | 135 | EACH |
| 6 | 0.75" PVC TEE (FPT) RH #3405-007 | 45 | EACH |
| 7 | 0.75" X 0.50" REDUCER BUSHING RH #3439-101 | 45 | EACH |
| 8 | 0.75" PVC THREADED ELBOW (FPT X FPT) RH #3408-007 | 45 | EACH |
| 9 | 0.75" QUICK-CONNECT MALE COUPLER RH #1304-007 | 45 | EACH |
| 10 | 0.75" QUICK-CONNECT SHANK ADAPTER RH #1303-007 | 45 | EACH |
| 11 | HOSE CLAMP FOR 0.75" HOSE | 45 | EACH |
| 12 | 0.75" TIGERFLEX HOSE (30' X 45 WELLS) | 1350 | FT |
| 13 | 0.5" BRASS BALL VALVE GRAINGER STOCK #5X715 | 45 | EACH |
| 14 | 0.5" THREADED NIPPLE (2" LONG) | 45 | EACH |
| 15 | 0.5" PUSH-TO-CONNECT HOSE FITTING GRAINGER STOCK #3LZ77 | 45 | EACH |
| 16 | 2" PVC WYE TEE RH #38705-020 | 45 | EACH |
| 17 | 2" WELL COMPRESSION CAP | 45 | EACH |
| 18 | 2" X 0.75" RUBBER FERNCO REDUCER | 45 | EACH |

### 3 – AIR SPARGE PIPING

| ITEM | DESCRIPTION | QUANTITY | UNIT |
|---|---|---|---|
| 1 | 4" HDPE PIPE | 1365 | FT |
| 2 | 4" X 2" HDPE REDUCER TEE | 18 | EACH |
| 3 | 4" X 2" HDPE REDUCER FITTING | 3 | EACH |
| 4 | 2" HDPE PIPE | 1450 | FT |
| 5 | 2" HDPE TEE | 6 | EACH |
| 6 | 2" HDPE 90° BEND | 30 | EACH |
| 7 | 4" HDPE 90° BEND | 1 | EACH |
| 8 | 4" HDPE 45° BEND | 2 | EACH |

### 4 – AIR SPARGING VAULT

| ITEM | DESCRIPTION | QUANTITY | UNIT |
|---|---|---|---|
| 1 | 18"-DIA. STEEL TRAFFIC RATED WELL VAULT | 27 | EACH |
| 2 | 2" HDPE 90° BEND | 27 | EACH |
| 3 | 2" HDPE FEMALE ADAPTER | 27 | EACH |
| 4 | 1.5" PVC TEE (SXSXS) RH #3401-010 | 27 | EACH |
| 5 | 1.5" PVC MALE ADAPTER (SXMPT) RH #3436-010 | 54 | EACH |
| 6 | 1.5" PVC THREADED CAP (FPT) RH #3448-010 | 27 | EACH |
| 7 | 1.5" PVC GATE VALVE RH #5481-010 | 27 | EACH |
| 8 | 1.5" PVC UNION (SXS) RH #3857-010 | 54 | EACH |
| 9 | 2" X 1.5" PVC REDUCER BUSHING (MPTXFPT) RH #3439-249 | 27 | EACH |
| 10 | 0.5" BRASS BALL VALVE GRAINGER STOCK #5X715 | 27 | EACH |
| 11 | 0.5" THREADED NIPPLE (2" LONG) | 27 | EACH |
| 12 | 0.5" PUSH-TO-CONNECT HOSE FITTING GRAINGER STOCK #3LZ77 | 27 | EACH |

## AREA 3805 SYSTEM 'B'

### 1 – MPE PIPING

| ITEM | DESCRIPTION | QUANTITY | UNIT |
|---|---|---|---|
| 1 | 6" HDPE PIPE | 1265 | FT |
| 2 | 6" X 2" HDPE REDUCER TEE | 12 | EACH |
| 3 | 6" X 4" HDPE REDUCER FITTING | 4 | EACH |
| 4 | 4" HDPE PIPE | 665 | FT |
| 5 | 4" X 2" HDPE REDUCER TEE | 11 | EACH |
| 6 | 4" X 2" HDPE REDUCER FITTING | 4 | EACH |
| 7 | 2" HDPE PIPE | 940 | FT |
| 8 | 2" HDPE 90° BEND | 50 | EACH |
| 9 | 6" HDPE 90° BEND | 2 | EACH |
| 10 | 6" HDPE 45° BEND | 4 | EACH |
| 11 | 4" HDPE 45° BEND | 2 | EACH |

### 2 – MPE VAULT

| ITEM | DESCRIPTION | QUANTITY | UNIT |
|---|---|---|---|
| 1 | 2' X 2' STEEL TRAFFIC RATED WELL VAULT | 27 | EACH |
| 2 | 2" HDPE FEMALE ADAPTER | 27 | EACH |
| 3 | 2" X 0.75" PVC REDUCER BUSHING RH #3439-248 | 27 | EACH |
| 4 | 0.75" BRASS BALL VALVE GRAINGER STOCK #5X716 | 27 | EACH |
| 5 | 0.75" THREADED NIPPLE (2" LONG) | 81 | EACH |
| 6 | 0.75" PVC TEE (FPT) RH #3405-007 | 27 | EACH |
| 7 | 0.75" X 0.50" REDUCER BUSHING RH #3439-101 | 27 | EACH |
| 8 | 0.75" PVC THREADED ELBOW (FPT X FPT) RH #3408-007 | 27 | EACH |
| 9 | 0.75" QUICK-CONNECT MALE COUPLER RH #1304-007 | 27 | EACH |
| 10 | 0.75" QUICK-CONNECT SHANK ADAPTER RH #1303-007 | 27 | EACH |
| 11 | HOSE CLAMP FOR 0.75" HOSE | 27 | EACH |
| 12 | 0.75" TIGERFLEX HOSE (30' X 27 WELLS) | 810 | FT |
| 13 | 0.5" BRASS BALL VALVE GRAINGER STOCK #5X715 | 27 | EACH |
| 14 | 0.5" THREADED NIPPLE (2" LONG) | 27 | EACH |
| 15 | 0.5" PUSH-TO-CONNECT HOSE FITTING GRAINGER STOCK #3LZ77 | 27 | EACH |
| 16 | 2" PVC WYE TEE RH #38705-020 | 27 | EACH |
| 17 | 2" WELL COMPRESSION CAP | 27 | EACH |
| 18 | 2" X 0.75" RUBBER FERNCO REDUCER | 27 | EACH |

### 3 – AIR SPARGE PIPING

| ITEM | DESCRIPTION | QUANTITY | UNIT |
|---|---|---|---|
| 1 | 4" HDPE PIPE | 1350 | FT |
| 2 | 4" X 2" HDPE REDUCER TEE | 12 | EACH |
| 3 | 4" X 2" HDPE REDUCER FITTING | 3 | EACH |
| 4 | 2" HDPE PIPE | 1260 | FT |
| 5 | 2" HDPE TEE | 6 | EACH |
| 6 | 2" HDPE 90° BEND | 25 | EACH |
| 7 | 4" HDPE 90° BEND | 3 | EACH |
| 8 | 4" HDPE 45° BEND | 4 | EACH |

### 4 – AIR SPARGING VAULT

| ITEM | DESCRIPTION | QUANTITY | UNIT |
|---|---|---|---|
| 1 | 18"-DIA. STEEL TRAFFIC RATED WELL VAULT | 22 | EACH |
| 2 | 2" HDPE 90° BEND | 22 | EACH |
| 3 | 2" HDPE FEMALE ADAPTER | 22 | EACH |
| 4 | 1.5" PVC TEE (SXSXS) RH #3401-010 | 22 | EACH |
| 5 | 1.5" PVC MALE ADAPTER (SXMPT) RH #3436-010 | 44 | EACH |
| 6 | 1.5" PVC THREADED CAP (FPT) RH #3448-010 | 22 | EACH |
| 7 | 1.5" PVC GATE VALVE RH #5481-010 | 22 | EACH |
| 8 | 1.5" PVC UNION (SXS) RH #3857-010 | 44 | EACH |
| 9 | 2" X 1.5" PVC REDUCER BUSHING (MPTXFPT) RH #3439-249 | 22 | EACH |
| 10 | 0.5" BRASS BALL VALVE GRAINGER STOCK #5X715 | 22 | EACH |
| 11 | 0.5" THREADED NIPPLE (2" LONG) | 22 | EACH |
| 12 | 0.5" PUSH-TO-CONNECT HOSE FITTING GRAINGER STOCK #3LZ77 | 22 | EACH |

## AREA 3805 SYSTEM 'C'

### 1 – MPE PIPING

| ITEM | DESCRIPTION | QUANTITY | UNIT |
|---|---|---|---|
| 1 | 6" HDPE PIPE | 250 | FT |
| 2 | 6" X 2" HDPE REDUCER TEE | 8 | EACH |
| 3 | 6" X 4" HDPE REDUCER FITTING | 1 | EACH |
| 4 | 4" HDPE PIPE | 50 | FT |
| 5 | 4" HDPE 90° BEND | 1 | EACH |
| 6 | 4" X 2" HDPE REDUCER TEE | 1 | EACH |
| 7 | 4" X 2" HDPE REDUCER FITTING | 1 | EACH |
| 8 | 2" HDPE PIPE | 500 | FT |
| 9 | 2" HDPE 90° BEND | 19 | EACH |

### 2 – MPE VAULT

| ITEM | DESCRIPTION | QUANTITY | UNIT |
|---|---|---|---|
| 1 | 2' X 2' STEEL TRAFFIC RATED WELL VAULT | 10 | EACH |
| 2 | 2" HDPE FEMALE ADAPTER | 10 | EACH |
| 3 | 2" X 0.75" PVC REDUCER BUSHING RH #3439-248 | 10 | EACH |
| 4 | 0.75" BRASS BALL VALVE GRAINGER STOCK #5X716 | 10 | EACH |
| 5 | 0.75" THREADED NIPPLE (2" LONG) | 30 | EACH |
| 6 | 0.75" PVC TEE (FPT) RH #3405-007 | 10 | EACH |
| 7 | 0.75" X 0.50" REDUCER BUSHING RH #3439-101 | 10 | EACH |
| 8 | 0.75" PVC THREADED ELBOW (FPT X FPT) RH #3408-007 | 10 | EACH |
| 9 | 0.75" QUICK-CONNECT MALE COUPLER RH #1304-007 | 10 | EACH |
| 10 | 0.75" QUICK-CONNECT SHANK ADAPTER RH #1303-007 | 10 | EACH |
| 11 | HOSE CLAMP FOR 0.75" HOSE | 10 | EACH |
| 12 | 0.75" TIGERFLEX HOSE (30' X 10 WELLS) | 300 | FT |
| 13 | 0.5" BRASS BALL VALVE GRAINGER STOCK #5X715 | 10 | EACH |
| 14 | 0.5" THREADED NIPPLE (2" LONG) | 10 | EACH |
| 15 | 0.5" PUSH-TO-CONNECT HOSE FITTING GRAINGER STOCK #3LZ77 | 10 | EACH |
| 16 | 2" PVC WYE TEE RH #38705-020 | 10 | EACH |
| 17 | 2" WELL COMPRESSION CAP | 10 | EACH |
| 18 | 2" X 0.75" RUBBER FERNCO REDUCER | 10 | EACH |

### 3 – AIR SPARGE PIPING

| ITEM | DESCRIPTION | QUANTITY | UNIT |
|---|---|---|---|
| 1 | 4" HDPE PIPE | 160 | FT |
| 2 | 4" X 2" HDPE REDUCER TEE | 3 | EACH |
| 3 | 4" X 2" HDPE REDUCER FITTING | 1 | EACH |
| 4 | 2" HDPE PIPE | 315 | FT |
| 5 | 2" HDPE TEE | 2 | EACH |
| 6 | 2" HDPE 90° BEND | 7 | EACH |

### 4 – AIR SPARGING VAULT

| ITEM | DESCRIPTION | QUANTITY | UNIT |
|---|---|---|---|
| 1 | 18"-DIA. STEEL TRAFFIC RATED WELL VAULT | 6 | EACH |
| 2 | 2" HDPE 90° BEND | 6 | EACH |
| 3 | 2" HDPE FEMALE ADAPTER | 6 | EACH |
| 4 | 1.5" PVC TEE (SXSXS) RH #3401-010 | 6 | EACH |
| 5 | 1.5" PVC MALE ADAPTER (SXMPT) RH #3436-010 | 12 | EACH |
| 6 | 1.5" PVC THREADED CAP (FPT) RH #3448-010 | 6 | EACH |
| 7 | 1.5" PVC GATE VALVE RH #5481-010 | 6 | EACH |
| 8 | 1.5" PVC UNION (SXS) RH #3857-010 | 12 | EACH |
| 9 | 2" X 1.5" PVC REDUCER BUSHING (MPTXFPT) RH #3439-249 | 6 | EACH |
| 10 | 0.5" BRASS BALL VALVE GRAINGER STOCK #5X715 | 6 | EACH |
| 11 | 0.5" THREADED NIPPLE (2" LONG) | 6 | EACH |
| 12 | 0.5" PUSH-TO-CONNECT HOSE FITTING GRAINGER STOCK #3LZ77 | 6 | EACH |

FINAL AS-BUILT

US Army Corps of Engineers

U.S. ARMY ENGINEER DISTRICT, BALTIMORE
CORPS OF ENGINEERS
BALTIMORE, MARYLAND

SOURCE AREA REMEDIAL SYSTEM
GASOLINE ALLEY AREAS 3805 & 1995
FORT DRUM, NEW YORK

SCHEDULE OF PIPING

EA ENGINEERING, P.C.

| DRAWING NUMBER | PLATE |
|---|---|
| N/A | C-8 |

| SCALE: AS NOTED | DATE: SEPT. 2004 | SHEET 8 |
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FILE: Syracuse_fp/Syracuse/Working Projects\Fort Drum Projects\MARC\Design\drawings from Loveton\final design drawings\C-8.dwg (Layout1)