STORM-WATER COLLECTION SYSTEM INVESTIGATION REPORT

Buffalo Terminal
Buffalo, New York

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Prepared for:

EXXONMOBIL OIL CORPORATION
1001 Wampanoag Trail
Riverside, Rhode Island 02915

Prepared by:

ROUX ASSOCIATES, INC.
1377 Motor Parkway
Islandia, New York 11749

ROUX

TABLE OF CONTENTS

TABLES

TABLE OF CONTENTS

(Continued)

FIGURES

APPENDICES

PLATES

1.0 INTRODUCTION

Roux Associates, Inc. (Roux Associates) has prepared this report on behalf of ExxonMobil Oil Corporation (ExxonMobil) to document the investigation of the storm-water collection system at the Buffalo Terminal (Site) located at 625 Elk Street, Buffalo, New York (Figure 1). In order to facilitate better management and reporting of assessments and remedial activities, the Site has been subdivided into nine geographic areas, which are shown on Figure 2. The work was performed in accordance with the Work Plan for Investigation of the Storm-Water Collection System (Work Plan) dated June 27, 2000 (Roux Associates, 2000a).

The collection, treatment and discharge of storm water on the Site is currently accomplished by two distinct drainage systems. One system serves the lined active tank farm for the above ground product storage tanks in the Eastern Tank Yard Area (ETYA) and Southern Tank Yard Area (STYA) and the second system serves the remainder of the Site, except the Elk Street Properties Area (ESPA), which has no storm sewers connected to the Site's drainage system. The drainage systems are described in Section 2.

A limited investigation of the Site's storm sewers was conducted by Groundwater & Environmental Services, Inc. (GES) under the direction of Roux Associates in October 1999. The investigation included visual inspection of each easily accessible manhole to confirm the number and size of pipes, the configuration of the manhole/catch basin and the presence of separate-phase product, water and sediment. On the Babcock Street Properties Area (BSPA), high pressure jetting was performed on sewers to the north and east of the former Barrel House to identify sewer connections and condition of sewer pipes. Some questions regarding the configuration of the sewer system still remained after this work was completed.

The investigation activities described in Section 3 of this report expanded upon the information gathered during the previous investigation conducted in 1999 and the information available from existing plans. The objectives of the Site storm sewer investigation were to:

- confirm/determine the locations of storm sewer components that could not be identified previously or that were questionable, and to complete the Site's sewer system map with these locations;
- re-establish connections that may have become blocked by debris;

- investigate the structural integrity of the storm sewers;
- locate areas of groundwater infiltration and assess infiltration rate and quality;
- assess wet and dry-weather flow and quality;
- identify areas contributing surface water to the collection system; and
- identify/recommend improvements to the storm-water system.

In addition to these objectives for the entire Site, two objectives were set specifically for the sewers on the BSPA:

- determine the direction of storm-water flow on the BSPA; and
- restore storm-water flow by gravity from the BSPA to the main portion of the sewer system.

To achieve these objectives, the scope of work completed between August 2000 and December 2001 included the following tasks:

- field verification of system components;
- internal inspections;
- evaluation of flow conditions;
- water quality sampling;
- description of surface cover and topography; and
- evaluation of drainage areas and groundwater infiltration.

The remainder of this report is organized as follows:

- Section 2 presents an overview of the existing water collection, treatment and discharge systems;
- Section 3 presents a scope of work for collecting the additional data;
- Section 4 discusses the results of the investigation;
- Section 5 discusses conclusions and recommendations; and
- Section 6 presents references.

2.0 DESCRIPTION OF STORM-WATER COLLECTION, TREATMENT AND DISCHARGE SYSTEMS

As mentioned in Section 1, currently the collection, treatment and discharge of storm water on the Site is accomplished by two distinct drainage systems. One system serves the lined active tank farm for the active above ground product storage tanks in the ETYA and STYA. The second system serves the remainder of the Site, except the ESPA, which has no storm sewers connected to the Site's drainage system. The following is a description of the storm-water collection, treatment and discharge systems at the Site. The information regarding the history of the storm-water collection, treatment and discharge systems at the Site was obtained from the document entitled "History of Operations at the Buffalo Terminal" (Roux Associates, 2000b).

2.1 Storm-Water Collection System

Historically, all storm water at the Site was collected by a network of catch basins, manholes and below grade piping. This storm-water collection network has been in existence throughout the history of the Site, expanded and modified as necessary, to account for changes to the Site processes and layout over the years. In addition, process water and cooling water were also historically collected via underground piping, manholes and catch basins. Plate 1 shows the configuration of the sewer system based upon the results of the investigation activities described in Section 3 of this report.

Historical Site drawings indicate that several small in-ground oil/water separators were located within the collection system to treat flow streams from localized areas of the Site. The flow from small in-ground separators then discharged into the Site's collection system and ultimately to the former Main In-ground Oil/Water Separator located in the Former Refinery Area (FRA).

Prior to 1988, all storm water was handled by one interconnected network of drainage components. Between 1988 and 1992, as part of a product storage tank realignment project, the containment areas for the active storage tanks in the STYA and ETYA were lined and a dedicated storm-water drainage system for these areas was installed. Storm water from these areas is currently collected by a network of catch basins and below grade piping and directed to a dedicated lift station. The treatment and discharge system for the active lined tank farm for the above ground storage tanks is described in Section 2.2.

Since 1993, all storm water from sewers not associated with the lined active tank farm collection system is discharged to a storm-water lift station located to the north of the former Main In-ground Oil/Water Separator. From the lift station, the storm water is pumped to the Site's Water Treatment System described in Section 2.2.

2.2 Treatment and Discharge Systems

The water collected by the drainage network(s) has been handled by several different treatment systems throughout the years, as described below. From prior to 1924 through 1992, all storm water, cooling water and process water was handled by the former Main In-ground Oil/Water Separator. This separator was installed prior to 1924 and is located in the southern portion of the FRA. The separator consisted of eight compartments. Process water, as well as groundwater extracted by the well point system (WPS) between 1971 and 1993, entered the separator via the compartment located furthest to the north (compartment 1). The remaining seven compartments handled all storm water and cooling water, as well as overflow from the first compartment. Between 1973 and 1987/88, the effluent from the first compartment of the former Main In-Ground Oil/Water Separator was treated by a Dissolved Air Flotation Unit located to the north of the separator and discharged to the Buffalo River until November 1979 and to the Buffalo Sewer Authority (BSA) sewer system thereafter.

In 1977, ExxonMobil was issued a State Pollution Discharge Elimination System (SPDES) permit (No. NY-0000264) by the New York State Department of Environmental Conservation (NYSDEC) for discharge of the treated water to the Buffalo River (NYSDEC 1995). In November 1979, the Site began discharging process water treated through the Former Main In-ground Oil/Water Separator and the Dissolved Air Flotation Unit to the BSA municipal sewer system, while storm water continued to be discharged from the Former Main In-ground Oil/Water Separator to the Buffalo River. In October 1984, the Site's SPDES permit was eliminated since all flows, including storm water, were directed to the BSA sewer system.

The Site's Water Treatment System was installed and operational by 1993. The Water Treatment System is located in the Remediation Building in the FRA. The treatment system handles all extracted groundwater (from the dual phase recovery systems and the WPS), as well as storm

water not associated with the lined active tank farm drainage system, prior to discharge to the BSA sewer system.

An upgrade of the Water Treatment System was completed in March 2000. The Water Treatment System currently consists of two treatment trains. Treatment Train 1 handles all groundwater sources described above, as well as dry-weather flow from the storm-water lift station. Treatment Train 2 handles wet weather flow from the storm-water lift station. Flow from the storm-water lift station to Train 1 or Train 2 is controlled by a manually operated valve.

Treatment Train 1 consists of a 500 gallons per minute (gpm) oil/water separator followed in series by a 300 gpm oil/water separator to remove separate-phase product and air sparging tanks to remove dissolved phase constituents. Treatment Train 2 consists of a 1,500 gpm oil/water separator followed by a 500 gpm oil/water separator in series. Train 2 is configured so that wet weather flow in excess of the capacity of the 500 gpm separator is automatically bypassed after passing through the 1,500 gpm separator. Following treatment and flow monitoring by an ultrasonic flow meter, water is discharged to the BSA sewer system. The Site's Water Treatment System is currently discharging to the BSA under BPDES Permit No. 97-05-BU045.

Water collected from the active lined tank farm for the above ground storage tanks is pumped from the dedicated lift station located in the STYA to the Lined Tank Farm Above Ground Oil/Water Separator located along the dock in the STYA prior to discharge to the Buffalo River under SPDES permit No. NY-0204480, first issued in April 1992.

3.0 SCOPE OF WORK

The scope of work was implemented between August 2000 and December 2001 and included the tasks described below. Field forms completed during the investigation activities are included in Appendix A. The field work was performed by Clog Busters, Safety Kleen and GES.

3.1 Field Verification of System Components

Field verification tasks included the following.

3.1.1 Visual Inspection of System Components and Surrounding Area

Each system component that could be accessed was visually inspected to confirm the configuration of the sewer system shown on existing maps. This inspection also included identification of the condition of the area surrounding the system component. Visual inspections included the following components:

- Each system component that was not previously assigned a number was given a number (Plate 1). For manholes, the number begins with MH- and for catch basins the number begins with CB-. The number was marked on or near the MH/CB.
- Each MH/CB was visually inspected for the presence of separate-phase product. Observations were recorded on the field forms contained in Appendix A.
- A sketch was made and information was recorded for each system component on field forms (Appendix A), including: the diameter/dimensions of the MH/CB; the orientation of the MH/CB relative to north; orientation of all pipes that can be seen entering/exiting each MH/CB; the materials of construction of the MH/CB and piping; the condition of the MH/CB and piping; and the presence/thickness of sediment/debris.
- The depth to the bottom of the MH/CB from the rim was measured and recorded.
- The condition of the area surrounding the MH/CB was documented (i.e., paved, gravel, soil, grass, etc.).

3.1.2 Surveying

Surveying of the Site's storm sewer system was performed as part of this task. The invert elevations of storm sewer piping were surveyed by Safety Kleen in order to confirm the direction of flow in the system, evaluate the relationship of the elevation of the groundwater table to the sewer system and identify potential areas of groundwater infiltration. The horizontal and vertical coordinates of manholes and catch basins were surveyed by a surveyor licensed in the State of

New York in order to plot them on the surveyed basemap of the Site and create the Site's sewer system map.

3.2 Evaluation of Flow Conditions

This task involved evaluating the flow rates and water quality in selected system components. Due to the configuration of the majority of the system components, which did not allow individual pipes to be accessed for flow measurement, it was not possible to obtain flow readings from them, as proposed in the Work Plan.

Flow measurements were made at MH-6 and two pipes in MH-40 by lowering a container of known volume into the flow stream and recording the time it took to fill the container.

Flow measurements at these locations were collected on April 25, 2001 on a clear day, approximately 24 hours after rain showers had occurred.

3.3 Water Quality Sampling

Water quality samples were collected from nine locations during a wet weather event and eight locations during a dry weather period. The sample locations were selected to provide water quality data from major branches of the sewer system and to determine which areas of the Site are contributing impacted storm water and/or groundwater baseflow to the collection system.

3.3.1 Wet Weather Sampling

Water quality samples were collected from the following nine locations within the storm-water collection system during a wet weather event:

- 42-inch pipe connected to the north side of the storm-water lift station (designated LS-N);
- 30-inch pipe connected to the west side of the storm-water lift station (designated LS-W);
- 10-inch pipe connected to the east side of the storm-water lift station (designated LS-E);
- Pump discharge at MH-4 (designated MH-4);
- 30-inch pipe connected to the south side of CB-7 (designated CB-7-S);
- 30-inch pipe connected to the north side of CB-5 (designated CB-5-N);

- 36-inch pipe connected to the west side of MH-55 (designated MH-55-W);
- 24-inch pipe connected to the south side of CB-62 (designated CB-62-S); and
- 22-inch pipe connected to the east side of CB-43 (designated CB-43-E).

In addition to these locations, an attempt was made to sample the pipe connected to the north side of CB-43, however, there was no flow within the line.

Grab samples were collected from each location on September 27 and 28, 2001 during a storm event. Approximately 2.26 inches of rain fell between September 25 and September 28, 2001:

- 0.88 inches between September 25 and 26, 2001;
- 1.27 inches between September 26 and 27; and
- 0.11 inches between September 27 and 28, 2001.

Due to the configuration of the piping system, as described in Section 3.2, it was not possible to collect samples at the flow intervals described in the work plan because flow could not be quantified.

Samples were analyzed for oil and grease by either USEPA method 413.1 and/or 1664A; total extractable hydrocarbons (TEH) by USEPA method 1664A; benzene, toluene, ethylbenzene and xylenes (BTEX) by USEPA method 602; total suspended solids (TSS) by USEPA method 160.2; and iron and manganese by SW846 6010B. Four locations (CB-43-E, LS-W, LS-N and MH-4) were inadvertently not analyzed for TEH during the September sampling round.

Precipitation was recorded daily during the monitoring period from an on-site rain gauge.

3.3.2 Dry Weather Sampling

Water quality samples were collected during a dry weather period from eight of the nine wet weather sample locations. The pipe connected to the east side of CB-43 (CB-43-E) was not sampled during the dry weather period since there was no flow within the line. Similar to the wet weather period, the pipe connected to the north side of CB-43 was not sampled since there

was no flow within the line. Grab samples were collected from these locations during a dry weather period on December 4, 2001 (approximately four days after the previous rain event).

Samples were analyzed for oil and grease and TEH by USEPA method 1664A; BTEX by USEPA method 602; TSS by USEPA method 160.2; and iron and manganese by SW846 6010B.

Precipitation was recorded daily during the monitoring period from an on-site rain gauge.

3.4 Internal Inspections/Removal of Fluids

Internal inspections were made using high pressure jetting for a many system components. Excavation was used to locate a former in-ground oil/water separator (Yard Trap) between former Tanks 21 and 22 in the NTYA.

No work was performed on the FRA north of Prenatt since Custom Topsoil leased/occupied the property through June 2001. Subsequently, the majority of this portion of the FRA has been regraded to an elevation several feet above the original grade, thus covering any existing sewer system components. Available documentation and personal communications with current and/or former ExxonMobil employees indicate that many of the sewer lines located within the northern portion of the FRA (north of Prenatt Street) were abandoned in place with concrete slurry by 1993 (Mobil 1993).

3.4.1 High Pressure Jetting, Electronic Line Tracing and Evacuation of Fluids

High pressure jetting was employed in selected areas of the Site in order to confirm connections within the sewer system. Jetting entailed injecting potable water at high pressure to clear sediment and debris from the selected lines and trace connections between catch basins and manholes. Electronic line tracing was also used, where needed, in several areas of the Site.

Total fluids (including water, separate-phase product and suspended sediment) were removed from several system components during the investigation. All fluids generated during the work were discharged to the lift station. Any separated product recovered from the water treatment system oil/water separators was transferred to the 8,000 gallon waste oil storage tank associated

with the water treatment system for later disposal offsite. Sediment and debris was handled as required.

3.4.2 Excavation to Locate In-Ground Oil/Water Separator(Yard Trap)

Excavation was employed in order to locate a former in-ground oil/water separator (Yard Trap) that had existed between former Tanks 21 and 22 in the NYTA. The corners of the structure were located and marked, but no further investigation of the structure was completed.

3.5 Evaluation of Surface Cover, Topography and Drainage Areas

This task involved compiling the data collected during the investigation and evaluating Site topography and surface cover to determine the drainage areas contributing to the sewer system. This evaluation helped to identify areas of the Site that no longer require an active drainage system since no terminal operations are conducted in them. It also identified components of the sewer system that handle minimal storm-water flow and that may be removed or modified without impacting ability of the collection system to adequately drain storm water from the Site.

4.0 INVESTIGATION RESULTS

The following section summarizes the results of the investigations undertaken for the storm-water collection system.

4.1 Sewers System Configuration and Condition

The information generated during the various investigation activities were used to compile a sewer system map for the Site (Plate 1). The following is a description of the sewer system components, configuration and condition.

4.1.1 Materials of Construction of System Components Located Throughout the Site

Throughout the Site, manholes and catch basins are constructed of concrete, brick or a combination. Several types of piping also exist throughout the system, including clay, corrugated metal pipe, steel, cast iron and concrete. The condition of the sewers, catch basins and manholes across the Site varied greatly. A majority of the sewer system components were in relatively good condition. However, several system components that are constructed of brick were in poor condition with bricks missing and/or walls partially collapsed. Groundwater was observed to be entering several structures through defects in the walls.

4.1.2 Configuration of Sewers Located to the North and East of the Former Barrel House on the BSPA

The sewers located to the north and east of the former Barrel House on the BSPA are of particular interest since repeated releases of mixed petroleum products have been documented at these catch basins during heavy precipitation events. These events have been documented by ExxonMobil employees, as well as by the current occupants of the former Barrel House. During these events, two catch basins to the north (CB-69 and CB-70) and two catch basins to the east (CB-71 and CB-72) of the former Barrel House overflowed, causing a mixture of petroleum product and water to pool on paved and unpaved surfaces. The timeframe during which these incidents began is not known, but is believed to coincide with the transfer of property ownership.

At the conclusion of the work on the BSPA, the configuration of the sewer system and the direction of storm-water flow from the BSPA were successfully determined and several connections that had become blocked by debris were re-established. This was accomplished

through jetting and electronic line tracing. The sewers and catch basins/manholes on the BSPA are generally in good condition. It was not possible, however, to restore flow by gravity from the BSPA to the Lift Station on the FRA, since the 24-inch storm sewer that exits MH-8 to the east is blocked and the final discharge location of this line is not known. Additional work is planned to be undertaken to restore flow by gravity from the BSPA to the main portion of the collection system, thereby eliminating the need to pump water generated on the BSPA to the treatment system.

In the area north of the former Barrel House, storm-water flow by gravity was confirmed from CB-69 to CB-70. Through jetting, flow by gravity was restored from CB-70 (where a blockage had previously been encountered) to MH-4. In the area east of the former Barrel House, storm water was confirmed to flow from CB-72 to CB-71 to MH-8. Based upon pipe invert elevations, flow should be from MH-4 to MH-8. However, in order to prevent sewer overflows on the BSPA, the water is pumped from MH-4 to the Water Treatment System. The operation of pumping equipment within MH-4 reverses the flow pattern from MH-8 to MH-4. Initially, dual-phase product recovery equipment (that had previously been installed in RW-6) was installed in MH-4 in June 2000. The dual-phase equipment was subsequently removed on August 16, 2000 and replaced with a water pump only on August 29, 2000. Since the pumps were installed in MH-4, no further overflows have occurred.

During the high-pressure jetting and product removal activities, sediment and debris were also removed from the sewer system using the vacuum truck. Sediment/debris was separated from the fluids (product and water) generated during these activities. The material was removed from the Site by C. R. Weber Trucking on February 27, 2001 and disposed at BFI's BFIWSNA Niagara Falls Landfill, located at 56th and Niagara Falls Boulevard, Niagara Falls, New York. The disposal documentation (waste manifests and weight tickets) was included in the document entitled First Quarter 2001 Site Monitoring Report, January 1 through March 31, 2001, prepared by Roux Associates, dated May 1, 2001 (Roux Associates, 2001).

4.1.3 Configuration of Sewers Located Throughout the Remainder of the Site

High pressure jetting and/or electronic line tracing successfully verified most of the major connections between sewer system components across the Site, as shown on Plate 1. In some

cases, existing drawings indicated that connections between two structures had existed. If jetting and/or electronic line tracing of these lines could not confirm the connection due to blockage of the lines, the connection is shown as dashed on Plate 1.

In addition, there were numerous catch basins and manholes that had both active connections (i.e., those that could be traced to other system components), as well as lines that were blocked so that the other connections could not be determined. These blocked pipes are shown as lines beginning at the manhole/catch basin and extending in the direction observed in the field and ending some distance from the structure.

Approximately 70 percent of the total number of catch basins and manholes inspected had sediment and debris present. The thickness of sediment ranged from several inches to several feet throughout the Site. Approximately 40 percent of the total number of structures inspected also had sheen or separate-phase product present. Product removal is discussed below. During the high-pressure jetting and product removal activities, sediment and debris were also removed from the sewer system using the vacuum truck. Sediment/debris was separated from the fluids (product and water) generated during these activities. The material was removed from the Site on February 27, 2001 by C. R. Weber Trucking and disposed at BFI's BFIWSNA Niagara Falls Landfill, located at 56th and Niagara Falls Boulevard, Niagara Falls, New York. The disposal documentation (waste manifests and weight tickets) was included in the document entitled First Quarter 2001 Site Monitoring Report, January 1 through March 31, 2001, prepared by Roux Associates, dated May 1, 2001 (Roux Associates, 2001).

4.2 Separate-Phase Product Recovered

Separate-phase product was recovered during the implementation of the high-pressure jetting activities described above. The total fluids generated during the high-pressure jetting activities were treated through the Site's water treatment system and separate-phase product recovered from the oil/water separators was transferred to the 8,000 aboveground product storage tank (AST-1) for later offsite disposal. During the course of the sewer investigation work from August 9 through October 3, 2000, approximately 6,026 gallons of product were recovered. It is not possible to quantify the amount of product that was recovered from individual locations within the sewer system. As a note, a portion of the total amount of product was also generated

during the inspection of the pipe tunnels that exist beneath Babcock Street that occurred during August 2000.

Periodic inspections of selected sewer system components have continued. On April 23 and 24, 2001, approximately 143 gallons of separate-phase product was recovered from the following locations:

- 12 gallons from MH-77 (Oil Pit);
- 4 gallons from MH-4;
- 4 gallons from MH-22;
- 3 gallons from MH-39;
- 100 gallons from MH-47; and
- 20 gallons from MH-78.

On November 15, 2001, approximately 75 gallons of separate-phase product and water were recovered from the following locations:

- 30 gallons from MH-13; and
- 45 gallons from MH-14.

No product was observed in MH-77 (Oil Pit). The product was transferred to the 8,000-gallon product storage tank for later disposal offsite.

4.3 Water Quality Sampling Results

The results of water quality samples collected during a dry weather period (nine locations) and a wet weather period (eight locations) are presented in Table 1. The samples were collected from the locations within the storm-water collection system described in Section 3.3.

Water quality sampling results indicate that contaminants of concern (COCs) are present throughout the sewer system during both wet weather and dry weather periods. Based on the

results of the sampling, there was no consistent pattern with respect to changes in water quality during wet weather and dry weather periods throughout the system, as demonstrated below:

- At MH-4, the concentrations of most COCs were observed to decrease during the wet weather period.
- At LS-W, LS-E, CB-62-S and MH-55-W, concentrations of most COCs were observed to remain relatively constant.
- At LS-N, CB-5-N and CB-7-S, concentrations of most COCs were observed to increase during the wet weather period. As a note, while most of the COCs increased in concentration at CB-5-N during the wet weather period, the concentration of total BTEX decreased significantly (i.e., from 860 micrograms per liter [µg/l] in December 2001 to 3.78 µg/l in September 2001). The reason for this decrease could not be identified.

The following is a summary of the water quality results for the wet weather period, sampled in September 2001:

- The total BTEX concentration ranged from 0.2 µg/l at CB-43-E to 520 µg/l at MH-55-W.
- The TEH concentration ranged from non-detect at LS-E to 55.6 milligrams per liter (mg/l) at CB-5-N. The oil and grease concentration (by either method) ranged from 2.5 mg/l at CB-5-N to 142 mg/l at CB-7-S. It should be noted that TEH concentration is a portion of the oil and grease concentration. Therefore, the results for TEH should be equal to or lower than the results for oil and grease. The sample results at CB-5-N do not follow this pattern. However, it is not possible to directly compare the sample results, since TEH was analyzed by method 1664A and oil and grease was inadvertently analyzed by method 413.1 only.
- The TSS concentration ranged from 10 mg/l at CB-62-S and LS-E to 66 mg/l at MH-55-W.
- The iron concentration ranged from 0.8 mg/l at MH-4 to 41.5 mg/l at LS-N.
- The manganese concentration ranged from 0.015 mg/l at CB-5-N to 1.25 mg/l at MH-55-W.

The following is a summary of the water quality results for the dry weather period, sampled in December 2001:

- The total BTEX concentration ranged from 16.1 µg/l at CB-62-S to 860 µg/l at CB-5-N.
- The TEH concentration ranged from 1.5 mg/l at CB-5-N to 13.2 mg/l at LS-W. The oil and grease concentration (analyzed only by method 1664A during December 2001) ranged from 1.5 mg/l at CB-5-N to 19 mg/l at LS-W.

- The TSS concentration ranged from non-detect at SB-5-N to 210 mg/l at MH-4.
- The iron concentration ranged from 0.4 mg/l at CB-5-N to 47.1 mg/l at MH-4.
- The manganese concentration ranged from 0.1 mg/l at CB-5-N to 1.3 mg/l at MH-55-W.

4.4 Description of Surface Cover, Topography, Drainage Areas and Groundwater Infiltration

Ground cover over approximately 95 percent of the STYA (excluding the containment areas of the active tanks), is comprised of pervious surfaces such as crushed stone, crushed concrete, gravel and/or soil interspersed with grass and low brush. The ground cover over the remainder of this portion of the Site is comprised of impervious surfaces such as buildings, asphalt (roadways and parking areas) and concrete (slabs and foundations).

Ground cover over approximately 40 percent of the Administrative Offices and Operations Area (AOOA) is comprised of pervious surfaces such as crushed stone, crushed concrete, gravel and/or soil interspersed with grass and low brush. Also included in this 40 percent are several landscaped areas of grass near the main office building. The ground cover over the remainder of this portion of the Site is comprised of impervious surfaces such as buildings, asphalt (roadways and parking areas) and concrete (slabs and foundations).

Ground cover over approximately 90 percent of the NTYA is comprised of pervious surfaces such as crushed stone, crushed concrete, gravel and/or soil interspersed with grass and low brush. The ground cover over the remainder of this portion of the Site is comprised of impervious surfaces such asphalt (roadways and parking areas) and concrete (slabs and foundations).

Ground cover over approximately 50 percent of the NPSA is comprised of pervious surfaces such as crushed stone, crushed concrete, gravel and/or soil interspersed with grass and low brush. Also included in this 50 percent are several landscaped areas of grass near the main entrance gate and the Police Community Services Building. The ground cover over the remainder of this portion of the Site is comprised of impervious surfaces such as buildings, asphalt (roadways and parking areas) and concrete (slabs and foundations).

Ground cover over approximately 20 percent of the CRPA is comprised of pervious surfaces such as crushed stone, crushed concrete, gravel and/or soil interspersed with grass and low brush. Also included in this 20 percent are the landscaped areas of grass near the active Tank Truck Loading Rack. The ground cover over the remainder of this portion of the Site is comprised of impervious surfaces such as buildings, asphalt (roadways and parking areas) and concrete (slabs and foundations).

Ground cover over approximately 90 percent of the FRA is comprised of pervious surfaces such as crushed stone, crushed concrete, gravel and/or soil interspersed with grass and low brush. The ground cover over the remainder of this portion of the Site is comprised of impervious surfaces such as buildings, former Main In-Ground Oil/Water Separator, asphalt (roadways and parking areas) and concrete (slabs and foundations).

Approximately 40 percent of the ground cover on the BSPA is comprised of pervious surfaces such as crushed stone, crushed concrete, gravel and/or soil interspersed with grass and low brush. The portions of this area covered by these pervious materials are on the east side of the former Barrel House and north of Prenatt Street to the north and west of the former Lakes Division Garage. The ground cover on the remainder of the BSPA is comprised of impervious surfaces such as buildings, asphalt (roadways and parking areas) and concrete (slabs and foundations).

The topography of the Site west of the Erie-Lackawanna Railroad, as well as the BSPA, is relatively flat.

The potential for groundwater infiltration into the sewer system exists across a majority of the Site, with the exception of the southernmost portion of the Site. This is because the sewer system piping, catch basins and manholes extend below the groundwater table in most areas. Therefore, if the system component is in poor condition, infiltration is expected.

Plate 2 shows four pipe profiles (A-A', B-B', C-C' and D-D') of main segments of the storm-water collection system. The profiles show the configuration of the catch basins/manholes and sewer piping, as well as the historical high and low water-table elevations and corresponding

product thickness. The pipe profile locations are shown on the sewer system map (Plate 1). Profile A-A' begins at the storm-water lift station, located in the FRA and extends to the south and then east, covering portion of the STYA. Profile B-B' starts at the storm-water lift station and extends in a north-northeast direction, covering portions of the AOOA and NPSA. Profiles C-C' and D-D', branches of the B-B' profile, extend to the east (covering portions of the CRPA) and to the north (covering portions of the NTYA), respectively.

Profile A-A' demonstrates that there is limited potential for groundwater infiltration into the sewer system in most of the STYA and the southern portion of the FRA, except in the vicinity of lift station in the FRA, where there is potential for groundwater and separate-phase product infiltration during high groundwater conditions, depending upon the condition of the CB/MH. During low groundwater conditions, there is limited potential for separate-phase product infiltration into the sewer system in the vicinity of the lift station. The lower water table in the southern portion of the site is due to the combined influence of the natural gradient towards the river that exists under non-pumping conditions and the operation of the dual-phase recovery systems and the WPS.

Profile B-B' indicates that there is a potential for groundwater infiltration under low and high groundwater conditions throughout the areas represented by the profile, depending upon the condition of the CB/MH. Separate-phase product is present in the vicinity of lift station in the FRA, therefore, the potential exists for separate-phase product to enter the sewer system during high groundwater conditions, depending upon the condition of the CB/MH. During low groundwater conditions, there is limited potential for separate-phase product infiltration into the sewer system in the vicinity of the lift station.

Profile C-C' shows that the potential for groundwater infiltration exists throughout this portion of the Site during both high and low groundwater conditions.

Profile D-D' also indicates that the potential exists for groundwater infiltration into the sewers in this portion of the Site based on the groundwater table elevation data collected in January 2002 for MW-35.

Infiltration was observed in several catch basins and manholes during the work conducted in August through October 2000, as well as during the dry weather sampling event conducted in December 2001.

Infiltration was not observed during the summer months when there was no flow within the system due to unusually low water levels throughout the summer months. For example, in August 2001, MH-40 and CB-43, as well as the three inlets to the storm-water lift station (LS-N, LS-W and LS-E), were inspected for flow during a very dry weather period. No flow was observed in the catch basins and manholes inspected. A small amount of flow (described as a trickle) was observed to be flowing from the pipes entering the lift station from the north and east. No flow was observed in the pipe entering from the west.

5.0 CONCLUSIONS AND RECOMMENDATIONS

The majority of the storm-water collection system at the Buffalo Terminal has been adequately defined based upon the results of the work described in this report. The following are areas of the storm-water collection system that may require additional work.

- A modification to the sewer system will be designed and installed in order to restore flow by gravity from the BSPA to the main portion of the sewer system, thereby eliminating the need to pump water generated on the BSPA to the treatment system. Alternatives for accomplishing this goal include making modifications necessary to restore flow by gravity from MH-8 to the main portion of the sewer system or designing a new sewer segment from the BSPA to the storm-water lift station.

- The sewers surrounding the former Main In-Ground Oil/Water Separator require additional work to define the system configuration in this area since the piping configuration is not fully understood. This work will be conducted in conjunction with the closure of the Main In-Ground Oil/Water Separator.

- The sewers and catch basins/manholes in portions of the NTYA could possibly be decommissioned, since no active Site operations take place in this area. Therefore, storm water could be allowed to collect on the ground surface (comprised primarily of crushed stone, soil and grass/brush) and subsequently evaporate or infiltrate into the subsurface.

- Several sewer segments and catch basins/manholes in eastern portion of the NSPA could possibly be decommissioned, since no active Site operations take place in this area. Therefore, storm water could be allowed to collect on the ground surface (comprised primarily of crushed stone, soil and grass/brush) and subsequently evaporate or infiltrate into the subsurface.

- Sampling of storm water from the three pipes entering the Lift Station (LS-N, LS-E and LS-W) will be conducted on a quarterly basis and reported in the quarterly Site Monitoring Reports.

- Further investigation of the sewers in the FRA, north of Prenatt Street will be conducted to confirm that they were closed as reported.

Water quality sampling results indicate that contaminants of concern (COCs) are present throughout the sewer system during both wet weather and dry weather periods. Based on the results of the sampling, it was not possible to identify one portion of the sewer system that was contributing the majority of COCs to the storm-water lift station, since the concentrations of COCs varied widely throughout the system. In addition, there was no consistent pattern with respect to changes in water quality during wet weather and dry weather periods throughout the system.

Respectfully submitted,

ROUX ASSOCIATES, INC.

Noelle Clarke, P.E.
Principal Engineer/
Project Manager

6.0 REFERENCES

Mobil 1993. Correspondence from R. Shroeder of Mobil to T. Dieffenbach of NYSDEC regarding NYSDEC Spill No. 9305522. August 27, 1993.

Pratt and Huth Associates, 1990. Tank Farm Drainage and Liner Placement, Sheets 1, 2, 3 4, 5, 6, 7, 8 and E-1, March 1990.

Roux Associates, Inc., 2000a. Work Plan for Investigation of the Storm-Water Collection System, June 27, 2000.

Roux Associates, Inc., 2000b. History of Operations at Buffalo Terminal, April 26, 2000.

Roux Associates, Inc. 2001. First Quarter Site Monitoring Report, January 1 through March 31, 2001. May 1, 2001.

Table 1. Summary of Water Quality Results from Selected Locations within the Storm-Water Collection System,
Buffalo Terminal, ExxonMobil Oil Corporation, Buffalo, New York,

Parameter	Method	Sample Designation: / Sample Date:	CB-43-E 09/27/01	CB-43-E 12/04/01	CB-5-N 09/28/01	CB-5-N 12/04/01	CB-62-S 09/28/01	CB-62-S 12/04/01
VOCs (Concentrations in µg/L)								
Xylenes (total)	EPA 602		0.6 U	NF	1.1 J	220	8	8
Benzene	EPA 602		0.21 J	NF	1.5	520	5.6	5.1
Toluene	EPA 602		0.2 U	NF	0.35 J	10	0.94 J	1.1
Ethylbenzene	EPA 602		0.2 U	NF	0.83 J	110	1.8	1.9
Metals (Concentrations in mg/L)								
Iron	SW-846 6010B		6.41	NF	4.03	0.405	3.55	1.99
Manganese	SW-846 6010B		1.03	NF	0.015	0.0684	0.53	0.368
Miscellaneous (Concentrations in mg/L)								
Total Suspended Solids	EPA 160.2		23	NF	11.2 J	3 U	10 J	9.2 J
Oil & Grease	EPA 413.1		27.9	NF	2.5 J	NA	4.9 J	NA
Oil & Grease	EPA 1664A		34.2	NF	NA	1.5 J	NA	6.3
Total Extractable Hydrocarbons	EPA 1664A		NA	NF	55.6	1.5 J	3 J	2.7 J

1. CB-43-E was not sampled on December 4, 2001 since there was no flow present.
2. Wet weather samples were collected on September 27 and 28, 2001. Dry Weather samples were collected in December 4, 2001.

NF - No flow
NA - Not Analyzed
J - The analyte was positively identified, the associated numerical value is the approximate concentration of the analyte in the sample.
U - The analyte was not detected above the reported quantitation limit. However, the reported quantitation limit may be biased.
µg/L - micrograms per liter
mg/L - milligrams per liter

Table 1. Summary of Water Quality Results from Selected Locations within the Storm-Water Collection System,
Buffalo Terminal, ExxonMobil Oil Corporation, Buffalo, New York,

Parameter	Method	Sample Designation: / Sample Date:	CB-7-S 09/28/01	CB-7-S 12/04/01	LS-E 09/28/01	LS-E 12/04/01	LS-N 09/27/01	LS-N 12/04/01
VOCs (Concentrations in µg/L)								
Xylenes (total)	EPA 602		200	180	93	100	120	38
Benzene	EPA 602		190	170	42	2 U	23	13
Toluene	EPA 602		37	30	8.5	0.67 J	40	0.92 J
Ethylbenzene	EPA 602		40	40	9.4	8.8	10	3.2
Metals (Concentrations in mg/L)								
Iron	SW-846 6010B		7.73	6.12	4.37	2.61	41.5	3.28
Manganese	SW-846 6010B		0.257	0.416	0.421	0.287	0.234	0.714
Miscellaneous (Concentrations in mg/L)								
Total Suspended Solids	EPA 160.2		31	14	10 J	7.6 J	32	11.6 J
Oil & Grease	EPA 413.1		142	NA	3.5 J	NA	59.2	NA
Oil & Grease	EPA 1664A		NA	11.8	NA	3.9 J	16.6	7.3
Total Extractable Hydrocarbons	EPA 1664A		9.5	5.1	1.4 U	3 J	NA	3.7 J

1. CB-43-E was not sampled on December 4, 2001 since there was no flow present.
2. Wet weather samples were collected on September 27 and 28, 2001. Dry Weather samples were collected in December 4, 2001.

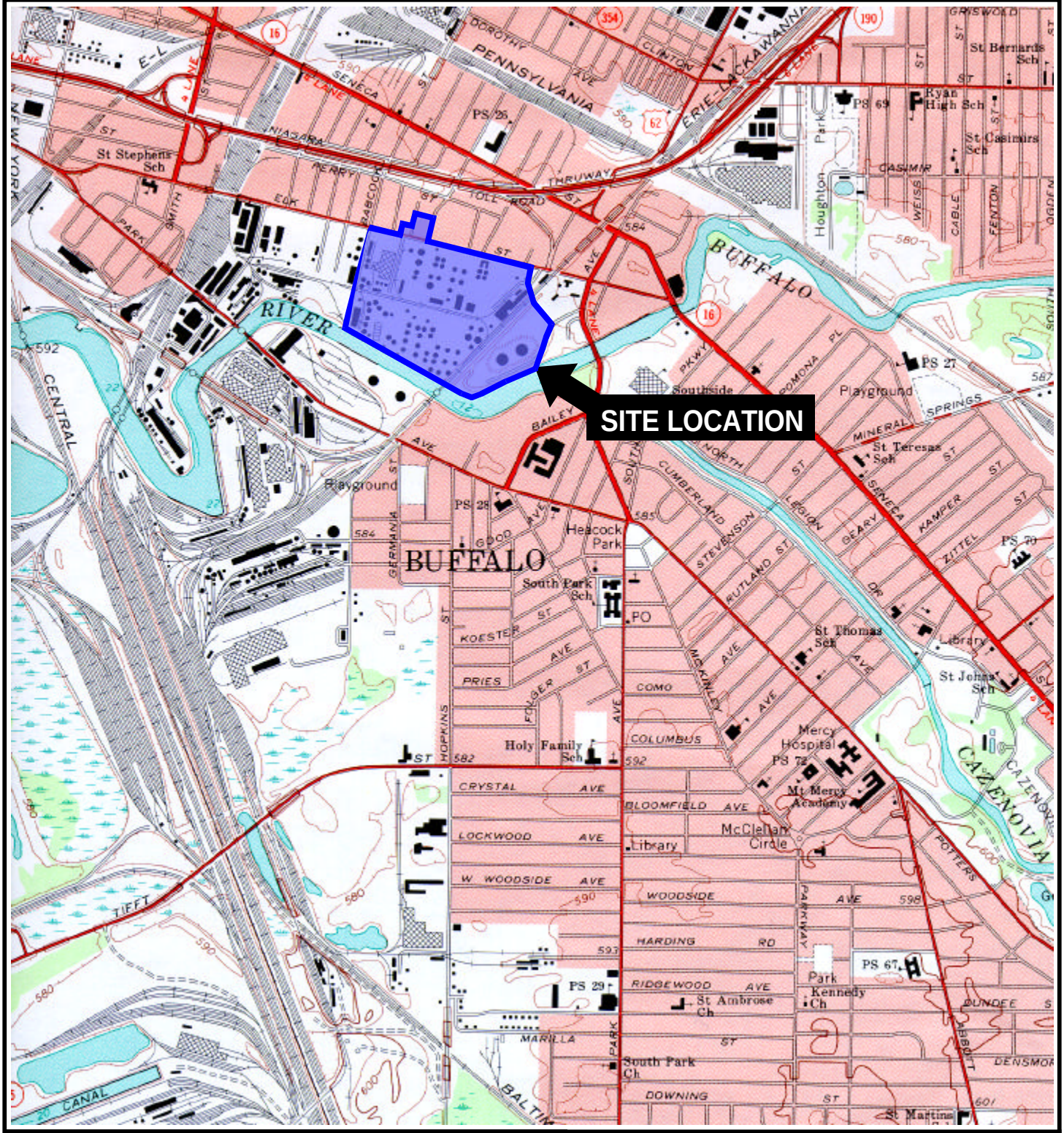
NF - No flow
NA - Not Analyzed
J - The analyte was positively identified, the associated numerical value is the approximate concentration of the analyte in the sample.
U - The analyte was not detected above the reported quantitation limit. However, the reported quantitation limit may be biased.
µg/L - micrograms per liter
mg/L - milligrams per liter

Table 1. Summary of Water Quality Results from Selected Locations within the Storm-Water Collection System,
Buffalo Terminal, ExxonMobil Oil Corporation, Buffalo, New York,

Parameter	Method	Sample Designation: / Sample Date:	LS-W 09/27/01	LS-W 12/04/01	MH-4 09/27/01	MH-4 12/04/01	MH-55-W 09/28/01	MH-55-W 12/04/01
VOCs (Concentrations in µg/L)								
Xylenes (total)	EPA 602		6	9.9	9.7	160	430	380
Benzene	EPA 602		36	37	1.1	73	27	17
Toluene	EPA 602		2.9	1.9	0.89 J	8.1	45	4.7
Ethylbenzene	EPA 602		5.8	7	0.91 J	39	18	17
Metals (Concentrations in mg/L)								
Iron	SW-846 6010B		1.38	15.6	0.798	47.1	16.1	44.9
Manganese	SW-846 6010B		0.731	0.374	0.0357	0.362	1.25	1.3
Miscellaneous (Concentrations in mg/L)								
Total Suspended Solids	EPA 160.2		18	99	23	210	66	70
Oil & Grease	EPA 413.1		32	NA	2.6 J	NA	7.3 J	NA
Oil & Grease	EPA 1664A		31.9	19	4.5 J	15.7	NA	8.8
Total Extractable Hydrocarbons	EPA 1664A		NA	13.2	NA	10.7	4.3 J	4.7 J

1. CB-43-E was not sampled on December 4, 2001 since there was no flow present.
2. Wet weather samples were collected on September 27 and 28, 2001. Dry Weather samples were collected in December 4, 2001.

NF - No flow
NA - Not Analyzed
J - The analyte was positively identified, the associated numerical value is the approximate concentration of the analyte in the sample.
U - The analyte was not detected above the reported quantitation limit. However, the reported quantitation limit may be biased.
µg/L - micrograms per liter
mg/L - milligrams per liter



QUADRANGLE LOCATION

SOURCE:
USGS; 1965, Buffalo SE, New York
7.5 Minute Topographic Quadrangle

N

0 2000'

Title:

SITE LOCATION MAP

BUFFALO TERMINAL

Prepared for:

EXXONMOBIL OIL CORPORATION

ROUX ASSOCIATES, INC.
Environmental Consulting & Management

Compiled by: N.C.		Date: 27MAR02	FIGURE
Prepared by: R.K.		Scale: AS SHOWN	1
Project Mgr.: N.C.		Office: NY	
File No.: MC5215305.CDR		Project No.: 17252Y04	

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ELK STREET PROPERTIES AREA

BABCOCK STREET

PARCELS #1, #2 AND #3

GORHAM STREET

PARCEL #4

WINONA STREET

PARCEL #5

BRADFORD STREET

ELK STREET

BABCOCK STREET

NORTHEAST PROCESS AND STORAGE AREA

NORTHERN TANK YARD AREA

FORMER REFINERY AREA

ADMINISTRATIVE OFFICES AND OPERATIONS AREA

CENTRAL RAIL AND PROCESS AREA

BABCOCK STREET PROPERTIES AREA

75

25

26

90

99

38

97

171

87

104

105

175

176

SOUTHERN TANK YARD AREA

EASTERN TANK YARD AREA (FORMER DISPOSAL AREA)

BUFFALO RIVER

BUFFALO RIVER

N

LEGEND

90 EXISTING TANK

EXISTING STRUCTURE

CURRENT PROPERTY LINE (BASED ON DENLUCK–O'NEILL ENGINEERING AND SURVEYING, DEC. 15, 1988; AND NUSSBAUMER & CLARKE, INC. FEBRUARY 6, 1995)

LIMITS OF PROPERTY FORMERLY OWNED BY EXXONMOBIL OIL CORPORATION

GEOGRAPHIC AREA BOUNDARY AND/OR FORMER PROPERTY LINES

250' 0 250'

Title:

GEOGRAPHIC AREAS OF THE BUFFALO TERMINAL

BUFFALO TERMINAL, BUFFALO, NEW YORK

Prepared For:

EXXONMOBIL OIL CORPORATION

ROUX ASSOCIATES, INC.
Environmental Consulting & Management

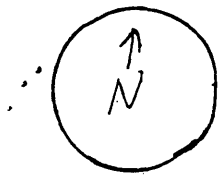
Compiled by: N.C.	Date: 27MAR02	FIGURE
Prepared by: R.K.	Scale: AS SHOWN	2
Project Mgr: N.C.	Office: NY	
File No: MC5215304	Project: 17252Y04	

N:\PROJECTS\MC172Y\MC52Y\153\MC5215304.DWG

APPENDIX A

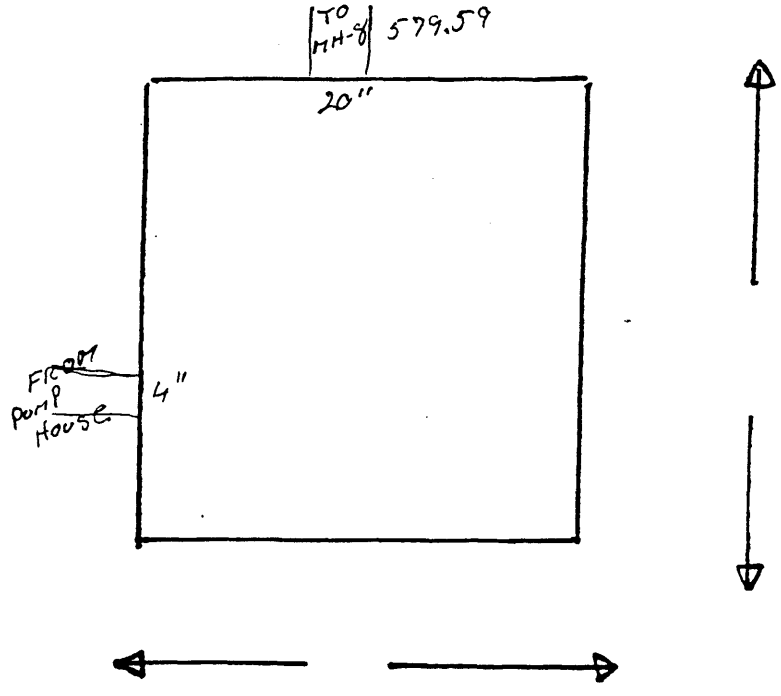
Field Documentation

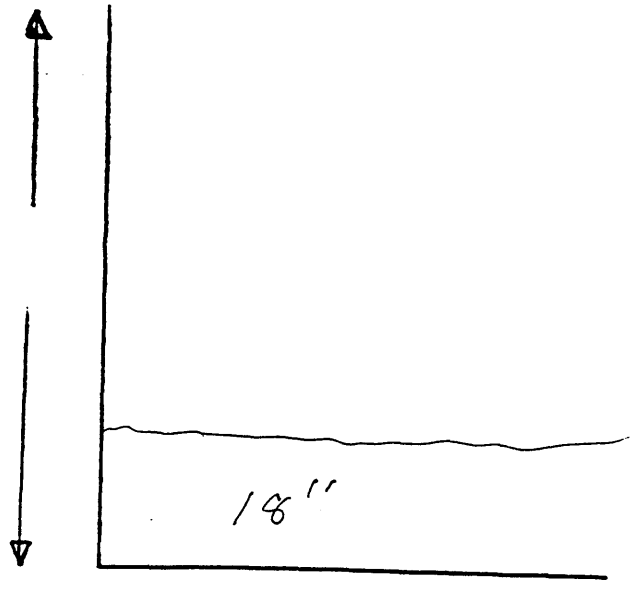
Catch Basin Field Notes



Notes: BE 8/10/00
- LINES JETTED

Structure # CB-O





Rim Elevation:

Depth to Bottom:

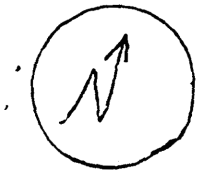
Constructed of: BRICK

Sediment: 18"

Product: SHEEN

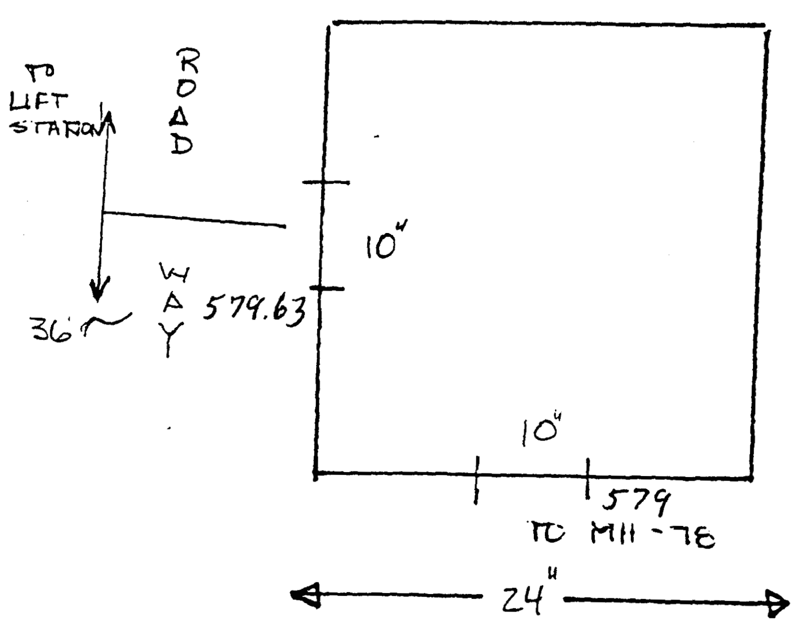
Surrounding Area: GRAVEL

Flow: NORTH TO MH-8



Notes: BC 9/21/0
formed concrete
clean water
clay pipes
stone cover around car basin
8" riser, Box Above GRAD

Structure # CB-1



Rim Elevation: 584.2

Depth to Bottom: 65"

Constructed of: Concrete

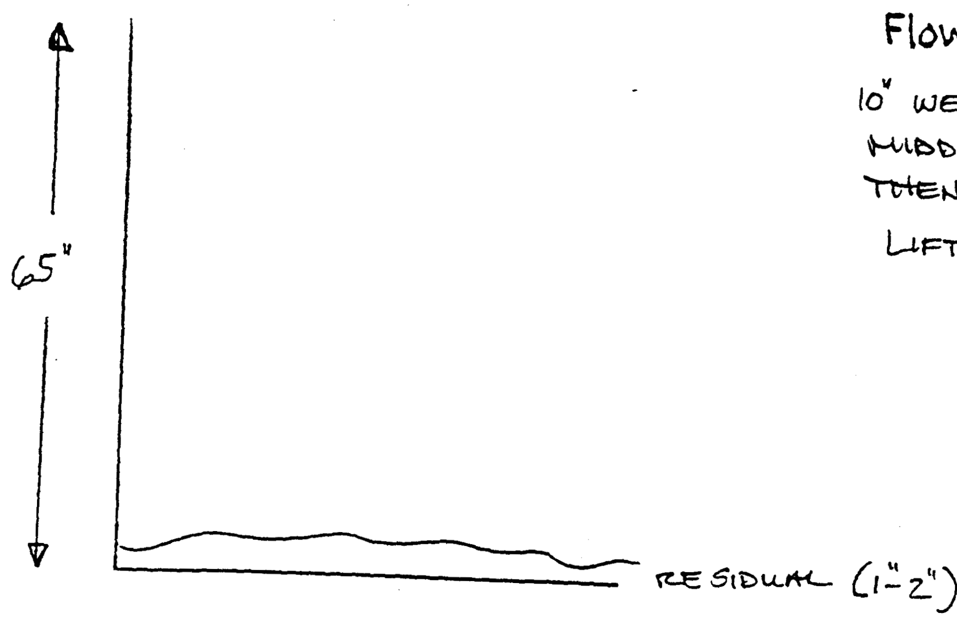
Sediment: 1"-2"

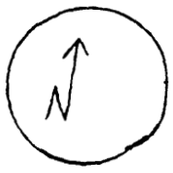
Product: NONE

Surrounding Area: STONE COVER

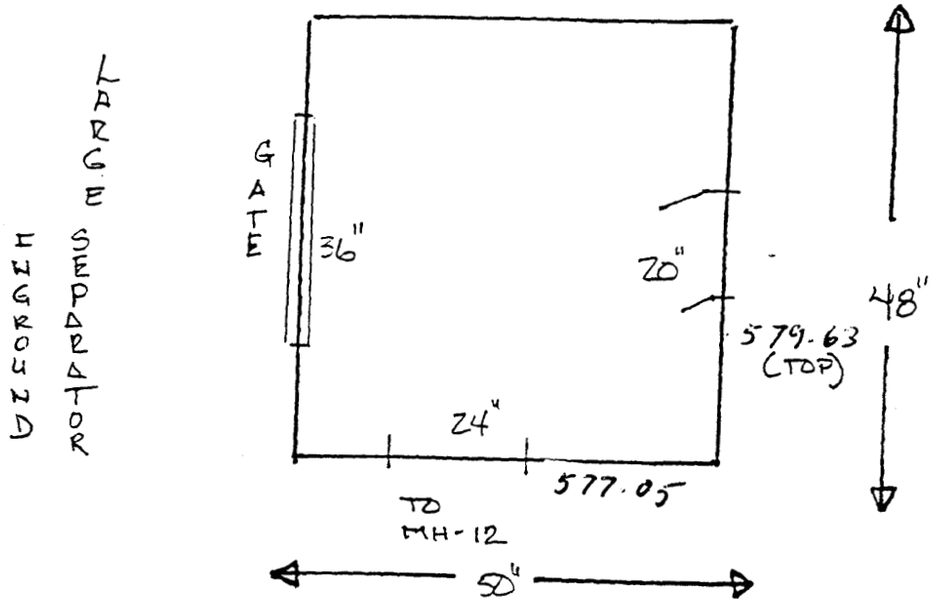
Flow:

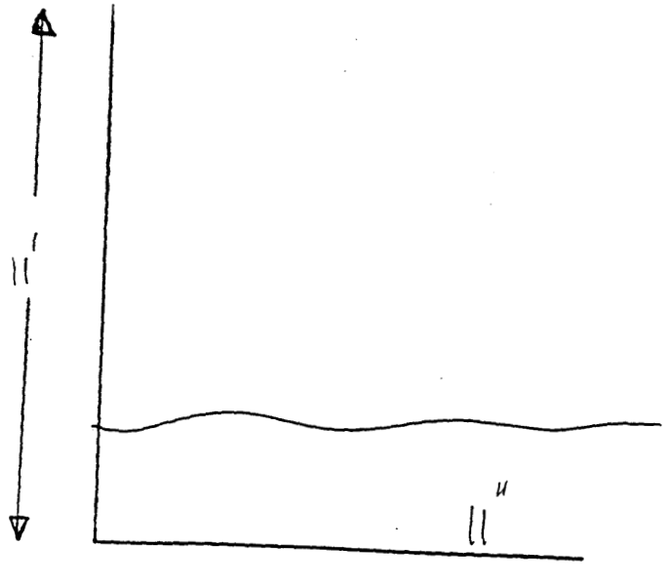
10" WEST LINE GOES TO MIDDLE OF ROADWAY THEN NORTH TO LIFT STATION





Structure # CB-2





Notes: BC 9/12.9/20

Clay pipes

formed concrete

Clean water

WEIR door west side to large Separator

- 36" RISER TO STEEL GRATE TOP

Rim Elevation:
586.23

Depth to Bottom: 11'

Constructed of:
CONCRETE

Sediment: 11" SAND

Product:
SHEEN

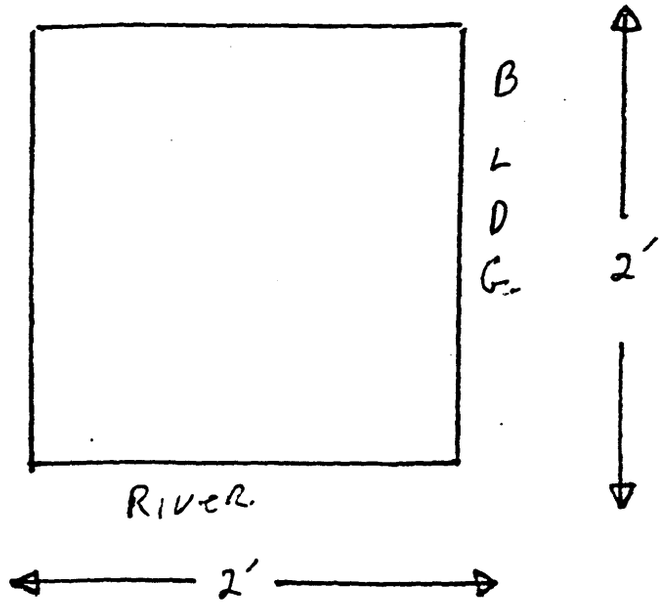
Surrounding Area:
STONE

Flow:
- SOUTH TO MH-12

N

Notes: BC 4/19/01
- APPEARS TO BE A CONCRETE SUMP

Structure # CB4



Rim Elevation: 583.41

Depth to Bottom: 2'

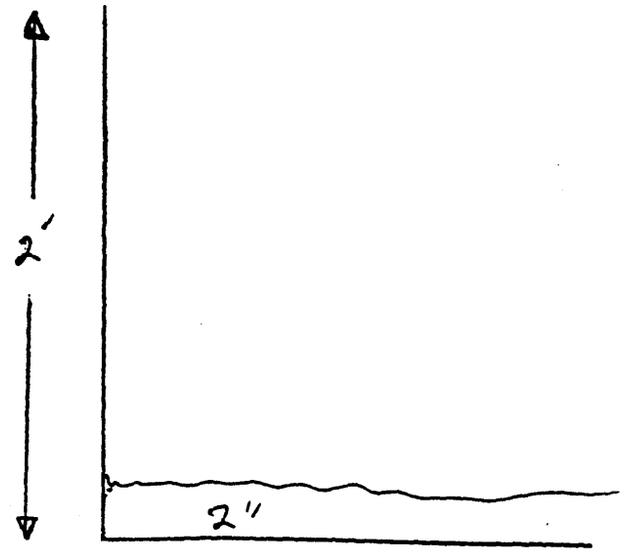
Constructed of: CEMENT

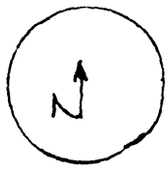
Sediment: 2"

Product: NONE

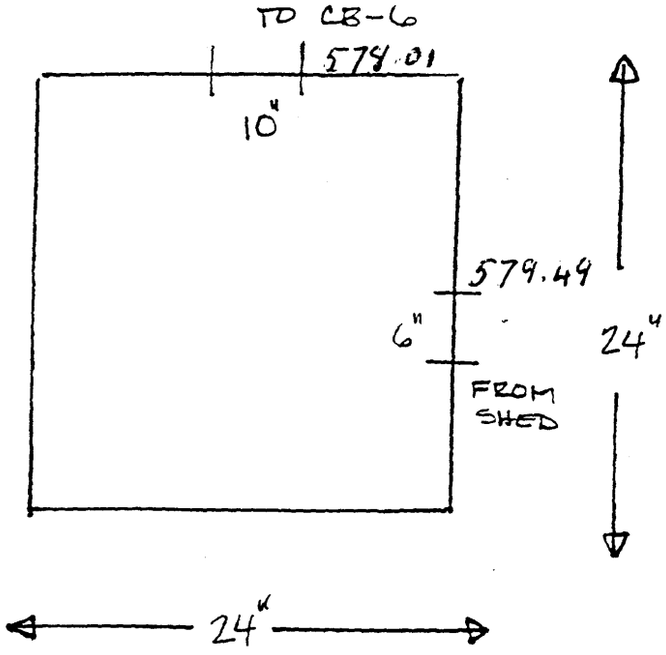
Surrounding Area: CEMENT

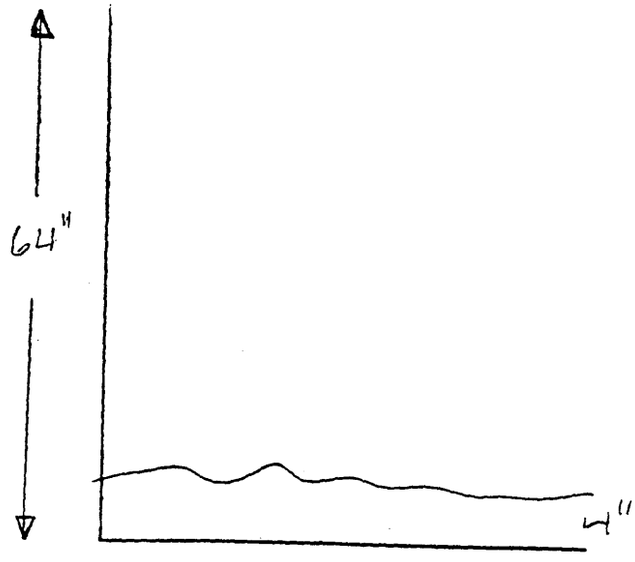
Flow: NONE





Structure # CB-5





Notes: BC 9/21/10
- FORMED CONCRETE CONSTRUCTION
- CLEAN WATER
- PVC PIPES
- STEEL COVER
- 10" LINE CONNECTS TO A 30" LINE

Rim Elevation: 581.09

Depth to Bottom: 64"

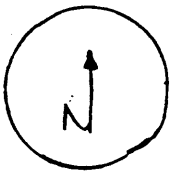
Constructed of: CONCRETE

Sediment: 4" SAND

Product: NONE

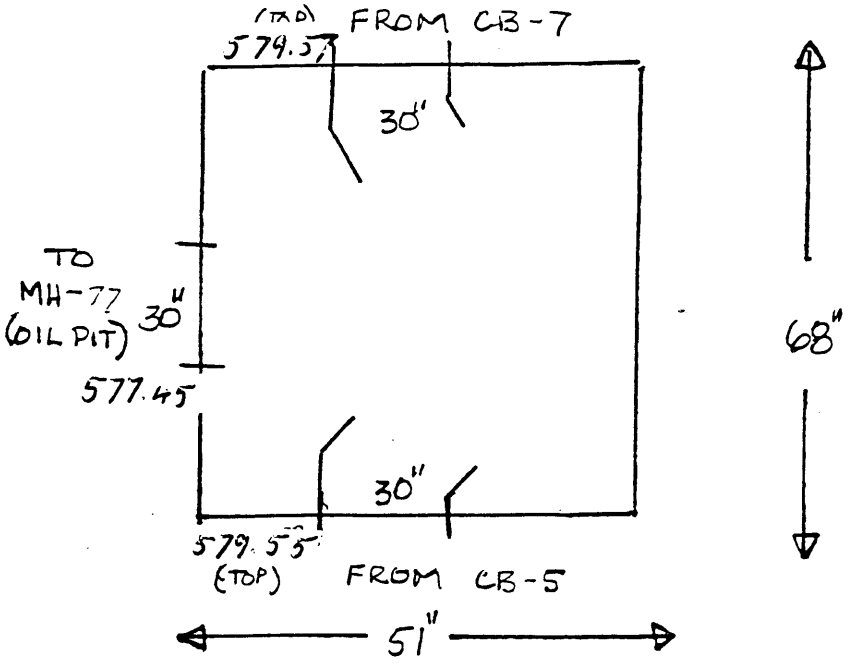
Surrounding Area: CRUSHED STONE

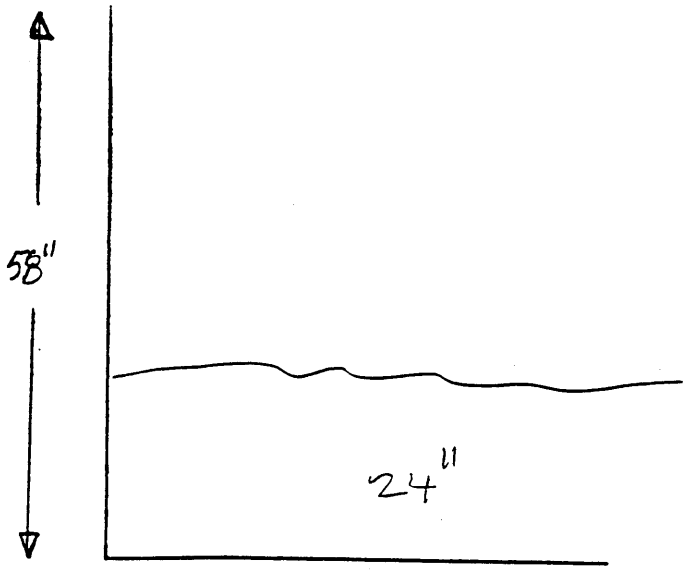
Flow: NORTH TO CB-6



NOTES: BC 9/28/00
- BRICK CONSTRUCTION
- HEAVY OIL PRODUCT
- W 30" TO MH-76
- STEEL PLATE COVER
- PRODUCT/WATER 1500 GALLS

Structure # CB-6





Rim Elevation: 581.79

Depth to Bottom: 58"

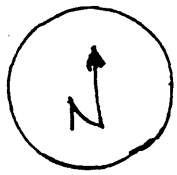
Constructed of:
BRICK CONSTRUCTION

Sediment: 24" oily sludge

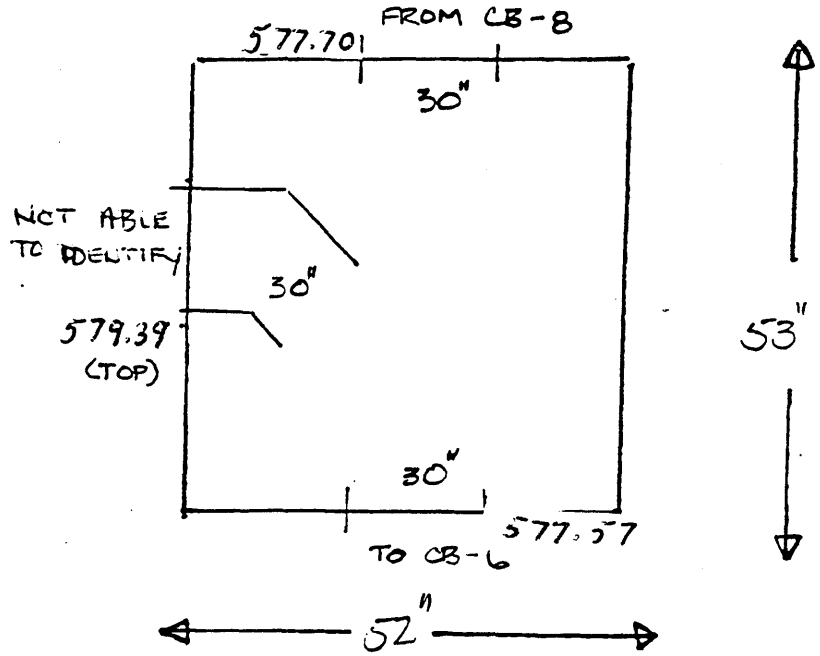
Product:
HEAVY OIL PRODUCT

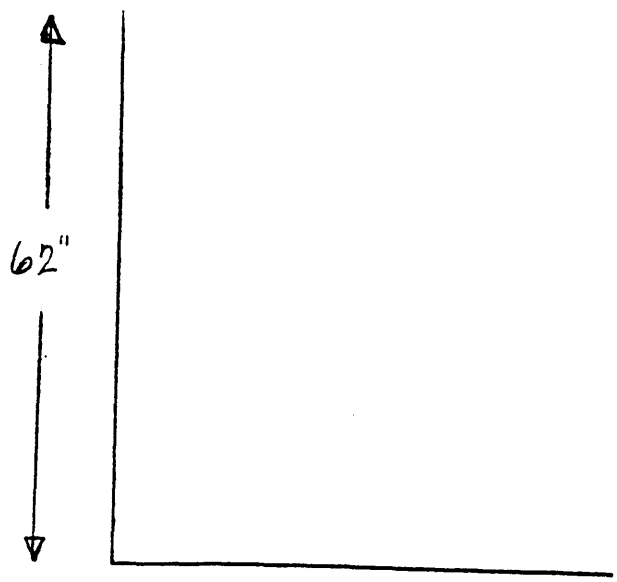
Surrounding Area:
ASPHALT ROADWAY

Flow:
WEST TO MH-77



Structure # CB-7





Notes: BC 9/28/00
- BRICK CONSTRUCTION
- HEAVY OIL PRODUCT
- STEEL PLATE COVER
- CLAY LINES
- 30" W LINE BELLED
- PRODUCT / WATER 1500 GALLONS

Rim Elevation: 582.03

Depth to Bottom: 62"

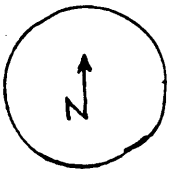
Constructed of:
BRICK CONSTRUCTION

Sediment: 24" OILY SLU

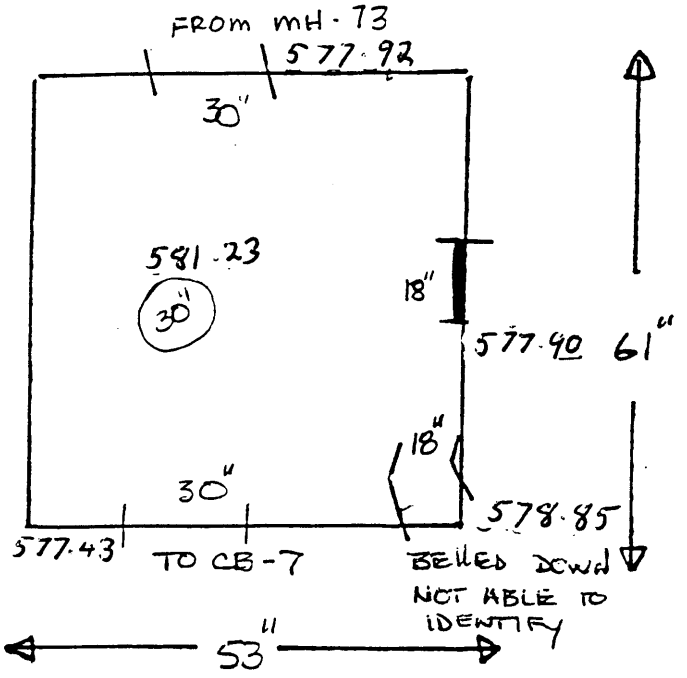
Product:
HEAVY OIL PRODUCT

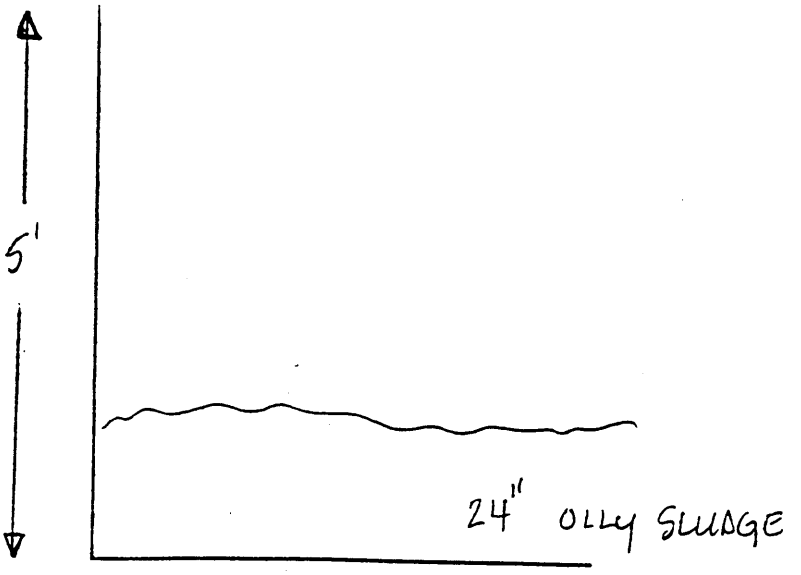
Surrounding Area:
ASPHALT ROADWAY

Flow:
SOUTH TO CB-6



Structure # CB-8





Notes: BC 9/25/00
- BRICK CONSTRUCTION
- HEAVY OILY PRODUCT
- CLAY LINES
- 18" E LINE SEALED
- 18" S/E LINE BELLED
- PRODUCT / WATER 1500 GALLON

Rim Elevation: 582.37

Depth to Bottom: 5'

Constructed of:
BRICK CONSTRUCTION

Sediment: 24" OILY SLU

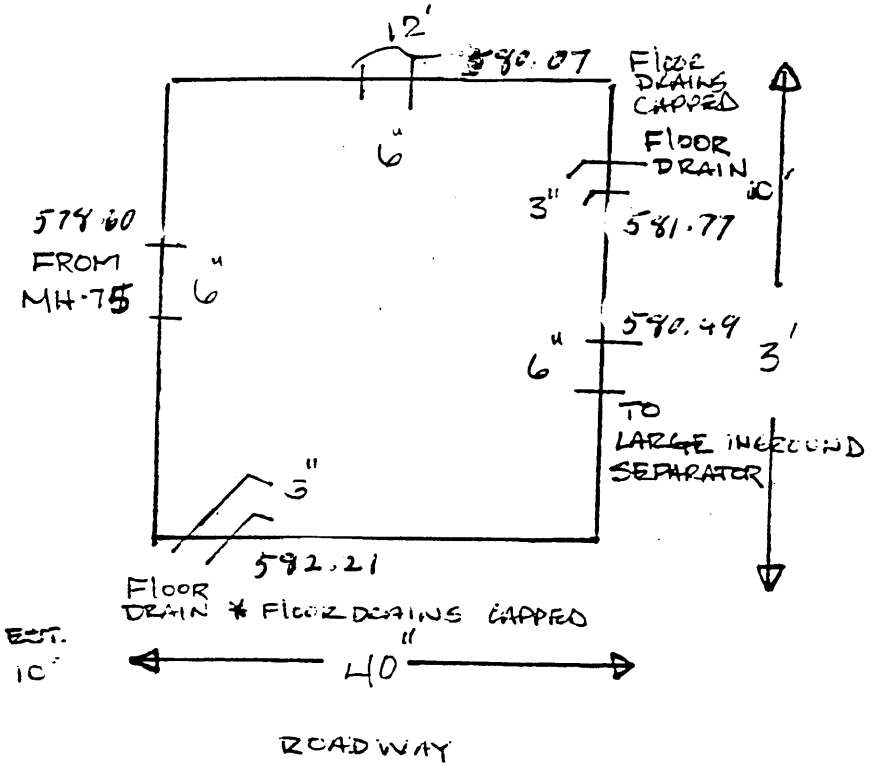
Product:
HEAVY OIL PRODUCT

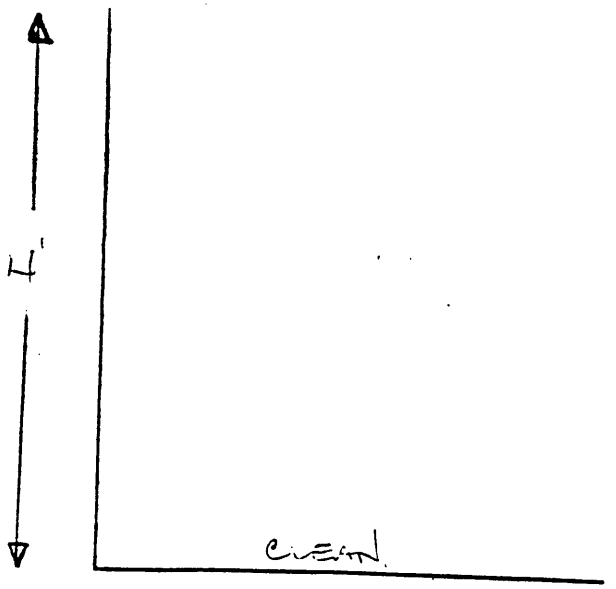
Surrounding Area:
ASPHALT ROADWAY

Flow:
NORTH TO SOUTH

(MH 10A - surveyor)

Structure # CB -10





Notes: BC 12/11/20
Block construction
Steel lines
Clean water
no product
Full water
- ~~Chimney~~ 6" N/E LINE 12' OUT.

Rim Elevation: 582.51

Depth to Bottom: 4'

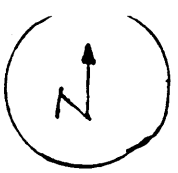
Constructed of: Block

Sediment: CLEAN

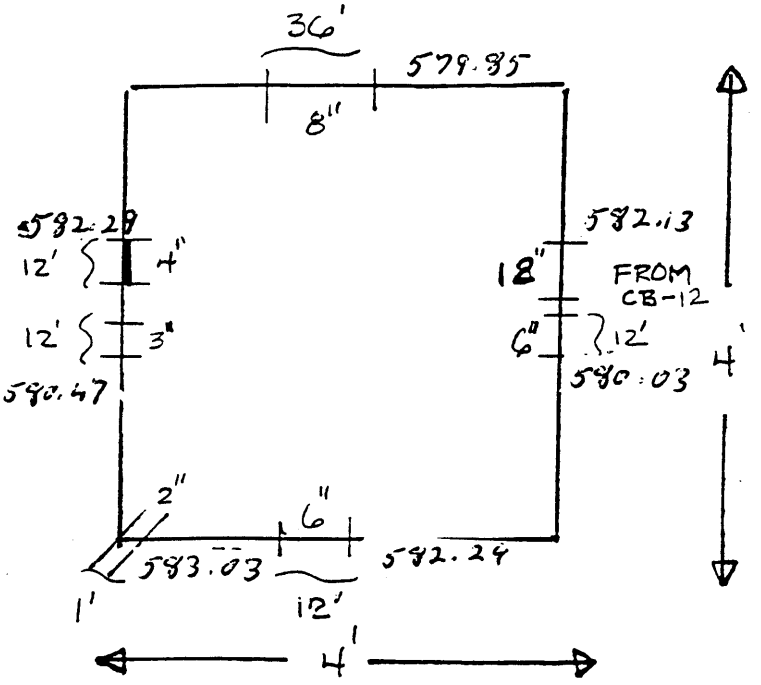
Product: CLEAN

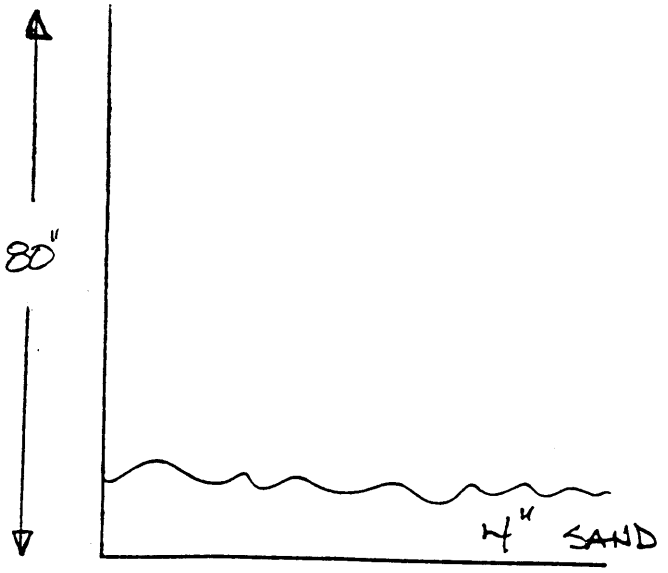
Surrounding Area: STONE

Flow:



Structure # CB-11





Notes: BC 9/25/00
- CONCRETE CONSTRUCTION
- CLEAR WATER
- CONCRETE DEBRIS AREA
- STEEL COVER
- STEEL LINES
- 4" WEST LINE CEMENTE

Rim Elevation: 584.59

Depth to Bottom: 80"

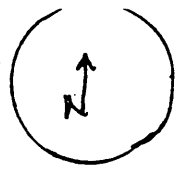
Constructed of:
CONCRETE

Sediment: 4" SAND

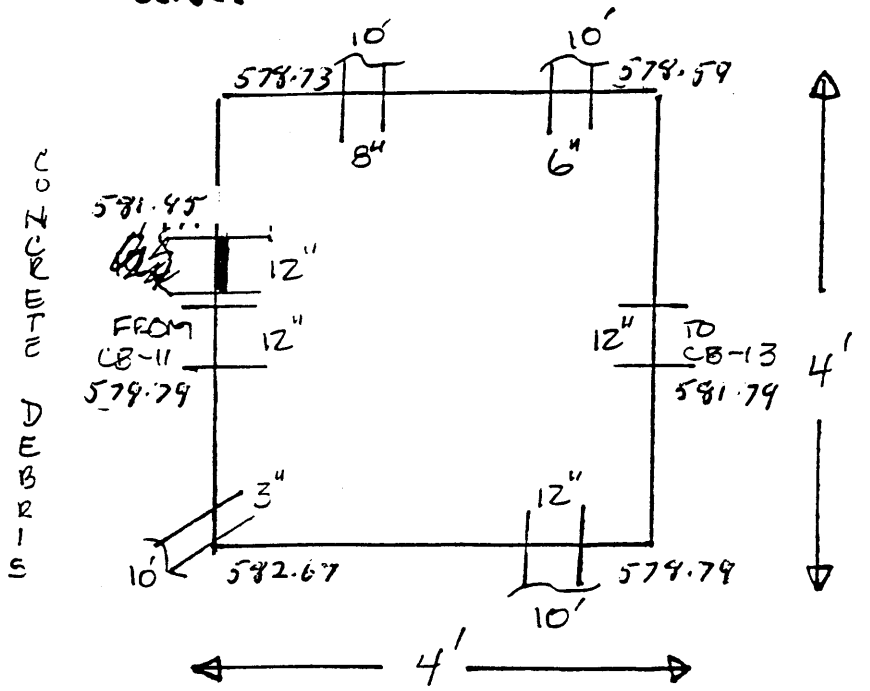
Product: NONE

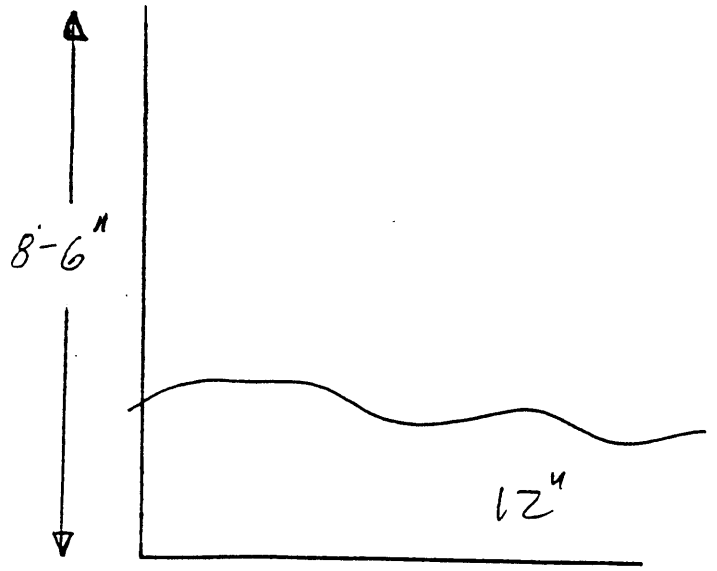
Surrounding Area:
CONCRETE DEBRIS

Flow:
EAST TO CB-12



Structure # CB-12





Notes: BC 9/25/09
- CONCRETE CONSTRUCTION
- FULL OF RAIN WATER
- CONCRETE DEBRIS COVER
- STEEL COVER
- STEEL PIPES
- 12" WEST LINE CEMENTED

Rim Elevation: 584.43

Depth to Bottom: 8'-6"

Constructed of:
CONCRETE

Sediment: 12" SAND

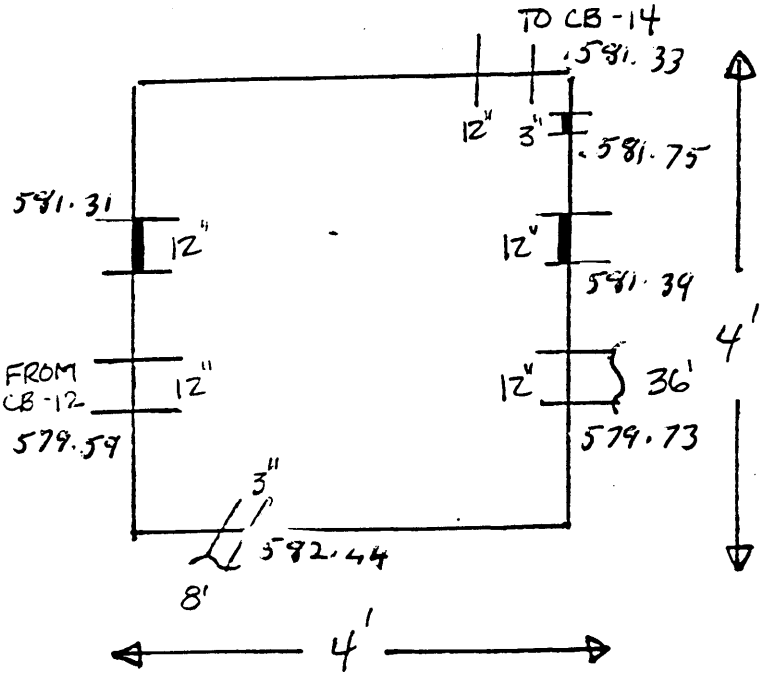
Product: NONE

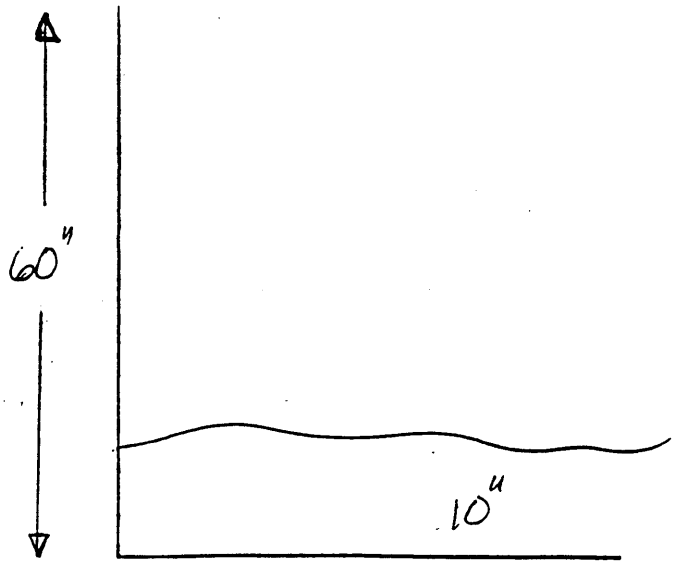
Surrounding Area:
CRUSHED CONCRETE

Flow:
EAST TO CB-13

N

Structure # CB-13





Notes: BC 9/25/00
- CONCRETE CONSTRUCTION
- WEST AND EAST 12" LIN
DEBRIS COVERED ELEVAT
QUESTIONABLE.
- STEEL COVER
- STEEL PIPES
- WEST AND EAST 12" CEME
- 3" EAST LINE CEMENTED.

Rim Elevation: 584.59

Depth to Bottom: 60"
* QUESTIONABLE DUE TO DEBRIS IN BASIN.

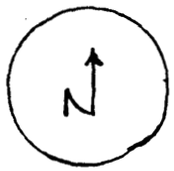
Constructed of:
CONCRETE

Sediment: 10" SAND

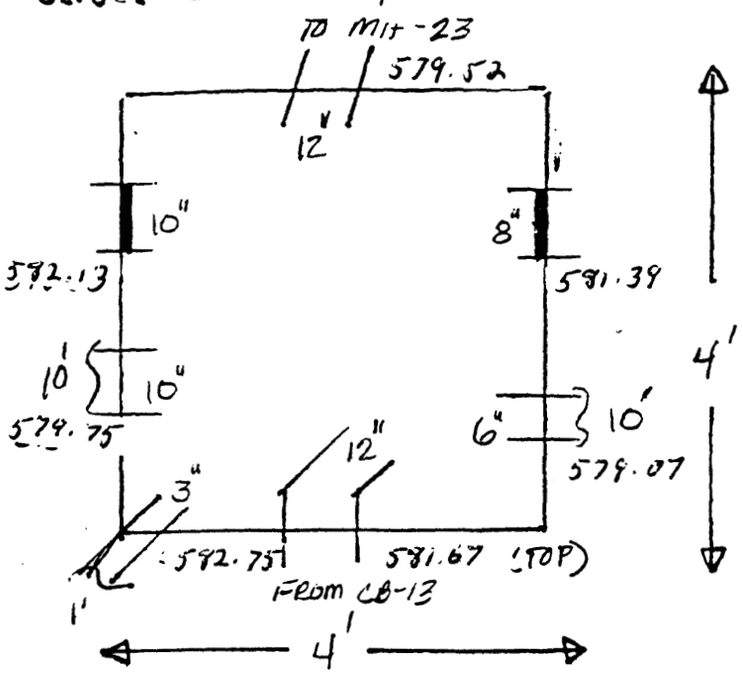
Product: NONE

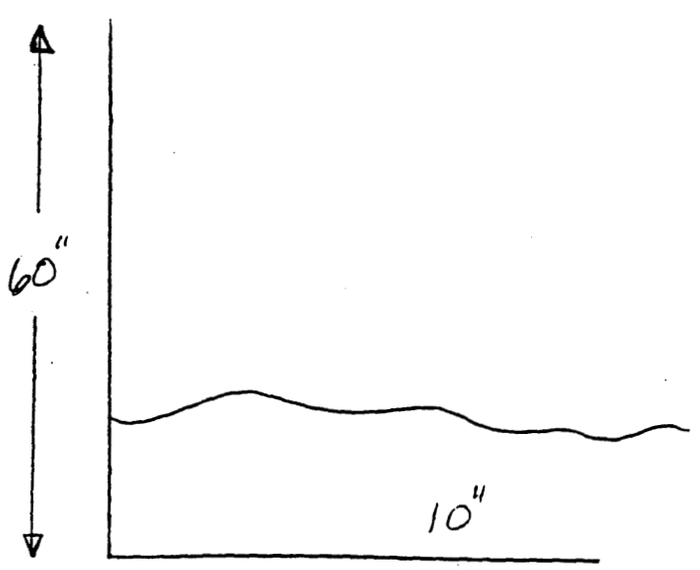
Surrounding Area:
CRUSHED CONCRETE

Flow:
EAST FROM CB-12 TO NORTH CB-14



Structure # CB-14





Notes: BC 9/25/00
- CONCRETE CONSTRUCTION
- BOTTOM STRUCTURE CORRODED ON SIDES
- FULL OF RAIN WATER
- STEEL COVER
- 8" LINE STEEL
- ALL OTHER LINES CLAY
- 8" AND 10" CEMENTED

Rim Elevation: 584.32

Depth to Bottom: 60"

Constructed of: CONCRETE

Sediment: 10" STONE (SAND

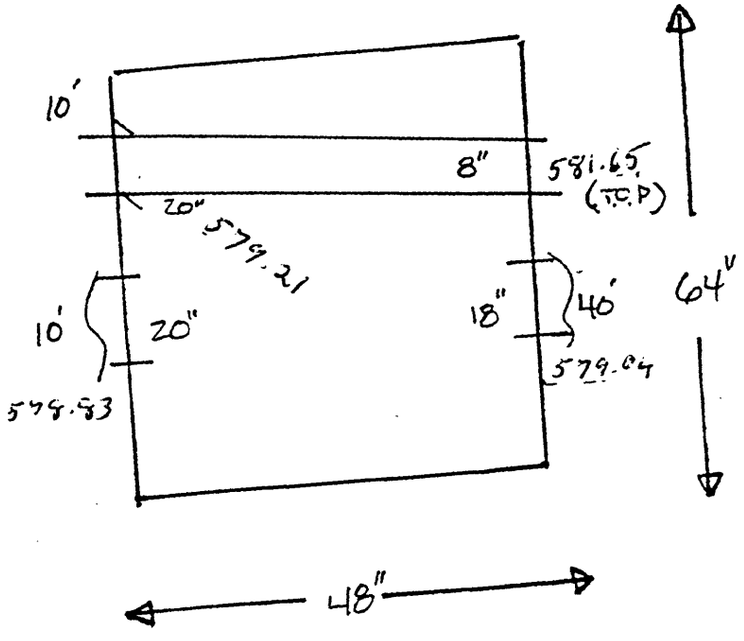
Product: NONE

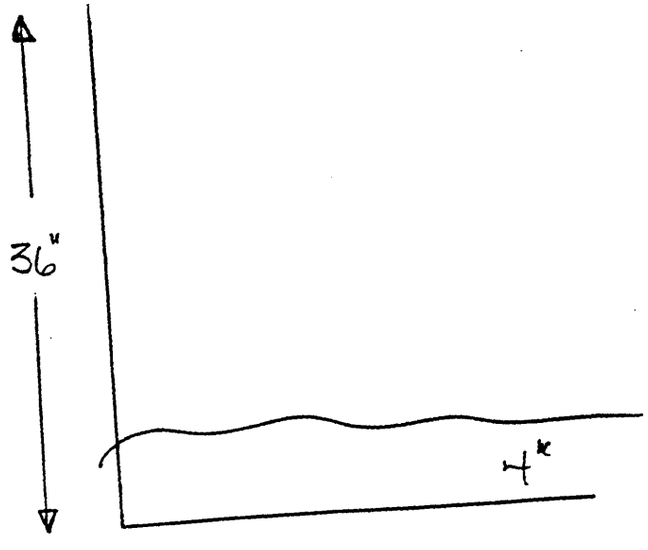
Surrounding Area: CRUSHED CONCRETE

Flow: SOUTH FROM CB-13 TO NORTH MH-23

Notes: BC 4/1-4/00
Brick Construction
Slow flow N/W
very little product
poor condition on top edges
- Pipeline runs on top of CC

Structure #CB-15





Rim Elevation:
582.98

Depth to Bottom: 36"

Constructed of:
BRICK

Sediment: 4" SAND/ROCK

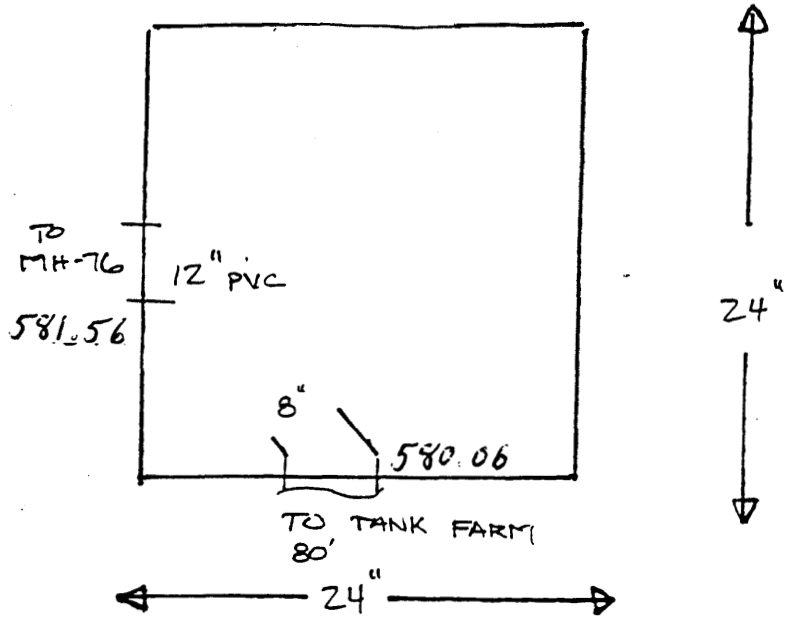
Product:
SHEEN

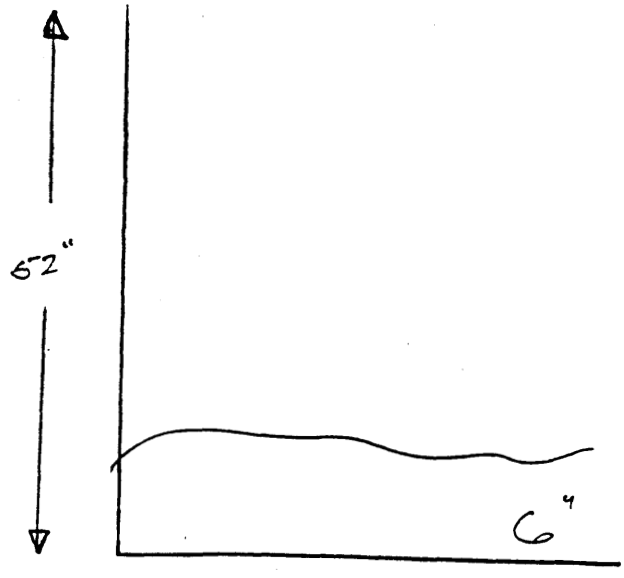
Surrounding Area:
- PIPELINE RUNS ON TOP OF COVER

Flow:
FLOWS N/W

Notes: BC 4/24/00
formed Concrete
stone Cover on ground
PVC/steel Pipes
Clear water

Structure # CB-21





Rim Elevation:
582.86

Depth to Bottom: 52"

Constructed of:
CONCRETE

Sediment: 6" SAND

Product: NONE

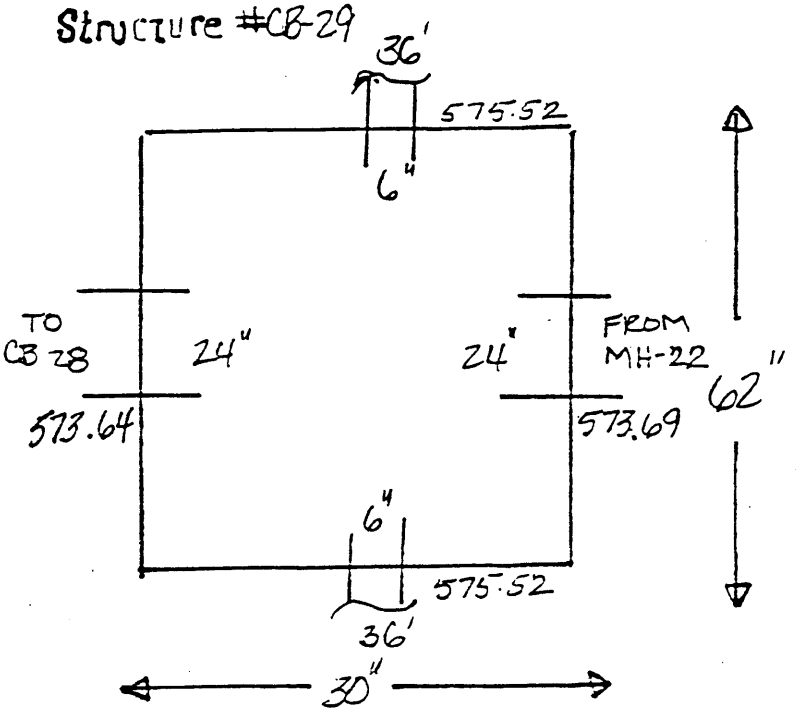
Surrounding Area:
STONE

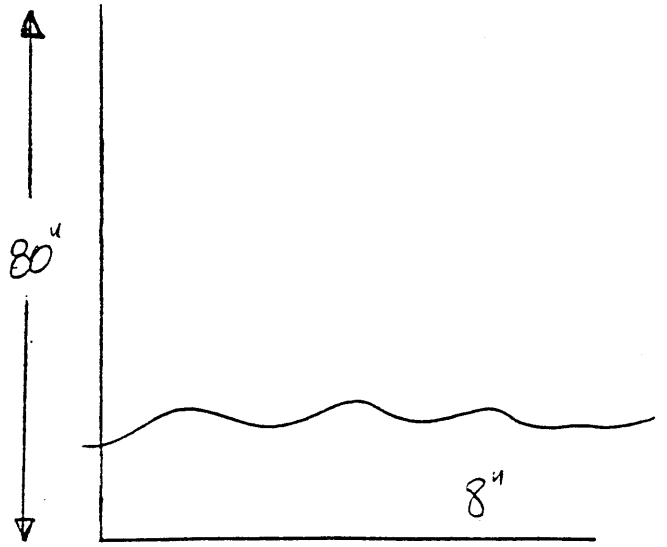
Flow:
- WEST TO MH-76
- SOUTH TOWARDS TANKS 97-38

(CBR29)

RACK ENTRANCE

Structure #CB-29





Notes: BC 9/25/00
- BRICK CONSTRUCTION
- MINIMUM PRODUCT FLOW
- 6" LINES 36' OUT DOWN 3'-6"
- CLAY LINES
- STEEL COVER

Rim Elevation. 585.44

Depth to Bottom: 80"

Constructed of: BRICK CONSTRUCTION

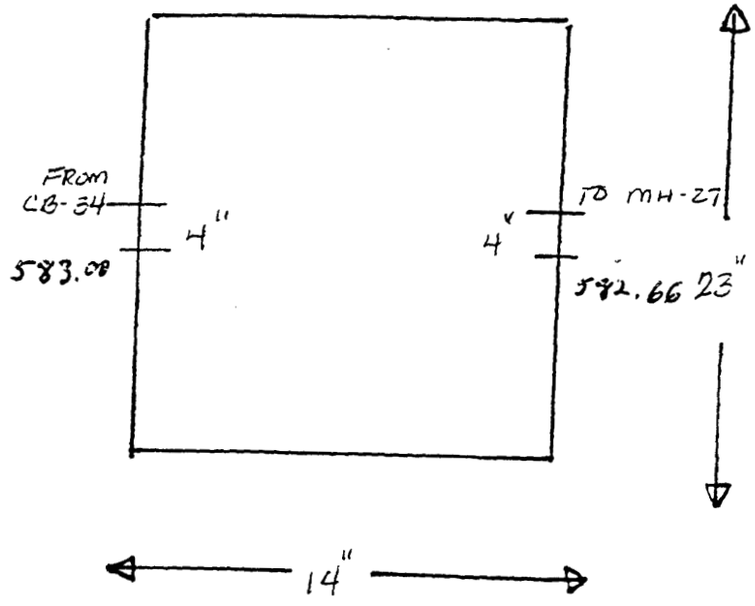
Sediment: 8" oily Sludge

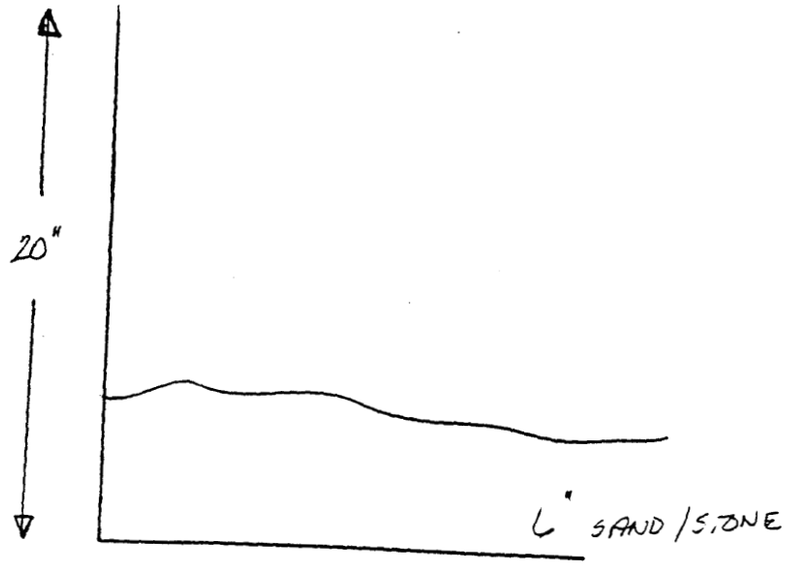
Product: SHEEN

Surrounding Area:
- ASPHALT ROADWAY

Flow:
WEST TO EAST
FROM MH-22 TO CB-28

Structure # CB - 33





Notes: BC 9/12/00
- CONCRETE CONSTRUCTION
- ASPHALT ROADWAY
- WEST LINE FED FROM CB - 34
- EAST LINE CONNECTS TO MH - 27
- CLAY LINES

Rim Elevation. 584.30

Depth to Bottom: 20"

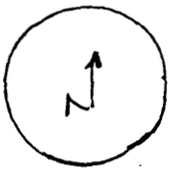
Constructed of: CONCRETE

Sediment: 6"

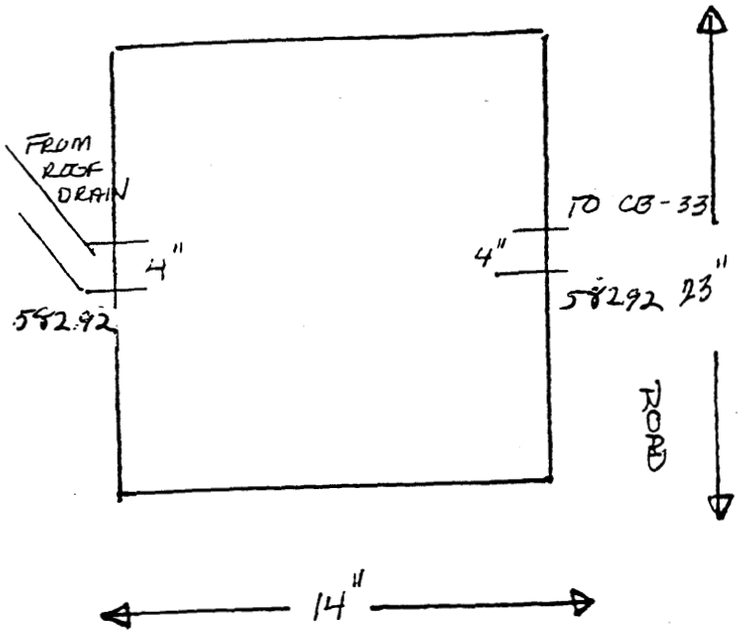
Product: NONE

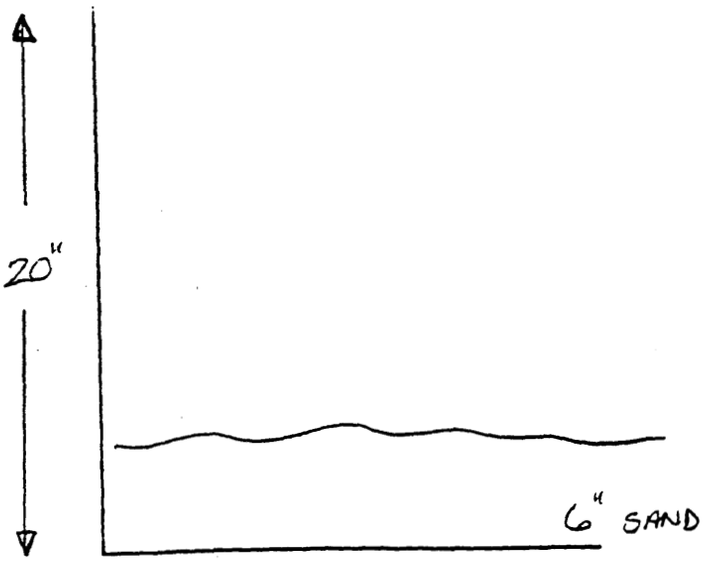
Surrounding Area:
- ASPHALT ROADWAY

Flow:
EAST TO MH-27



Structure # CB-34





Notes: BC 9/12/00
- CONCRETE CONSTRUCTION
- ASPHALT ROADWAY
- WEST LINE IS FED FROM TBLG ROOF DRAIN
- EAST LINE CONNECTS TO CB-33
- CLAY LINE

Rim Elevation. 584.40

Depth to Bottom: 20"

Constructed of: CONCRETE

Sediment: 6" SAND

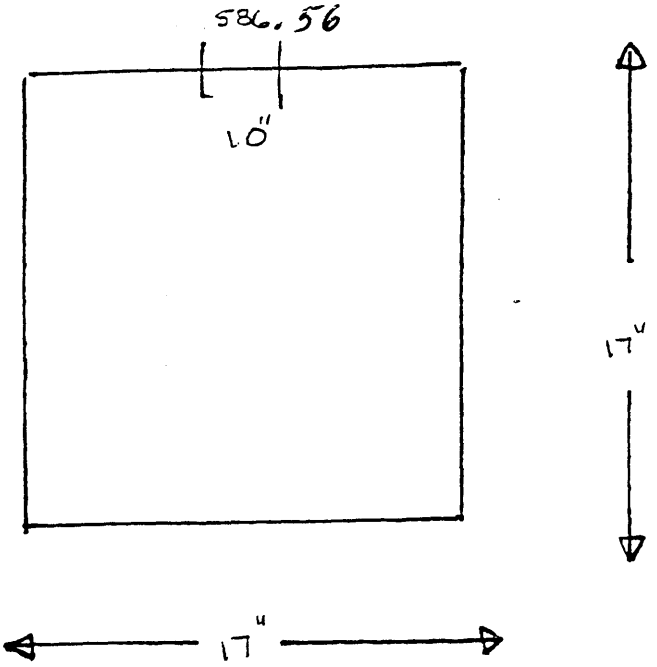
Product: NONE

Surrounding Area: -ASPHALT ROADWAY

Flow: EAST TO CB-33

N

Structure # CB - 35



Notes: BC 9/6/00
- STEEL FRAME CONSTRU
- SET IN POLICE PARKING LOT, NEXT TO FENCE
- CAST LINES
- DRY, NO WATER

Rim Elevation. 589.00

Depth to Bottom: 30"

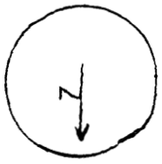
Constructed of:
STEEL FRAME

Sediment: 10" SAND

Product: NONE
-WOODEN FENCE 2' OFF 10" U
- PARKING LOT

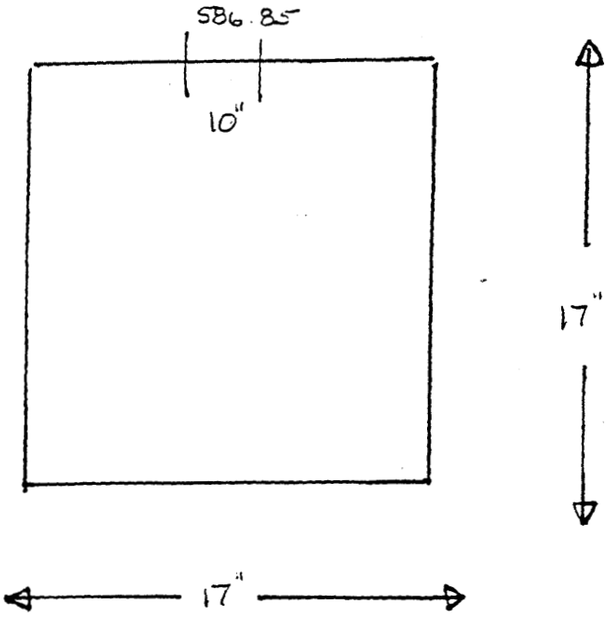
Surrounding Area:

Flow:
SOUTH TO MH-68



Notes: BC 11/6/00
- STEEL FRAME CONSTRUCT
- SET IN POLICE PARKIN LOT, NEXT TO FENCE.
- DRY, NOT WATER
- CAST LINES

Structure # CB - 36



Rim Elevation. 589.05

Depth to Bottom: 30"

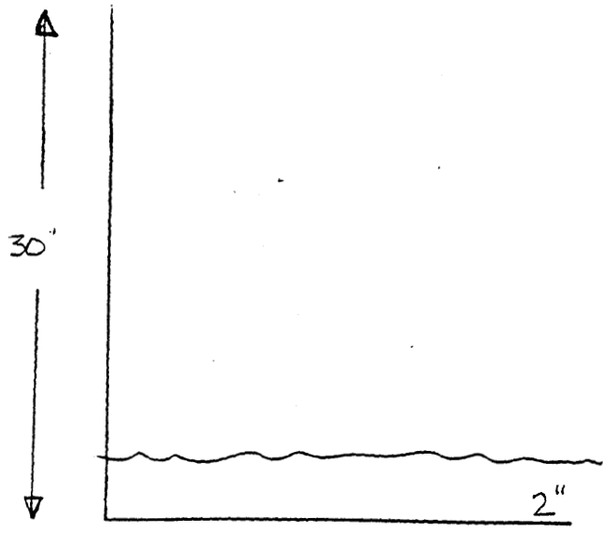
Constructed of:
STEEL FRAME

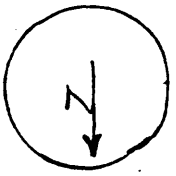
Sediment: 2" SAND

Product: NONE

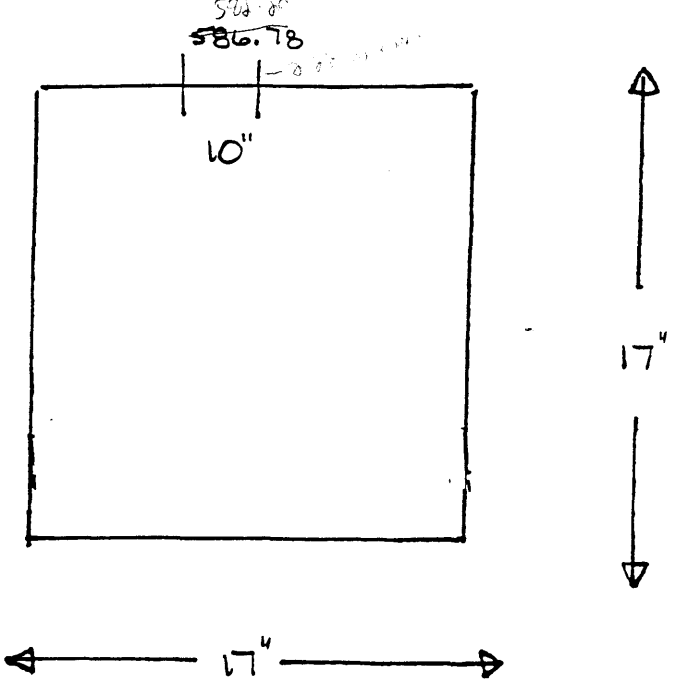
Surrounding Area:
- WOODEN FENCE 2' OFF 10' L
- PARKING LOT

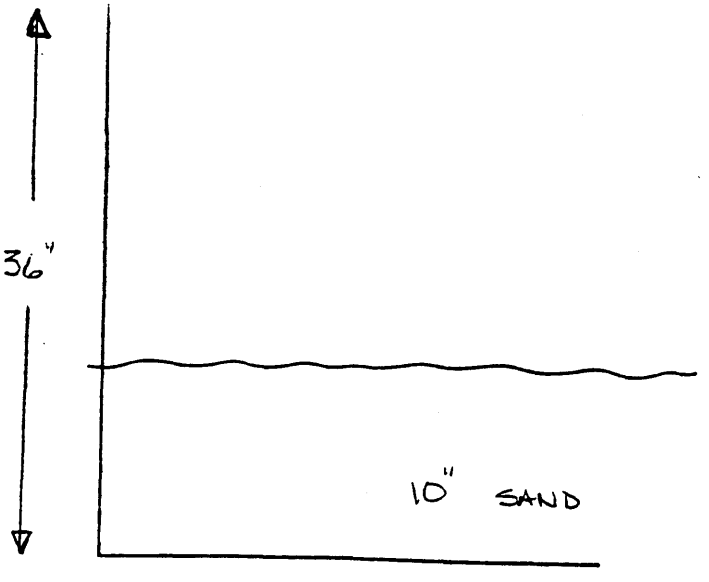
Flow:
SOUTH TO MH-68





Structure # CB-37





Notes: BC 7/6/00
- STEEL FRAME CONSTRUCTION
- SET IN POLICE PARKING LOT NEXT FENCE
- CAST LINES
- DRY, NO WATER

Rim Elevation. ~~589.00~~ 5945

Depth to Bottom: 36"

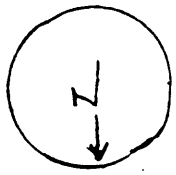
Constructed of: STEEL FRAME

Sediment: 10"

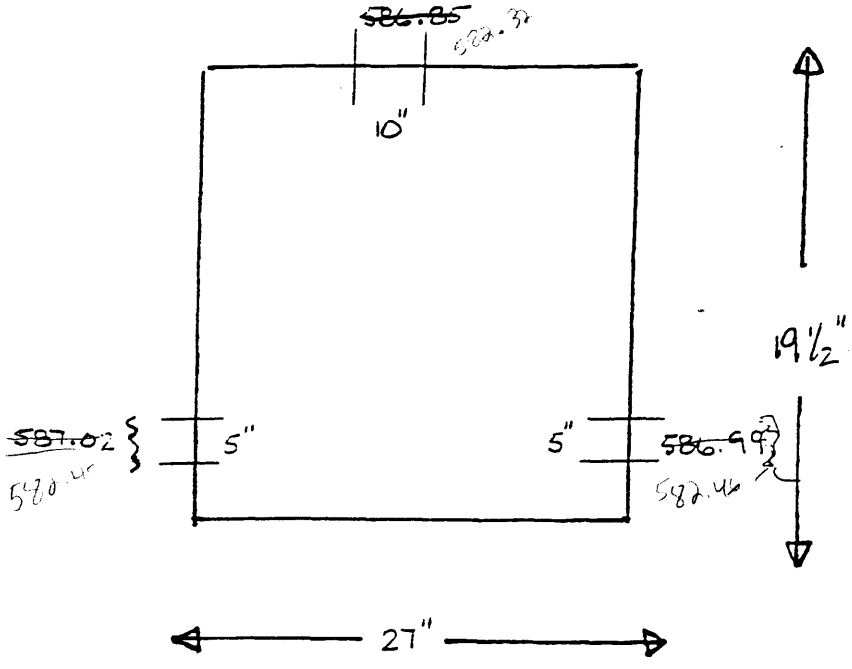
Product: NONE

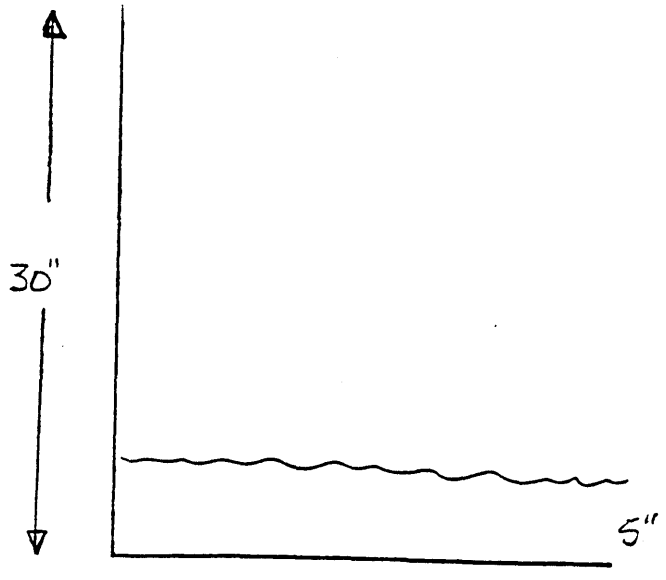
Surrounding Area:
- WOODEN FENCE 2' OFF IC LINE, PARKING LOT

Flow:
SOUTH TO MH-68



Structure # CB-38





Notes: BC 9/6/00
- STEEL FRAME CONSTRUC
- EAST LINE PLUGGED 1' IN.
- SET IN POLICE PARK LOT NEXT TO FENCE
- CAST LINES

Rim Elevation: ~~589.09~~ 584.56

Depth to Bottom: 30"

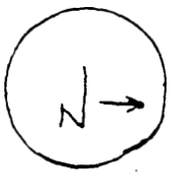
Constructed of: STEEL FRAME

Sediment: 5" SAND

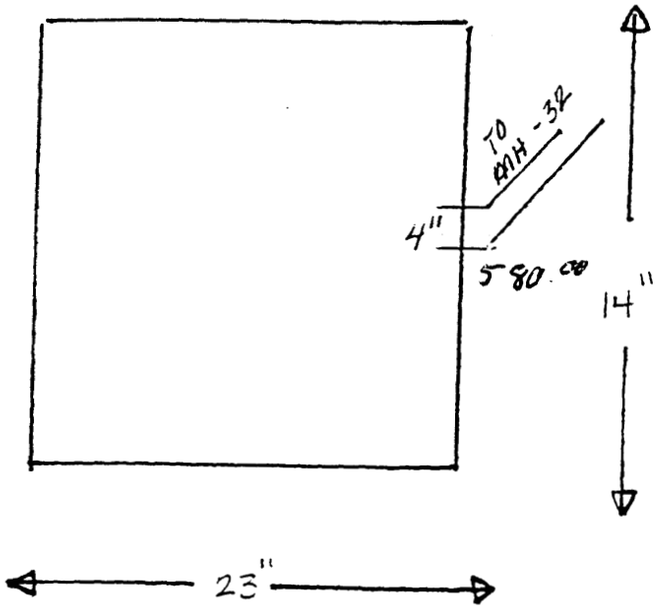
Product: NONE

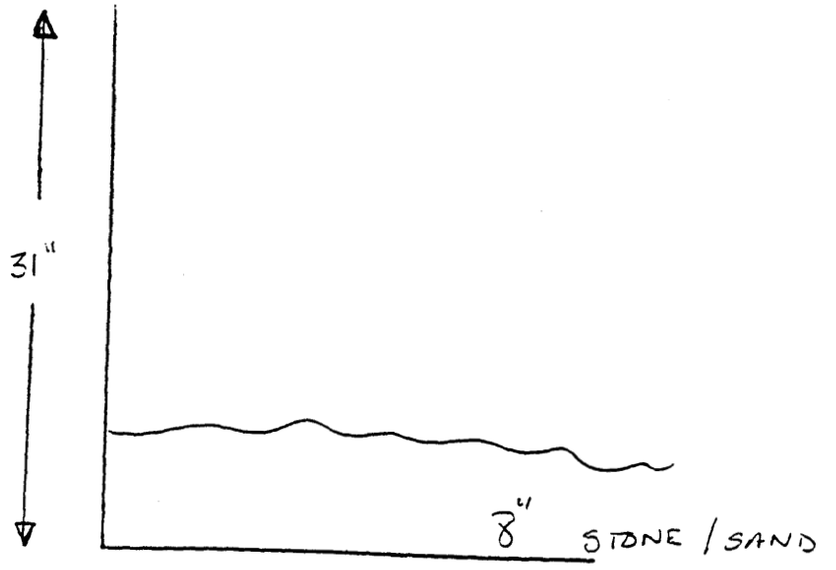
Surrounding Area: WOODEN FENCE 2' OFF 10" LINE, PARKING LOT

Flow:
WEST LINE TO CB-37
SOUTH LINE TO MH-68



Structure # CB-39





Notes: BC 7/12/00
- CONCRETE CONSTRUCTION
- ASPHALT / STONE COVERED
- STEEL COVER
- CB FILLED W/ STONE
- CLAY LINE

Rim Elevation. 581.5

Depth to Bottom: 31"

Constructed of:
CONCRETE

Sediment: 8"

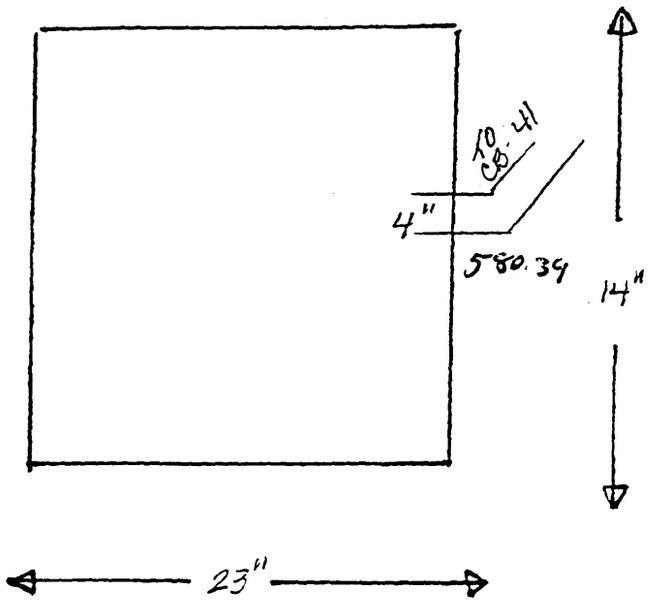
Product: NONE

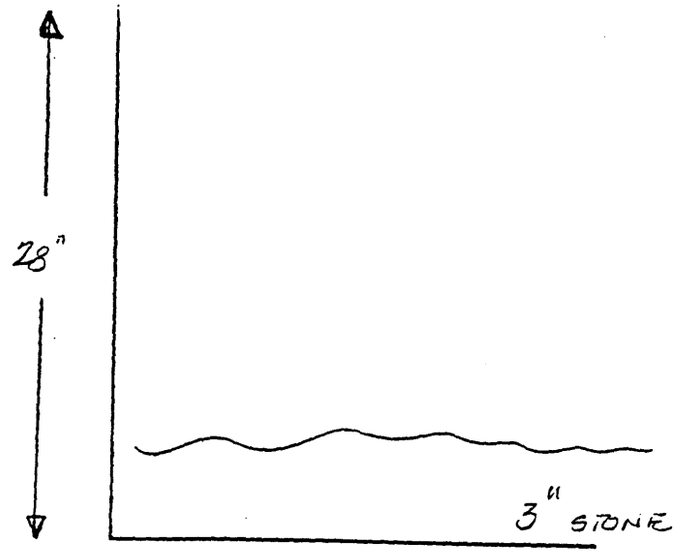
Surrounding Area:
- STONE COVERED AREA
- ASPHALT ROADWAY

Flow:
N/W TO MH-32

N

Structure # CB-40





Notes: BC 9/12/00
- CONCRETE CONSTRUCTION
- STEEL COVER
- ASPHALT ROADWAY
- 4" LINE MAKES 2 45° BENDS TO CB-41
- CLAY LINE

Rim Elevation. 581.89

Depth to Bottom: 28"

Constructed of:
CONCRETE

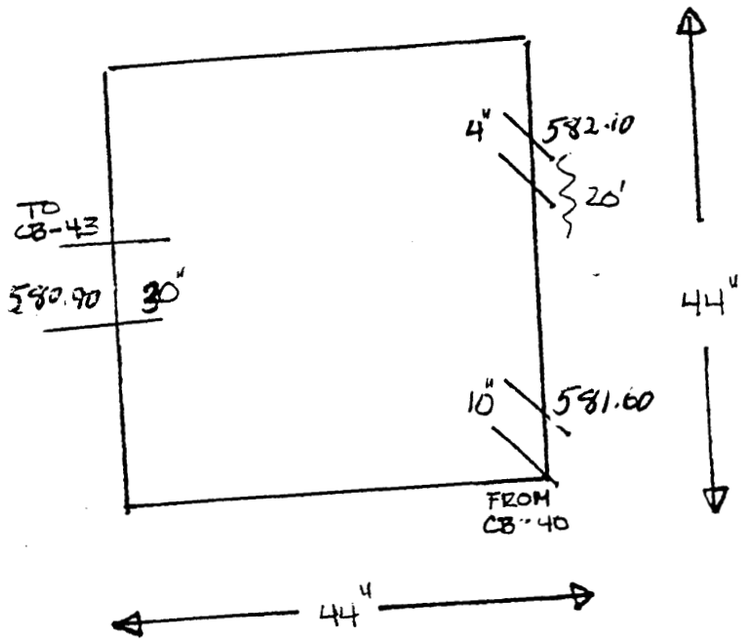
Sediment: 3" STONE

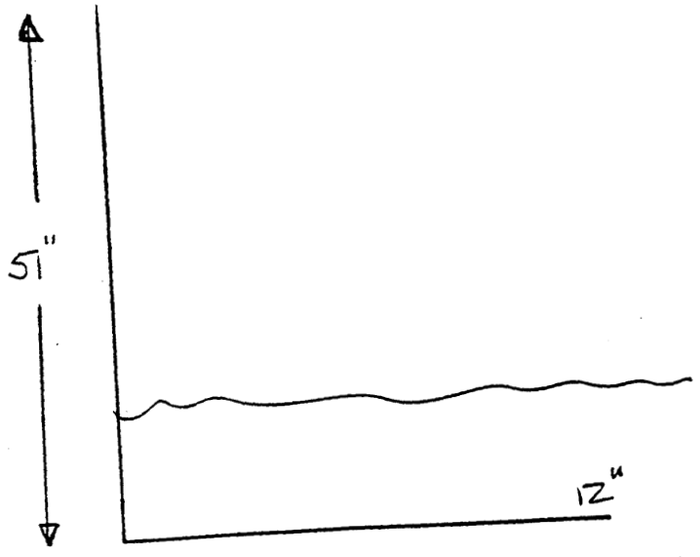
Product: NONE

Surrounding Area:
- ASPHALT ROADWAY
- GRASS

Flow:
S/W TO CB-41

Structure # CB-41





Notes: BC 7/11/00
- CONCRETE CONSTRUCTION
- 12" SAND } DEBRIS REMOVED
- 4" LINE DEAD S/E 20'
- 10" LINE CONNECTS TO CB-40
- 20" LINE CONNECTS TO CB-43
- CLAY LINES

Rim Elevation. 584.54

Depth to Bottom: 51"

Constructed of:
CONCRETE

Sediment: 24"

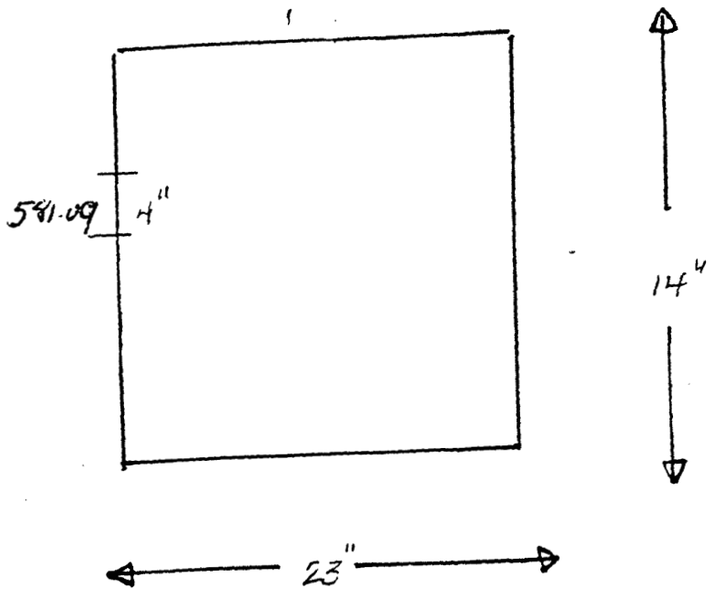
Product: 1/2" REMOVED

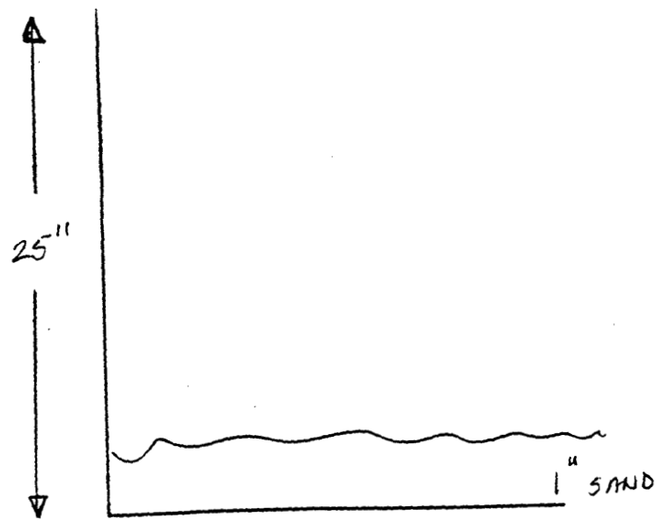
Surrounding Area:
- ASPHALT ROADWAY
- GRASS

Flow:
S/W TO CB-43

N

Structure # CB-42





Notes: BC 9/11/00
- CONCRETE CONSTRUCTION
- 4" LINE CONNECTS TO MAIN LINE TO CB-43
- STEEL COVER
- ASPHALT ROADWAY
- CLAY LINE

Rim Elevation: 582.59

Depth to Bottom: 25"

Constructed of:
CONCRETE

Sediment: 1"

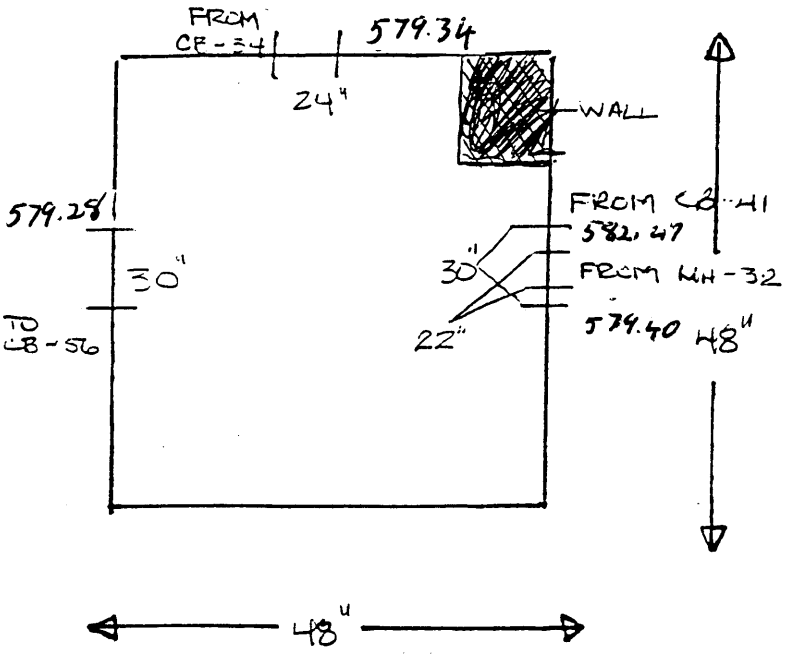
Product: NONE

Surrounding Area:
- ASPHALT ROADWAY

Flow:
WEST THEN SOUTH TO MAIN LINE EAST OF CB-43

N

Structure # CB-43



Notes: BC 9/11/00

- BRICK CONSTRUCTION
- ASPHALT ROADWAY
- 2' DEBRIS REMOVED
- 6" REMAINING DEBRIS ON BASE.
- CLAY LINES

Rim Elevation. 585.43

Depth to Bottom:

Constructed of:
BRICK

Sediment: 30"

Product: 2" REMOVED

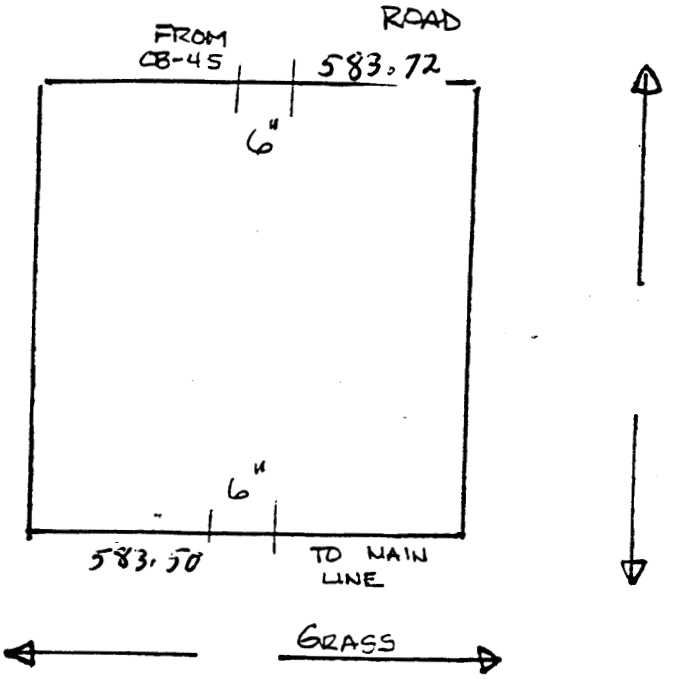
Surrounding Area:
-ASPHALT ROAD WAY

Flow:
WEST TO CE-56

N

Notes: BC 4/7/00
- Concrete Construction
- Steel Cover
- On Roadway Edge
- Clay Line

Structure # CB-44



Rim Elevation. 586.60

Depth to Bottom: 42"

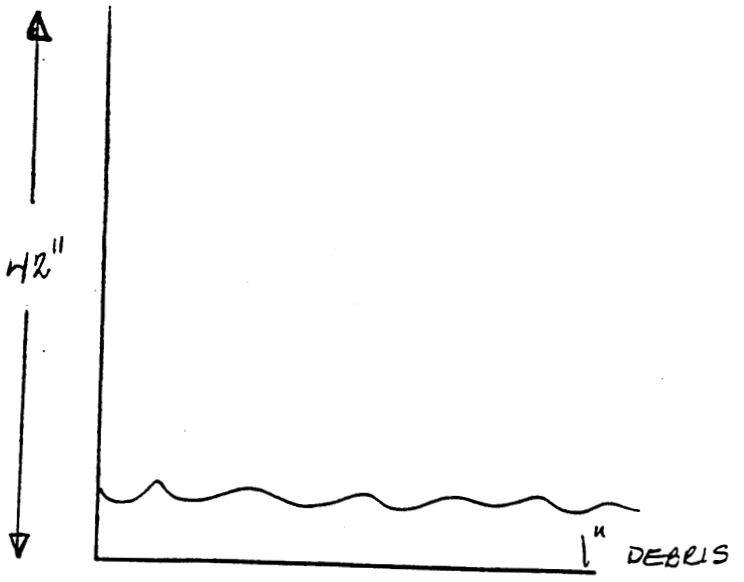
Constructed of:
Concrete

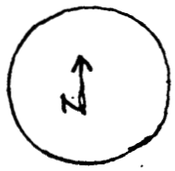
Sediment: 1"

Product: None

Surrounding Area:
- Asphalt Roadway
- Grass

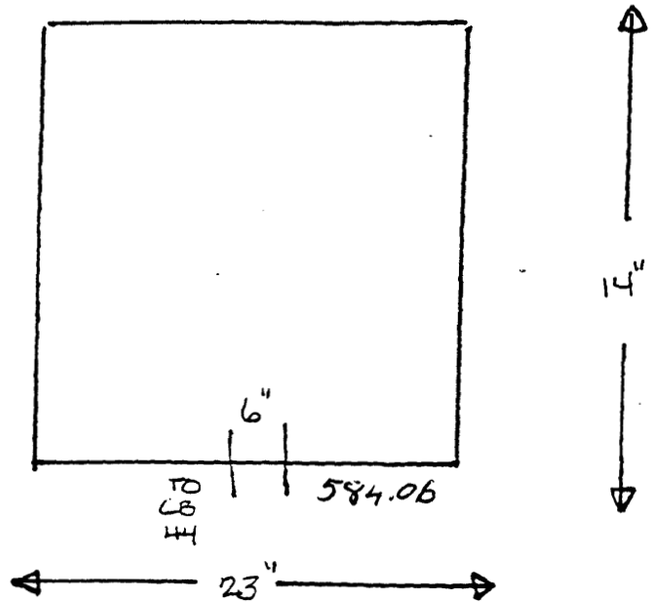
Flow:
From CB-45 to main line





Notes: LC 11/100
- CONCRETE CONSTRUCTION
- STEEL COVER
- ON ROADWAY EDGE
- CLAY LINE

Structure # CB-45



Rim Elevation. 586.46

Depth to Bottom: 33"

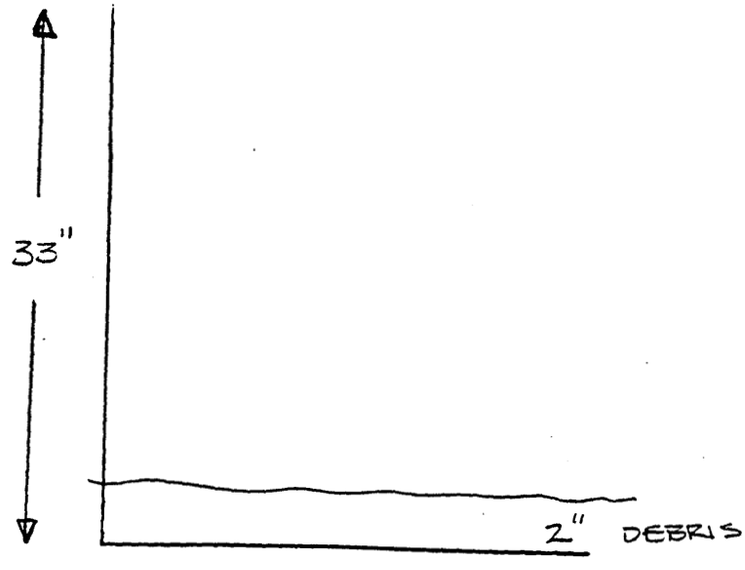
Constructed of:
CONCRETE

Sediment: 2"

Product: NONE

Surrounding Area:
- ASPHALT ROADWAY

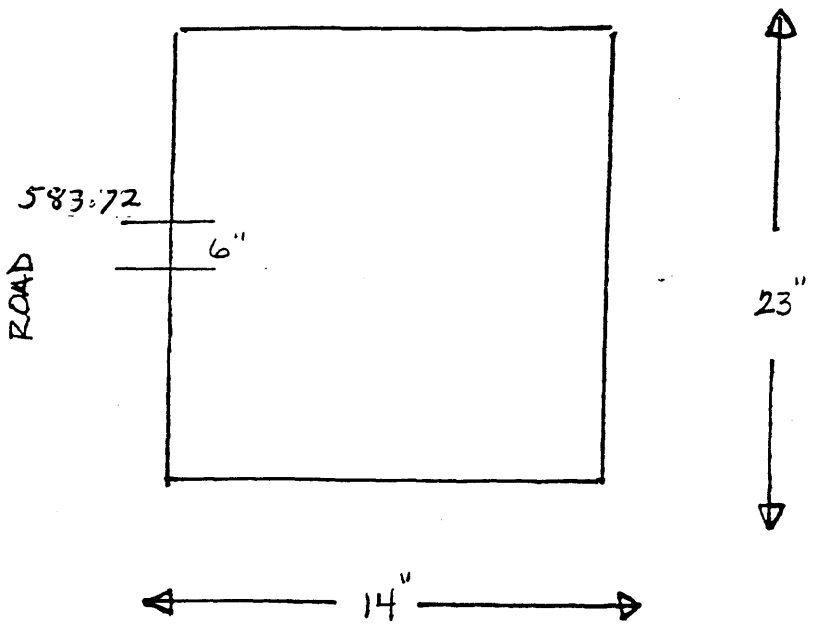
Flow:
- SOUTH TO CB-44

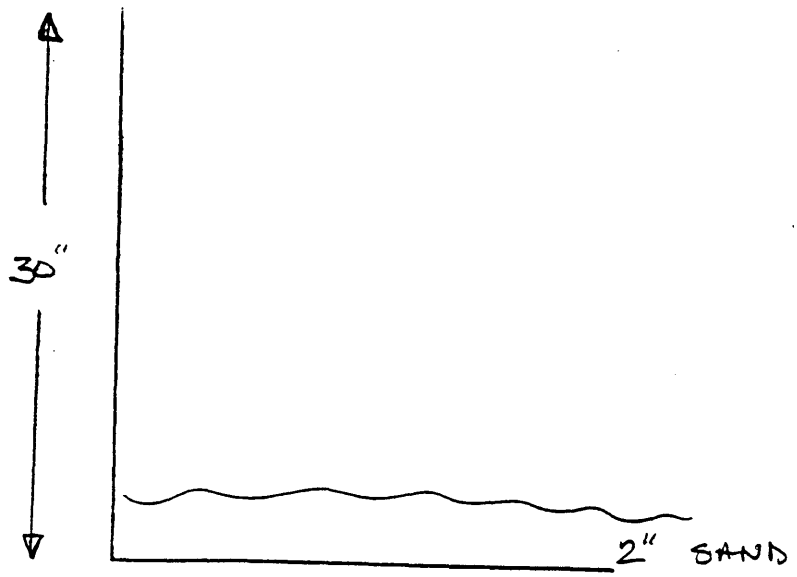


N

Notes: BC 7/8/02
- Concrete structure
- on roadway edge
- Clay line
- Steel cover.

Structure # CB - 46





Rim Elevation: 586.50

Depth to Bottom: 30"

Constructed of:
Concrete

Sediment: 2" sand

Product: None

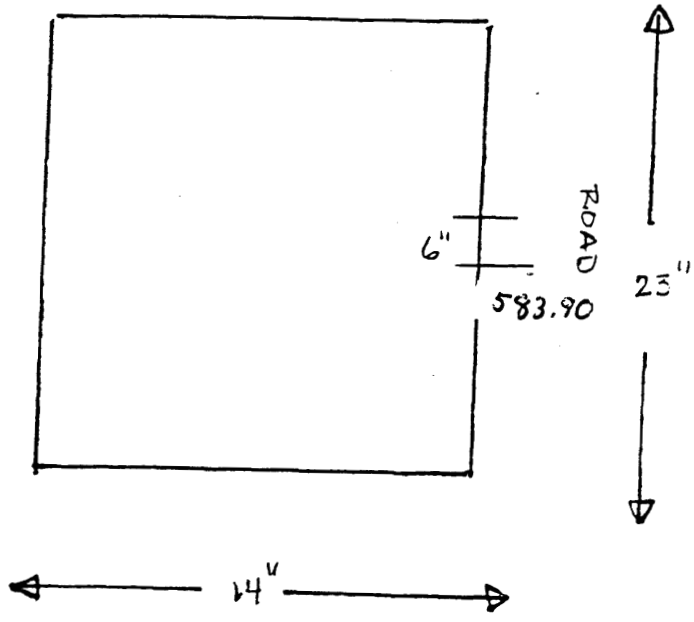
Surrounding Area:
-Asphalt roadway

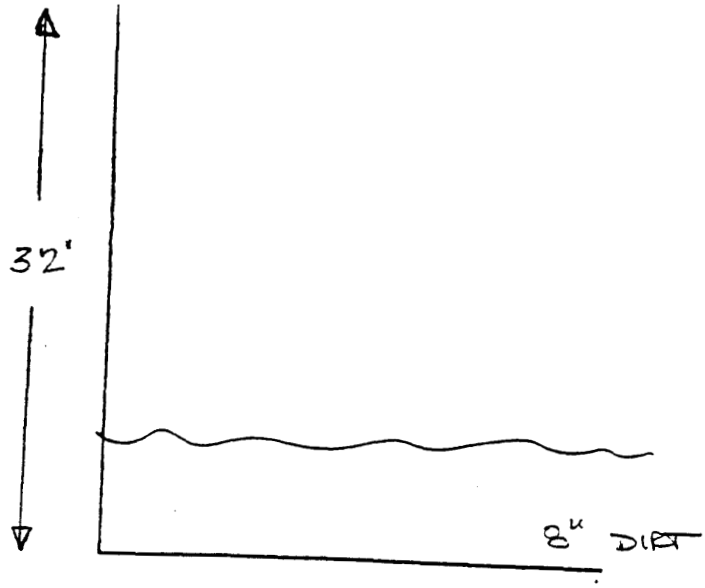
Flow:
West to main line between CB-49 and CB-43

N

Notes: BC 7/8/00
- CONCRETE STRUCTURE
- ON ROADWAY EDGE
- CLAY LINE
- STEEL COVER

Structure # CB-47





Rim Elevation. 586.66

Depth to Bottom: 32"

Constructed of:
CONCRETE

Sediment: 8" DIRT

Product: NONE

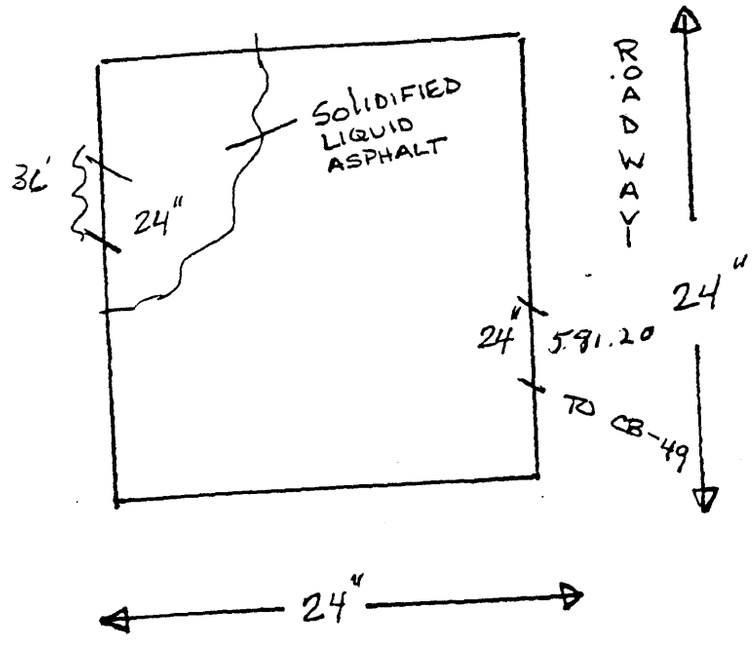
Surrounding Area:
- ASPHALT ROADWAY

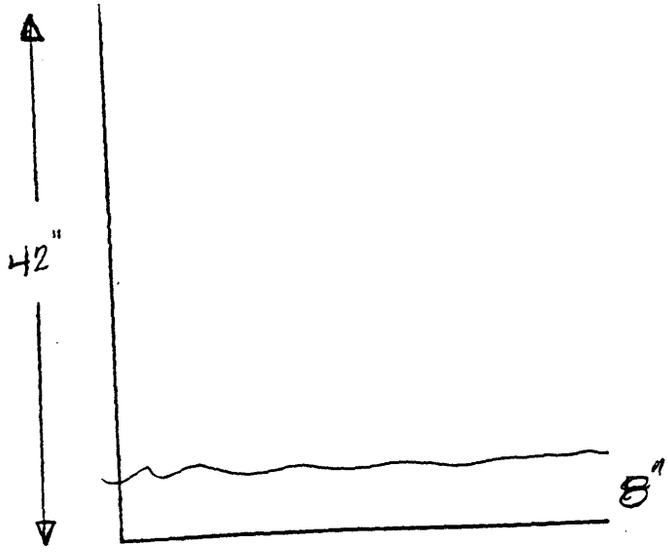
Flow:
EAST TO MAIN LINE BETWEEN CB-49 AND CB-42

N

Notes: BC 7/1/10
- WOOD FRAME CONSTRUC
FORMED CONCRETE BAC
- ONLY ONE PIPE COU
BE READ, HARDENED
PRODUCT COVERING P
- CLAY LINES

Structure # CB-48





Rim Elevation. 594.21

Depth to Bottom: 42"

Constructed of:
CONCRETE/WOOD

Sediment: LIQUID ASPHALT
8" ~~DEBRIS~~

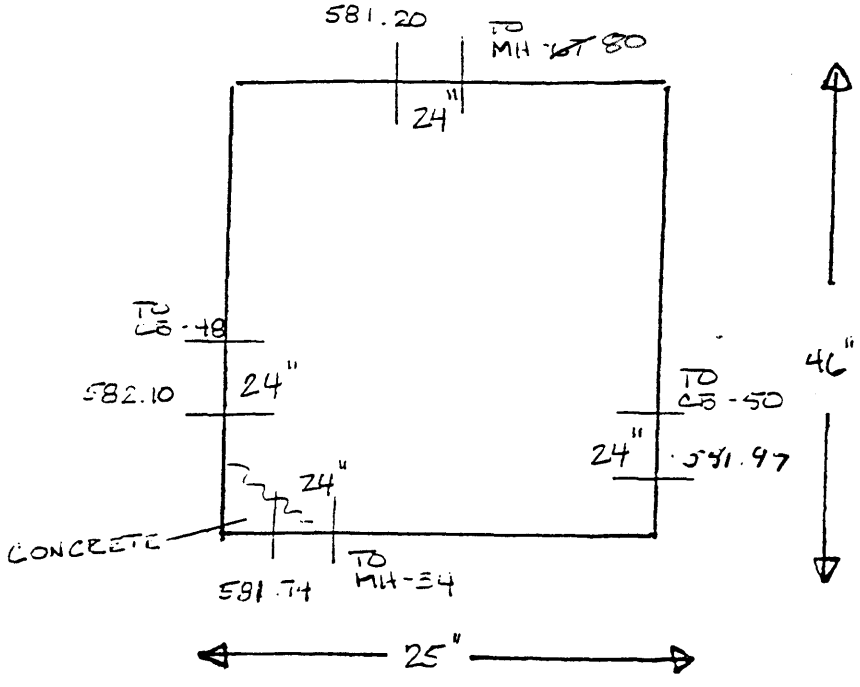
Product. HEAVY SOLIDIFIED PRODUCT

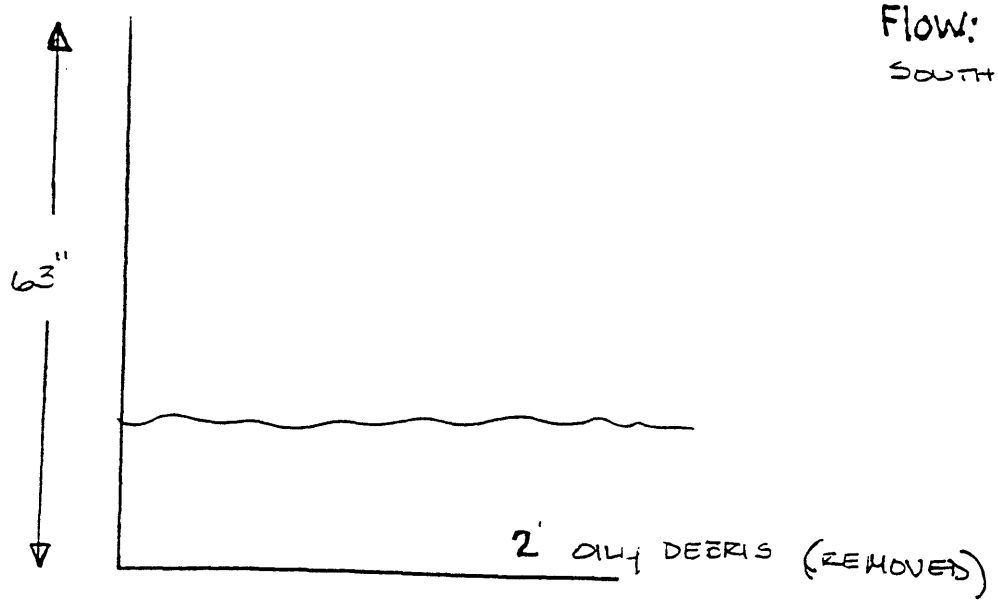
Surrounding Area:
- ASPHALT ROADWAY

Flow: N/A

N

Structure # CB - 49





Notes: BC 7/8100
- BRICK / CONCRETE CONSTRUCTION
- CONCRETE PIPE ON S/W CORNER
- EFFLUENT LINE TO SO
- 1/2 FULL W/ CONCRETE REMOVED
- IN ROADWAY

Rim Elevation. 586.37

Depth to Bottom: 63"

Constructed of:
- BRICK / CONCRETE

Sediment: 2' REMOVED

Product: Removed 2"

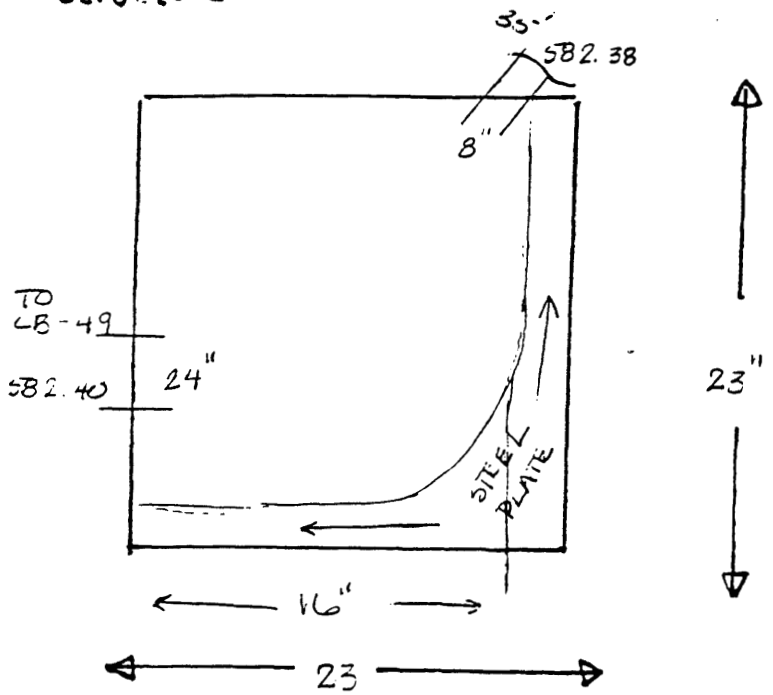
Surrounding Area:
ASPHALT ROADWAY

Flow:
SOUTH TO MH-34

N

Notes: BC 9/8/00
- CONCRETE / BRICK CONSTRUCTION
- THIN SHEET METAL PLATE USED FOR FLOW DEVERTER

Structure # CB-50



Rim Elevation. 586.02

Depth to Bottom:
50" EST.

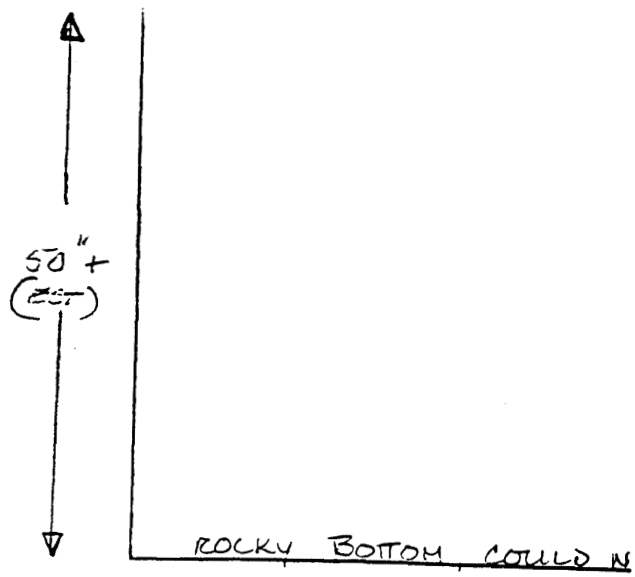
Constructed of:
BRICK / CONCRETE

Sediment: 5-10"
CANNOT REACH BOTTOM

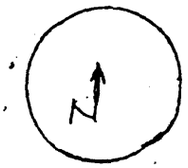
Product: SHEEN

Surrounding Area:
ASPHALT PARKING LOT

Flow:
WEST TO CB-49

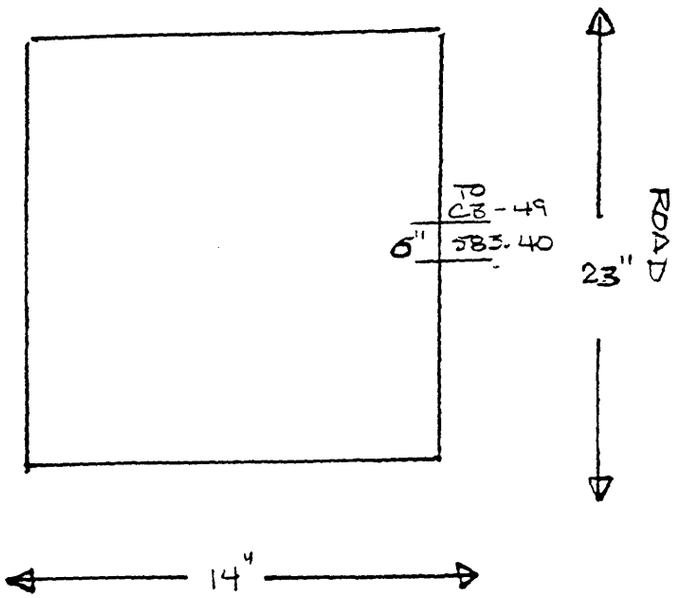


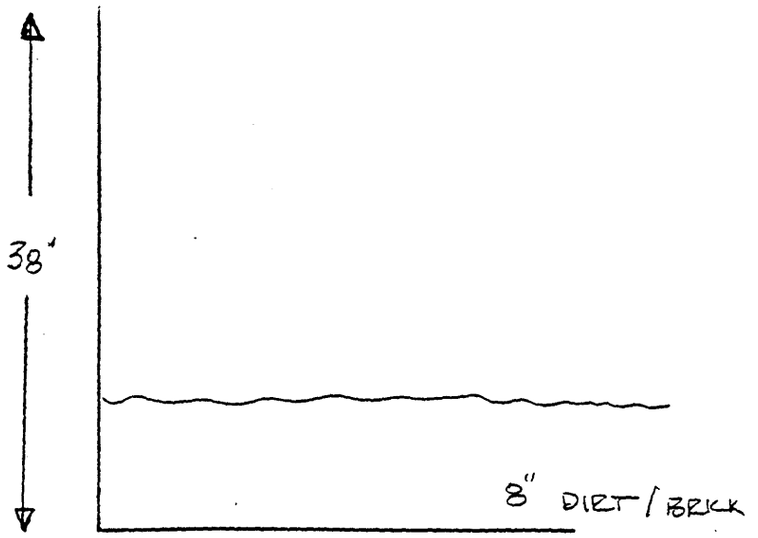
ROCKY BOTTOM, COULD NOT FIND BOTTOM.



Notes: BC 9/8/00
- CONCRETE STRUCTURE
- ON ROADWAY EDGE
- CLAY LINE
- STEEL COVER

Structure # CB-51





Rim Elevation. 586.17

Depth to Bottom: 38"

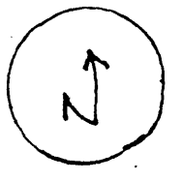
Constructed of:
CONCRETE

Sediment: 8" DIRT/BRICK

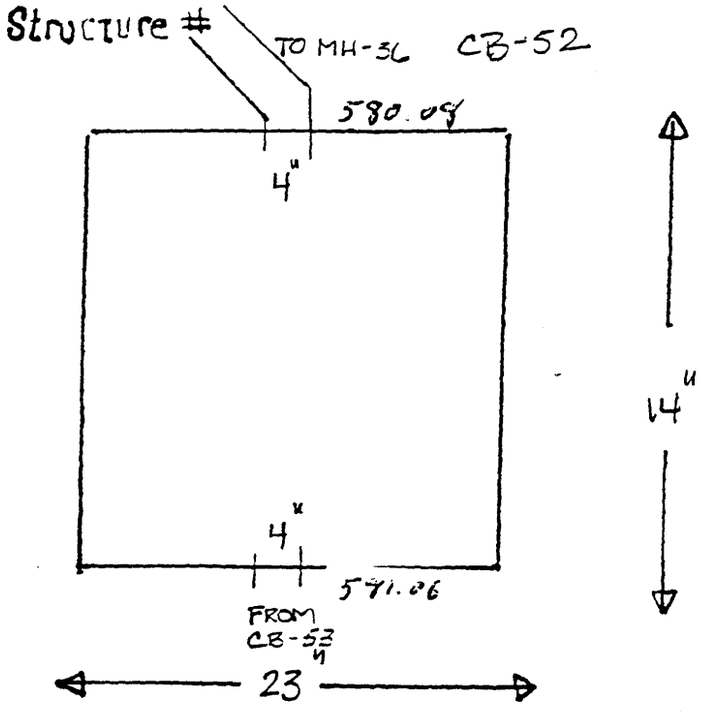
Product: NONE

Surrounding Area:
-ASPHALT ROADWAY

Flow:
EAST TO MAIN LINE TO CB-49



Notes: BC 9/18/00
- CONCRETE CONSTRUCTION
- CLAY LINES
- STEEL COVER
- ASPHALT ROAD EDGE



Rim Elevation: 583.99

Depth to Bottom: 37"

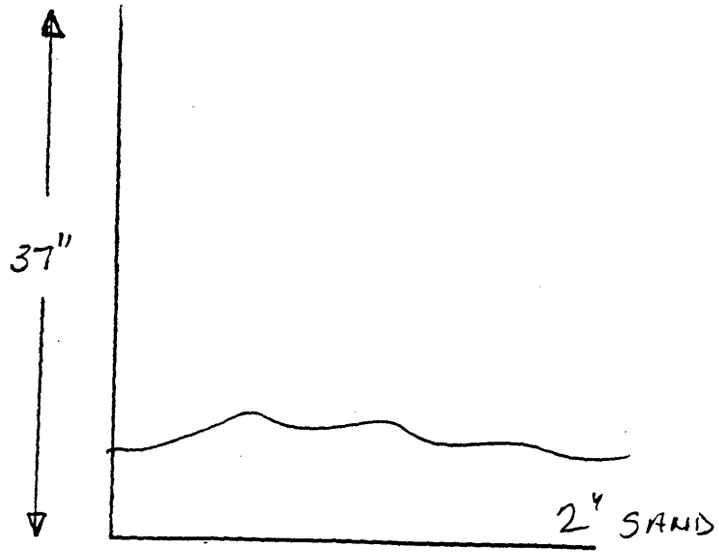
Constructed of:
CONCRETE CONSTRUCTION

Sediment: 2" SAND

Product: NONE

Surrounding Area:
- DIRT / STONE
- ASPHALT ROADWAY

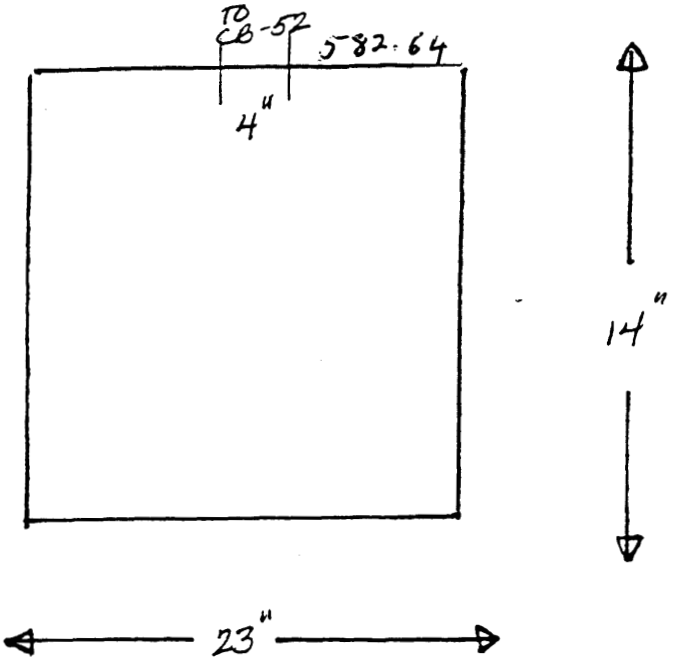
Flow:
CONNECTS CB-53 TO CB-5
FLOWS TO MH-36



N

Notes: BC 7/14/00
- CONCRETE CONSTRUCTION
- CLAY LINE
- STEEL COVER
- CONNECTS TO CB-52

Structure # CB-53



Rim Elevation: 594.67

Depth to Bottom: 29"

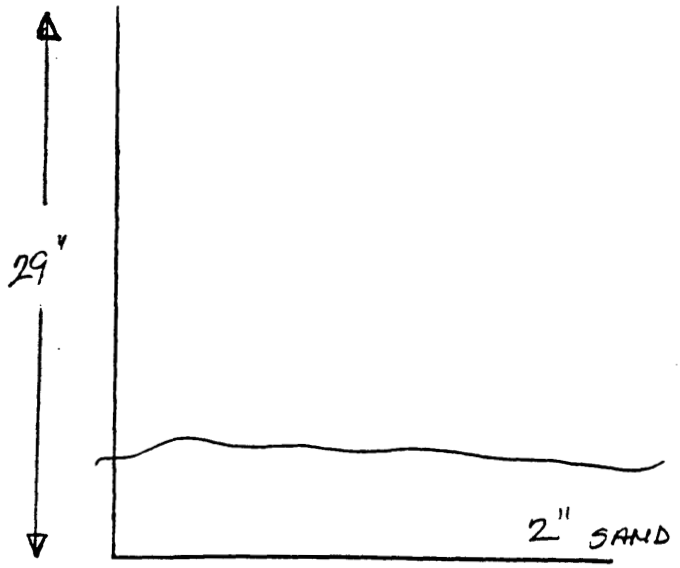
Constructed of:
CONCRETE

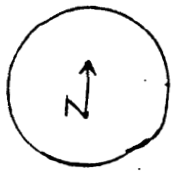
Sediment: 2" SAND

Product: NONE

Surrounding Area:
- DIRT/SAND
- ASPHALT ROADWAY

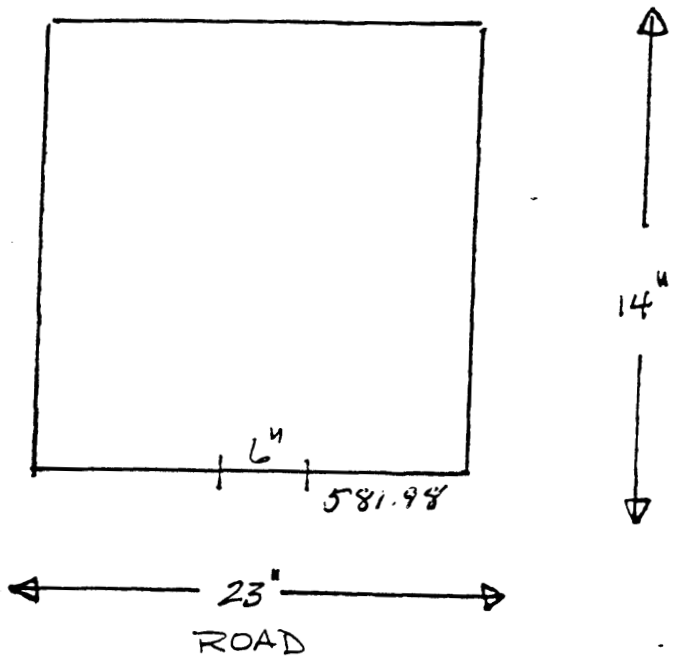
Flow:
To CB-52





Notes: BC 9/1/10
- Concrete Construction
- Steel Cover
- Asphalt Roadway

Structure # CB-54



Rim Elevation. 584.48

Depth to Bottom: 30"

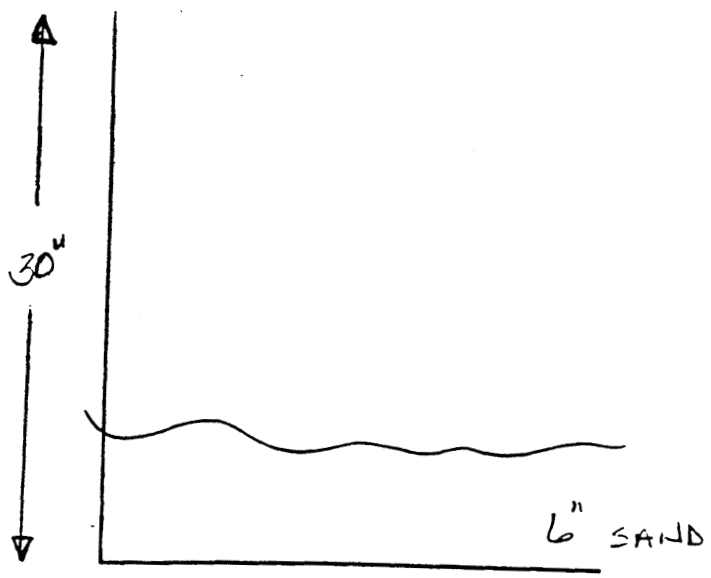
Constructed of:
Concrete

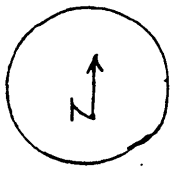
Sediment: 6"

Product: None

Surrounding Area:
- Asphalt Roadway

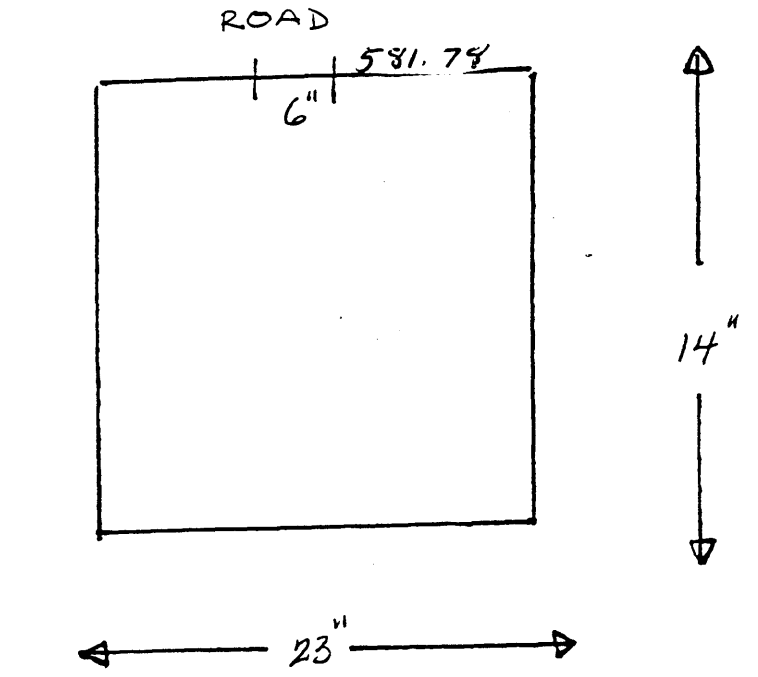
Flow:
- South towards CB-55 to line in middle of road.





Notes: BC 9/18/21
- CONCRETE CONSTRUCTIC
- STEEL COVER
- ASPHALT ROADWAY

Structure # CB-53



Rim Elevation. 584.48

Depth to Bottom: 32"

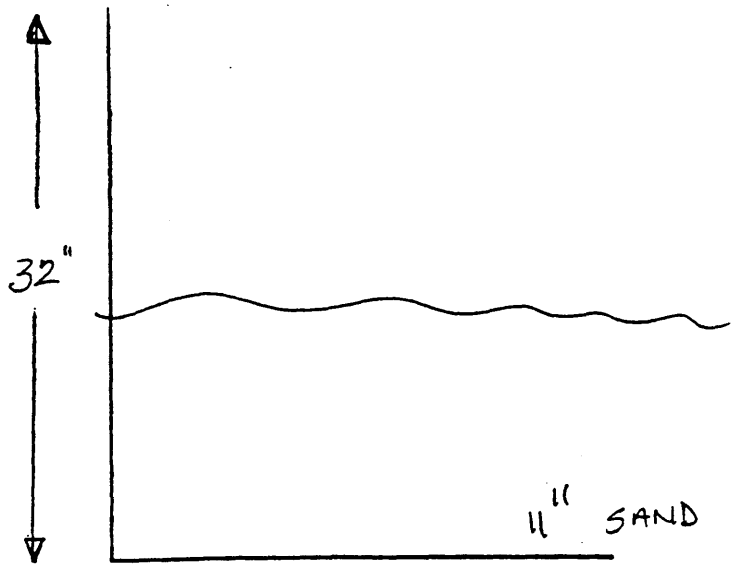
Constructed of:
CONCRETE

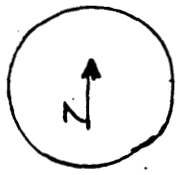
Sediment: 11"

Product: NONE

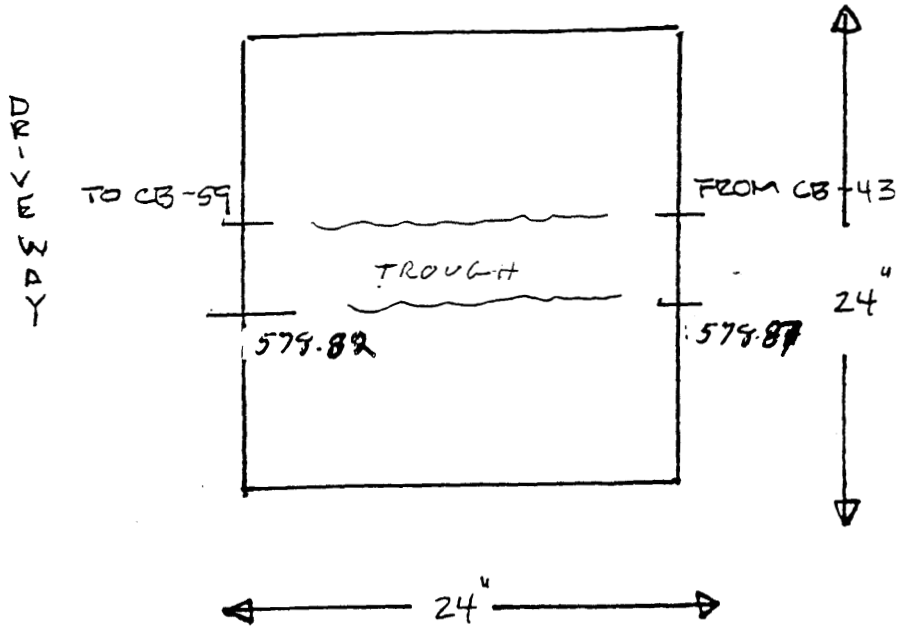
Surrounding Area:
- ASPHALT ROADWAY

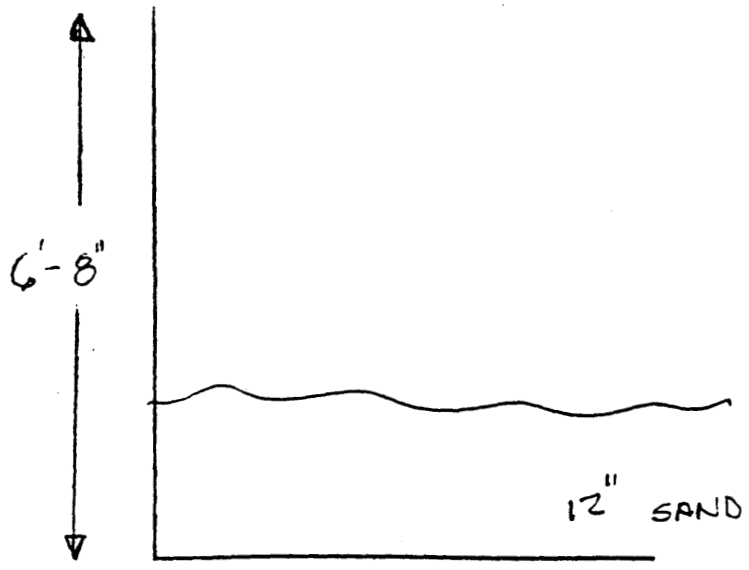
Flow:
NORTH TOWARDS CB-54
TO LINE IN MIDDLE OF
ROADWAY





Structure # CB-56





Notes: BC 7/20/00
- CONCRETE CONSTRUCTION
- FLOWS EAST TO WEST
- GRASS ON EAST / SOU SIDE
- ASPHALT ROADWAY ON NORTH SIDE
- STEEL COVER

Rim Elevation. 575.45

Depth to Bottom: 6'-8"

Constructed of:
CONCRETE

Sediment: 12" SAND

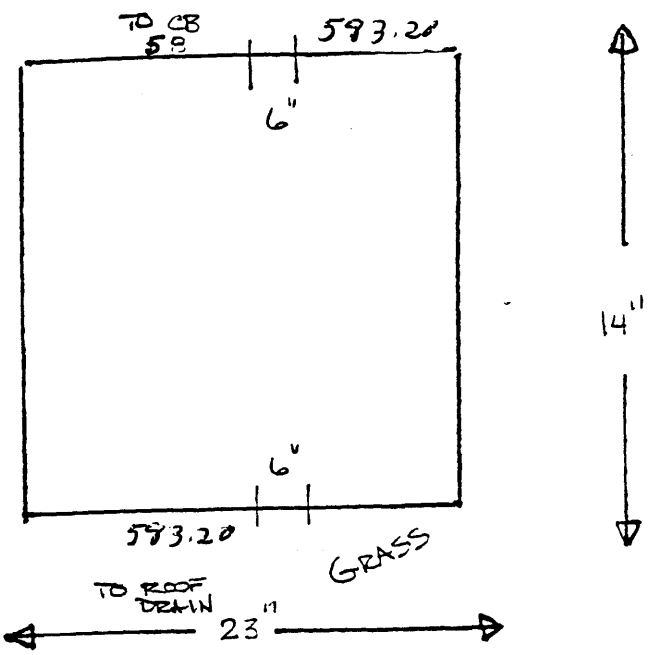
Product: SLIGHT SHEEN

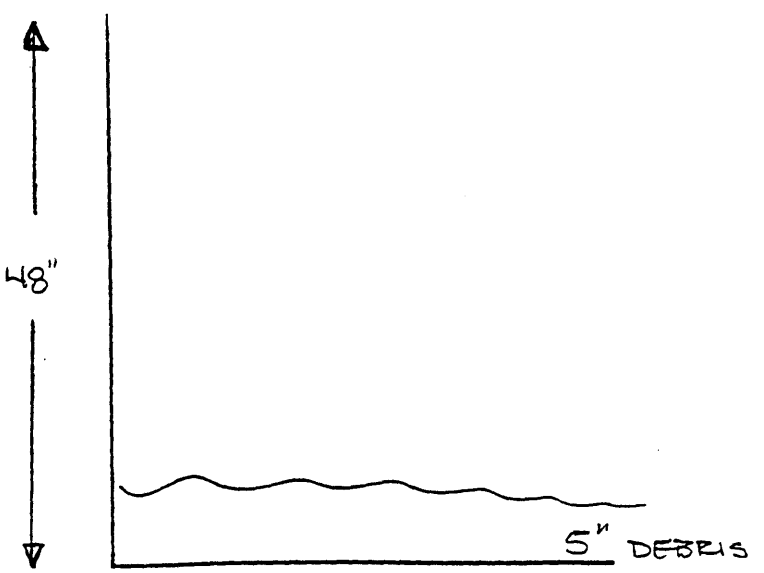
Surrounding Area:
GRASS / DIRT

Flow: EAST TO WEST

N

Structure # CB-57





Notes: BC 9/11/00
- CONCRETE CONSTRUCTION
- ASPHALT ROADWAY
- FAIR CONDITION
- STEEL COVER
- CLAY LINE
- S/E LINE CONNECTS TO ROOF DRAIN

Rim Elevation. 596.76

Depth to Bottom: 48"

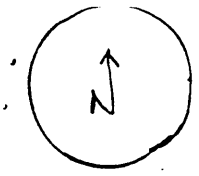
Constructed of:
CONCRETE

Sediment: 5" DEBRIS

Product: NONE

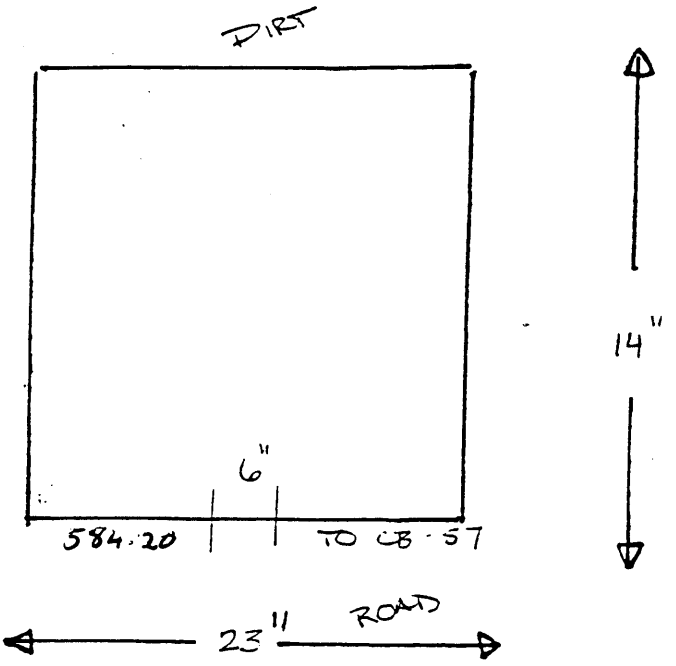
Surrounding Area:
- ASPHALT ROADWAY
- GRASS

Flow:
- 6" PIPE FROM ROOF DRAIN AT MECH. SHOP



Notes: BC 9/11/10
- CONCRETE CONSTRUCT.
- ASPHALT ROADWAY
- STEEL COVER
- CLAY LINE

Structure # CB-58



Rim Elevation: 586.70

Depth to Bottom: 32"

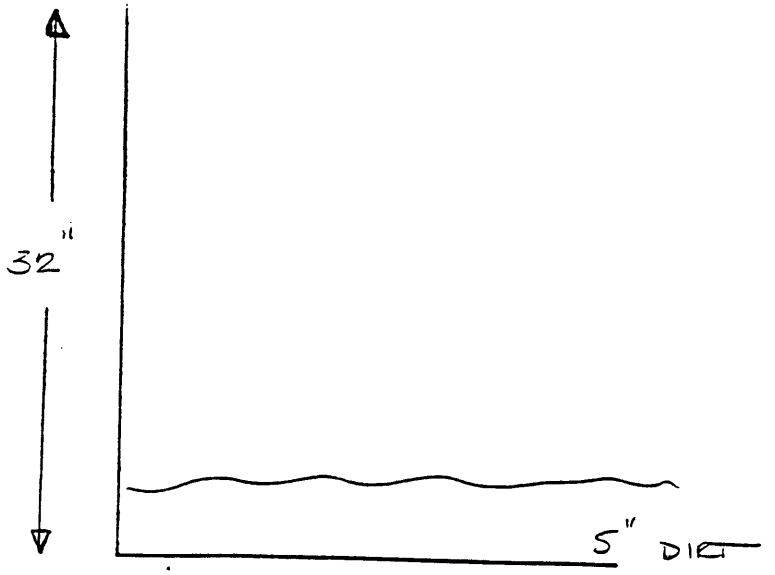
Constructed of:
CONCRETE

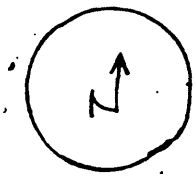
Sediment: 5" DIRT

Product: NONE

Surrounding Area:
- DIRT
- ASPHALT ROADWAY

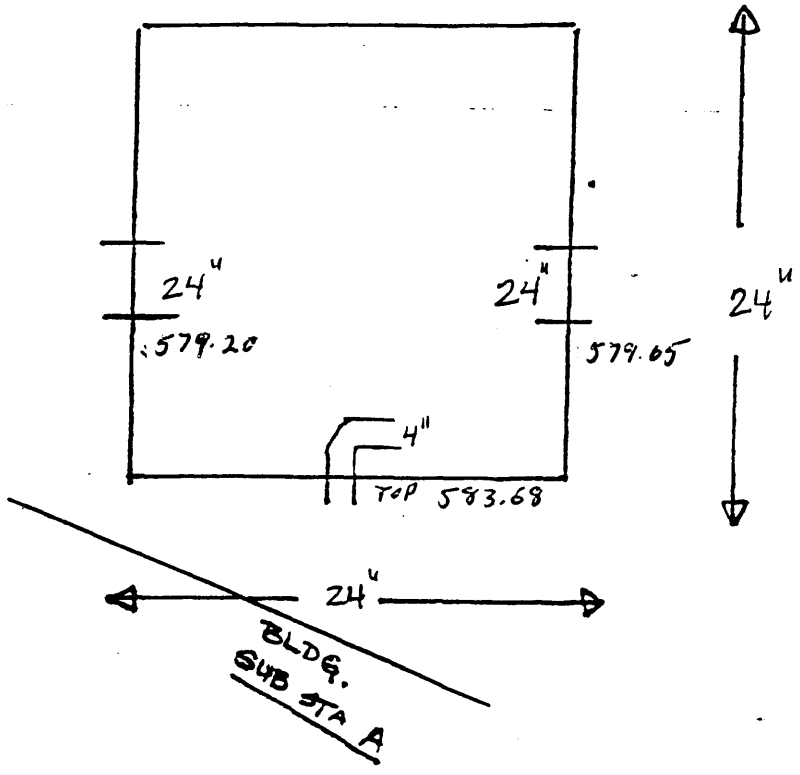
Flow:

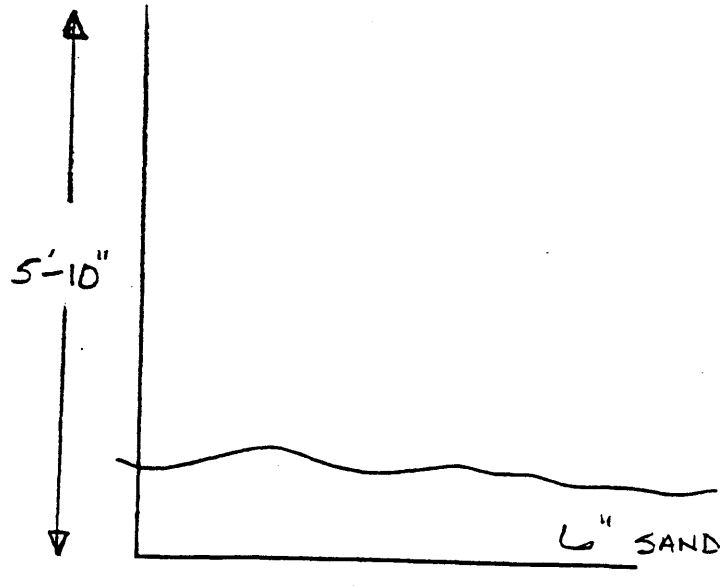




Notes: BC 9/19/00
- CONCRETE CONSTRUCTION
- FLOW GOES EAST TO WEST
- TROFF LINE LINE (NOT VISABLE)
- 4" STEEL LINE

Structure # CB-59





Rim Elevation: 585.40

Depth to Bottom: 5'-10"

Constructed of:
CONCRETE

Sediment: 6" SAND

Product: NONE

Surrounding Area:
- GRAVEL
- ASPHALT ROADWAY

Flow:
EAST → WEST

N

(Originally point was not in the map)

Notes: BC 11/20/00
- CONCRETE CONSTRUCTIO
- WATER ENTERING FROM SOUTH LINE, UNDERNE
- EAST LINE 18' OUT, 2'- DOWN.
- SOUTH LINE 40' OUT TO MH-40
- STEEL COVER

Rim Elevation. 584.55

Depth to Bottom: 54"

Constructed of: CONCRETE

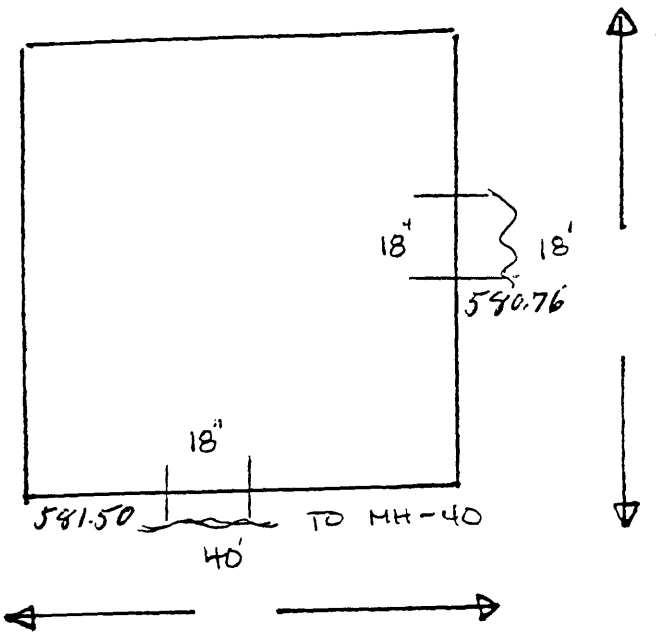
Sediment: 20" OILY SAN

Product: 1" REMOVED

Surrounding Area: DIRT/STONE

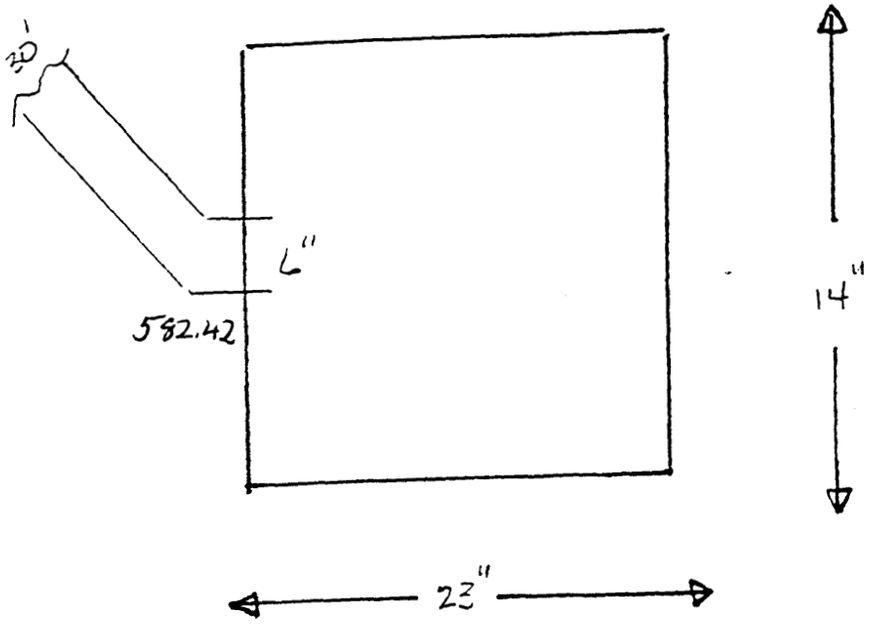
Flow: SOUTH TO MH-40

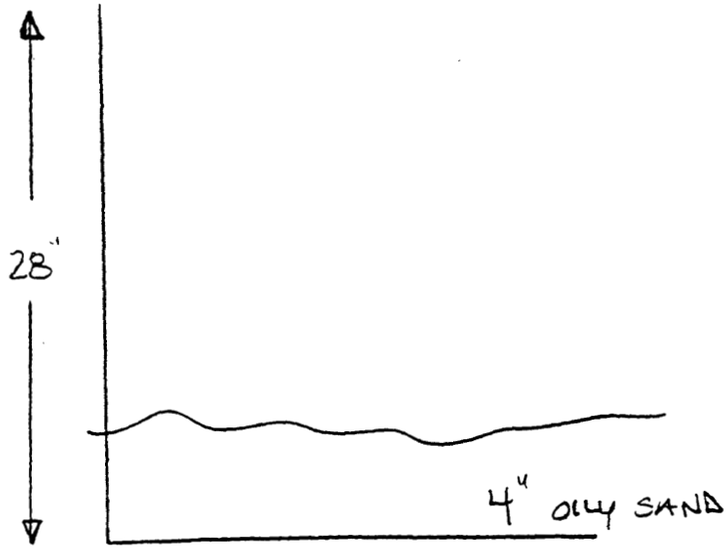
Structure # CB-60



(Originally point was not in the map)

Structure # CB-61





NOTES: BC 4/21/22
- CONCRETE CONSTRUCTION
- LINE OUT N/W 30' STOPPED.
- STEEL COVER
- ASPHAT ROADWAY
- CLAY LINES

Rim Elevation. 584.56

Depth to Bottom: 28"

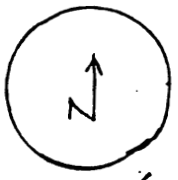
Constructed of:
CONCRETE

Sediment: 4" SAND/OIL

Product: 1" REMOVED

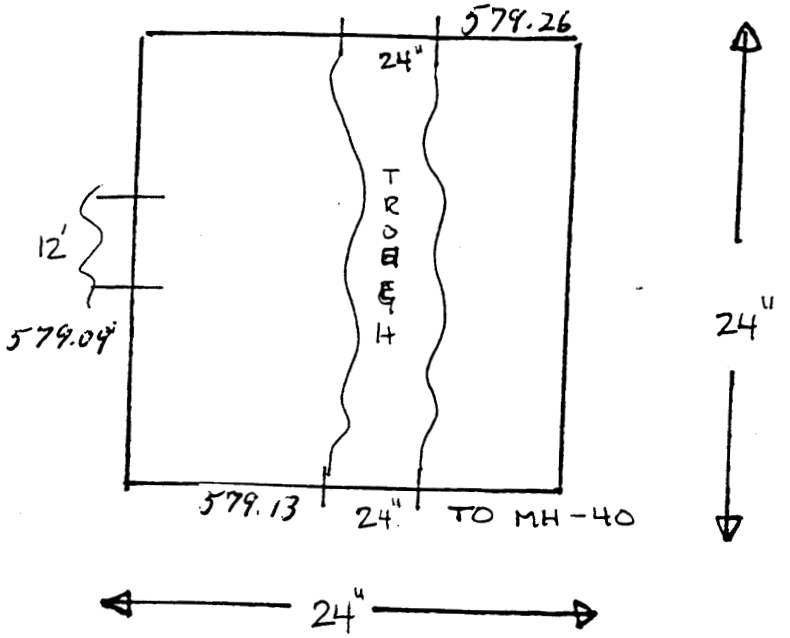
Surrounding Area:
DIRT

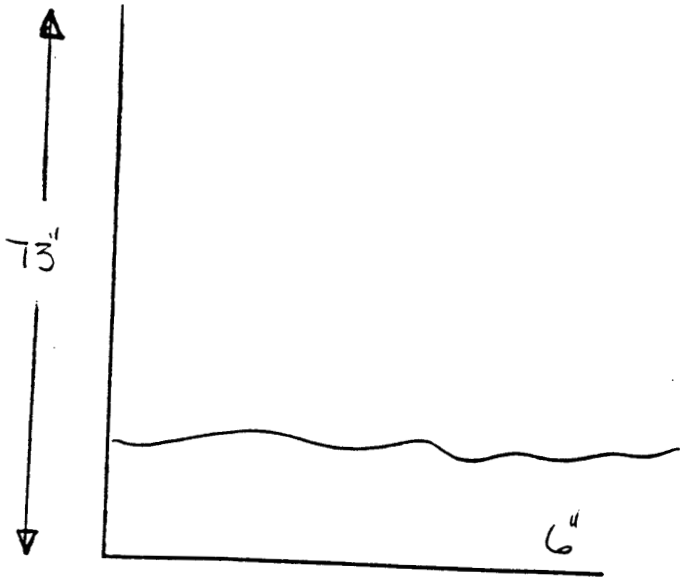
Flow:
N/W OUT 30' STOPPED



(Originally point was not in the map)

Structure # CB-62





Notes: BC 4/21/20
- ASPHALT LIKE MATER
- WEST LINE OUT 12' STOPPED.
- STEEL COVER
- CLAY LINE

Rim Elevation: 585.12

Depth to Bottom: 73"

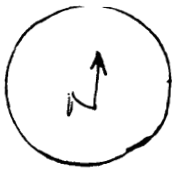
Constructed of:
CONCRETE

Sediment: 6"

Product: LIQUID ASPHALT

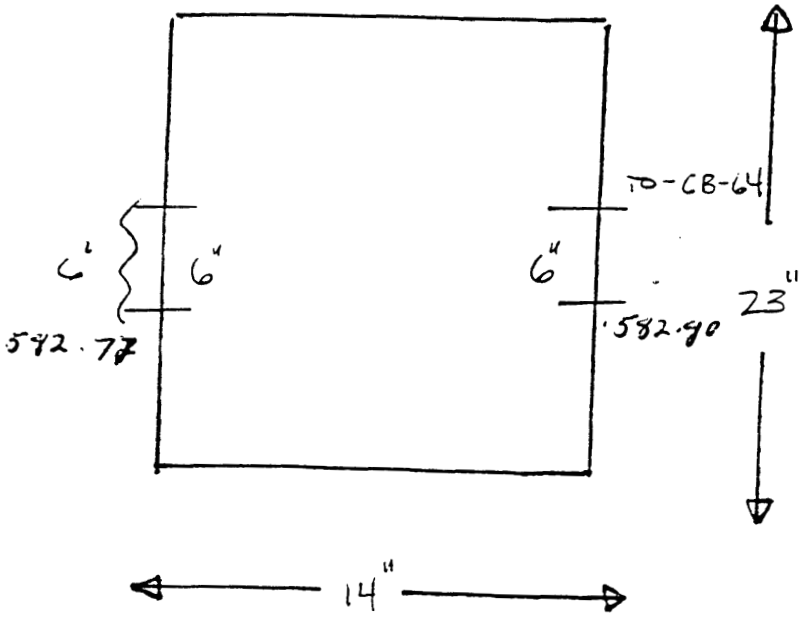
Surrounding Area:

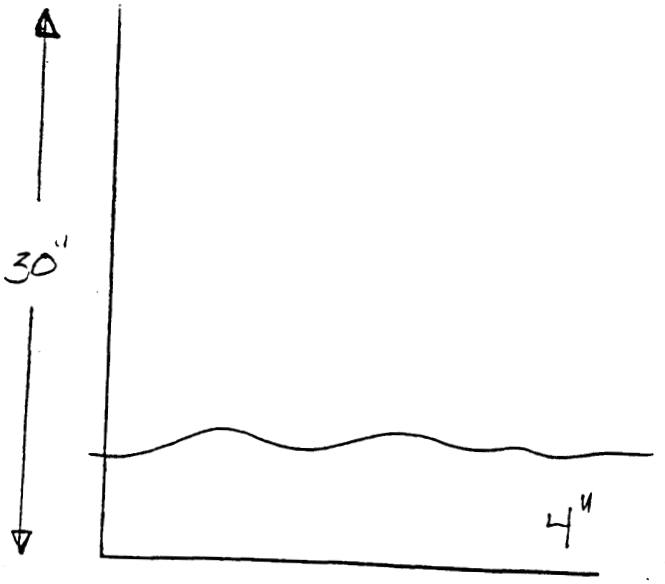
Flow:
SOUTH TO MH-40



Notes: CC 7/1/20
- Concrete Construction
- on asphalt roadway
- Steel ~~Pt~~ Cover
- West line out 6" stopped.

Structure # CB-63





Rim Elevation: 585.24

Depth to Bottom: 30"

Constructed of:
Concrete

Sediment: 4"

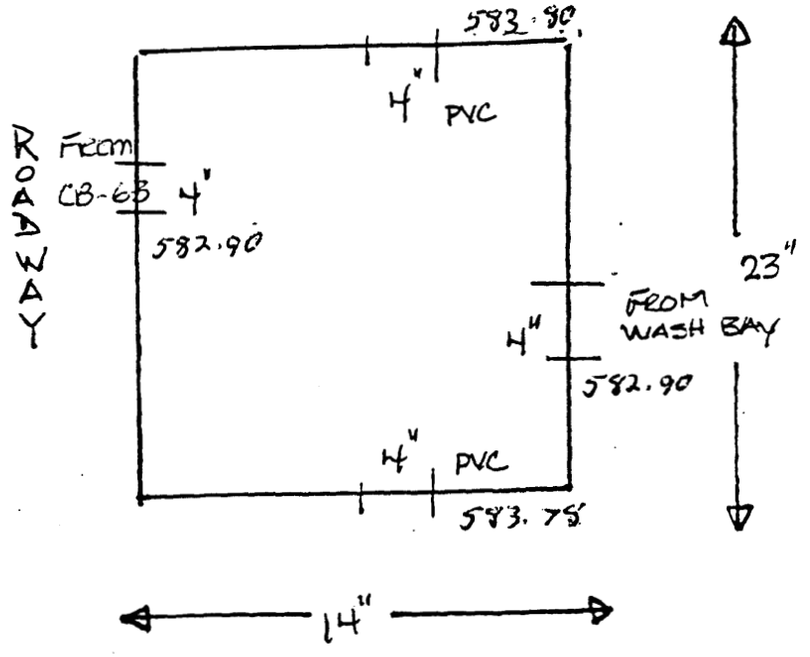
Product: None

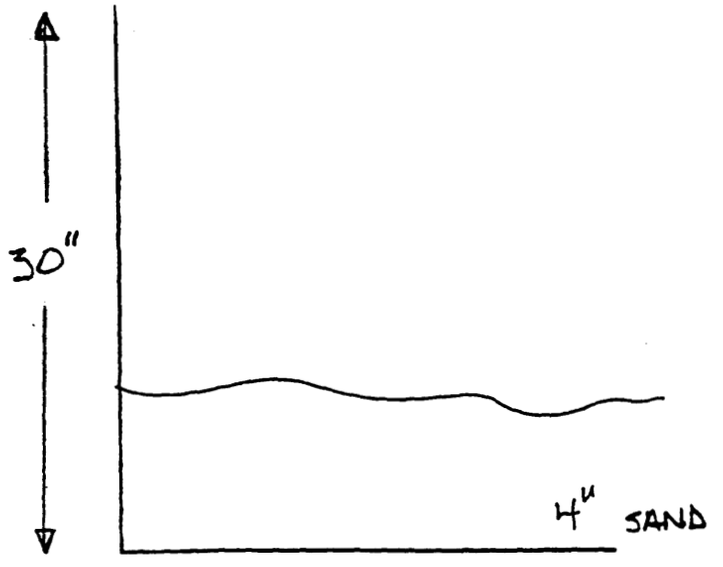
Surrounding Area:
- Asphalt roadway

Flow:
TO - CB - 64

Notes: BC 9/11/00
- CONCRETE CONSTRUCTION
- ASPHALT ROADWAY
- NORTH AND SOUTH LINES PVC
- EAST AND WEST LINES CLAY

Structure # CB-64





Rim Elevation: 585.24

Depth to Bottom: 30'

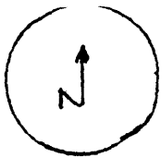
Constructed of:
CONCRETE

Sediment: 4" SAND

Product: NONE

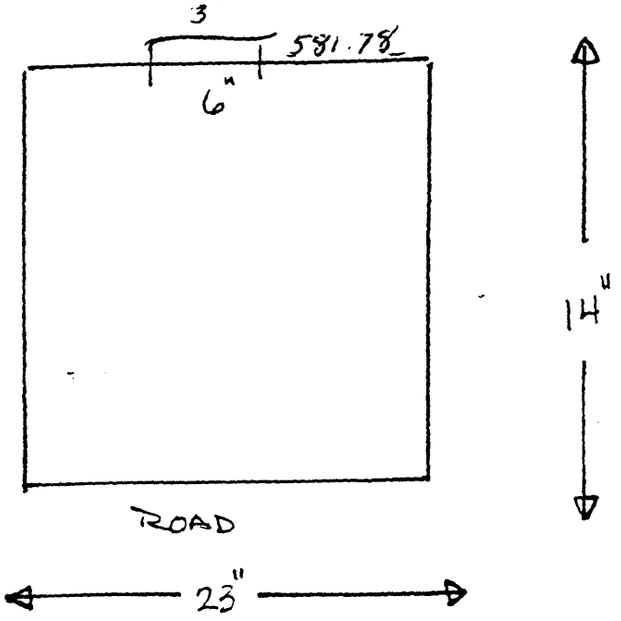
Surrounding Area:
- GRASS
- ASPHALT ROADWAY

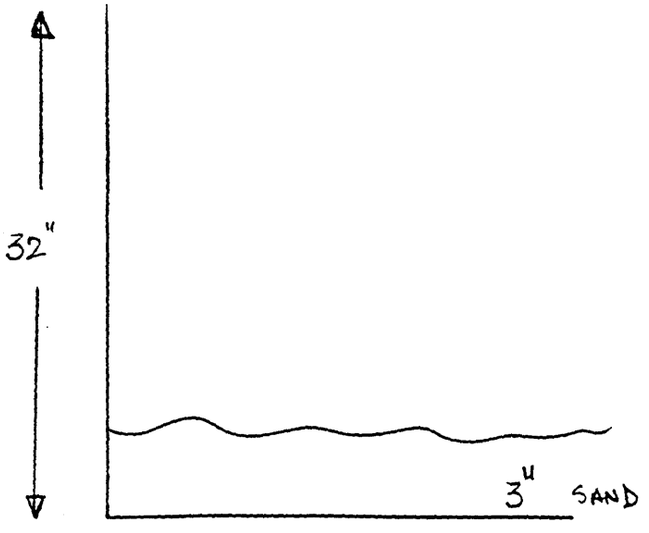
Flow:
TO CB-63



Notes: BC 7/24/00
- CONCRETE CONSTRUCTION
- STEEL COVER
- CLAY LINE
- ASPHALT ROADWAY

Structure # CB-65





Rim Elevation: 584.16

Depth to Bottom: 32"

Constructed of:
CONCRETE

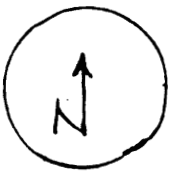
Sediment: 3"

Product: NONE

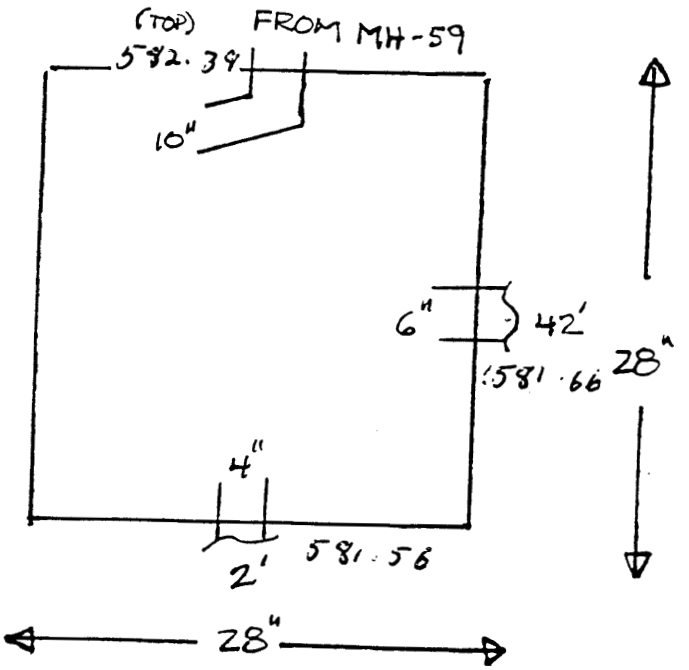
Surrounding Area:
- ASPHALT ROADWAY
- GRASS

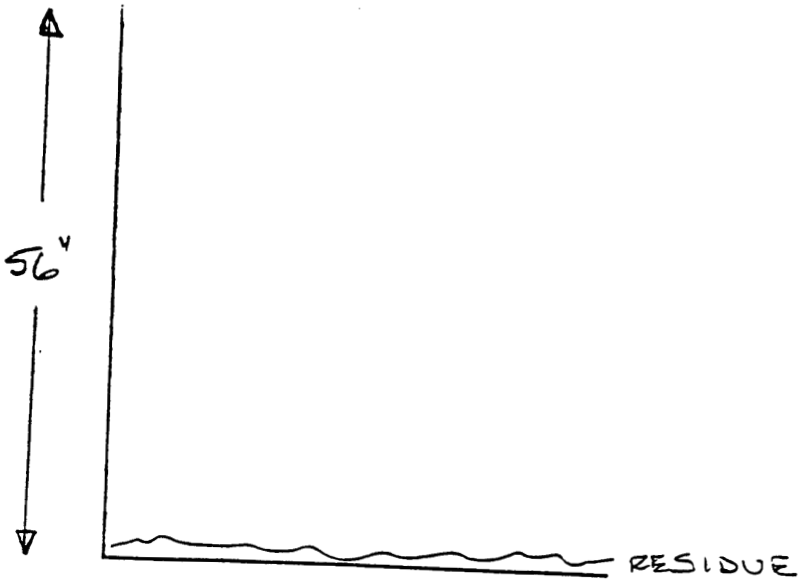
Flow:
NONE

- 6" LINE STEPPED 3' OUT.



Structure # CB-66





Notes: BC 11/2/00
- CONCRETE CONSTRUCTION
- STEEL COVER
- CONCRETE PAD
- 10" STEEL
- 4"/6" CAST
- 6" OUT 42' TO PAD DEAD
- 4" OUT 2' DEAD

Rim Elevation: 584.71

Depth to Bottom: 56"

Constructed of:
CONCRETE

Sediment:
SAND RESIDUE

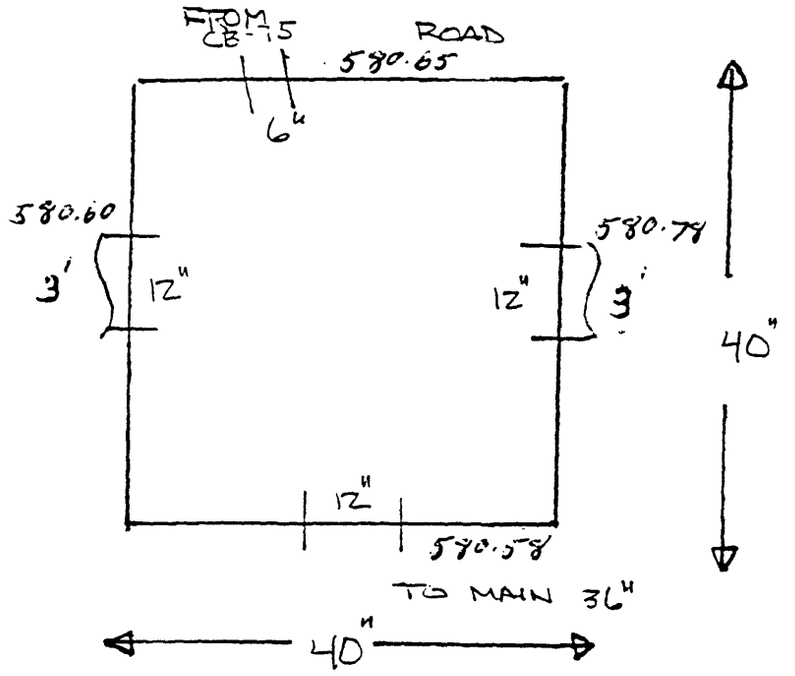
Product: NONE

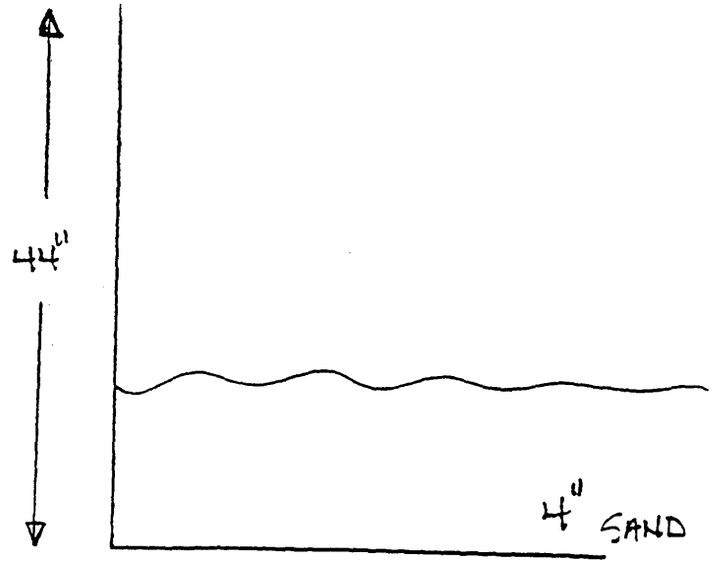
Surrounding Area:
CONCRETE PAD

Flow:
10" FROM NORTH, MH-59

N

Structure # CB-67





Notes: BC 9/25/00
- CONCRETE / BRICK CONSTRUCTION
- STEEL PLATE COVER
- IN GRAVEL COVERED AREA
- CLAY LINES

Rim Elevation. 583.72

Depth to Bottom: 44"

Constructed of:
CONCRETE/BRICK

Sediment: 4" SAND

Product: NONE

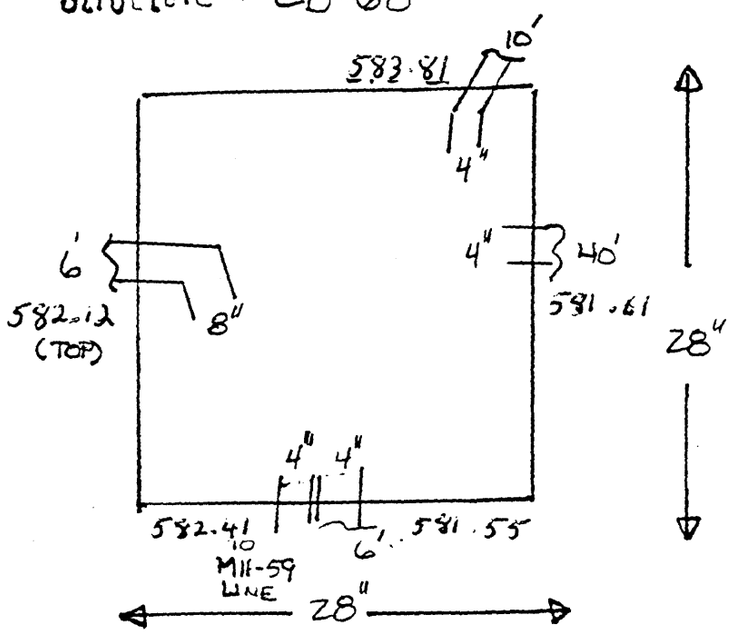
Surrounding Area:
GRAVEL

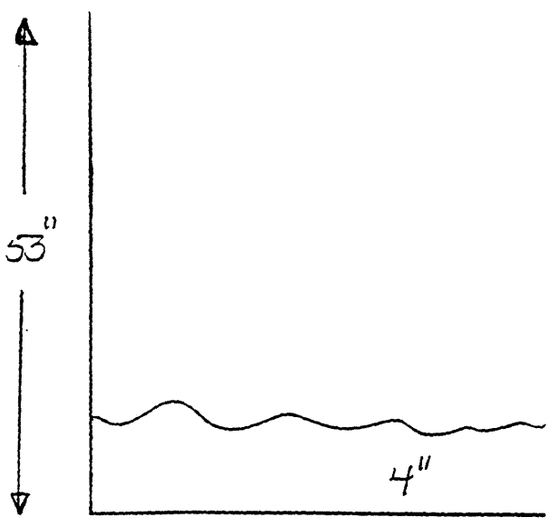
Flow:
SOUTH TO 36" LINE RUNNING EAST TO WEST

12" SOUTH LINE OUT 30' TURNS EAST 175' AND ENDS

12" EAST/WEST LINES OUT 3'-4', ENDS.

Structure # CB-68





Notes: CC 1/27/00
- CONCRETE CONSTRUCTION
- 4" EAST LINE 40' TO FLOOR DRAIN
- STEEL LINES
- STEEL COVER
- 4" SLW LINE TO ~~PAD~~ MH-59

Rim Elevation: 584.69

Depth to Bottom: 53"

Constructed of:
CONCRETE

Sediment: 4" SAND

Product:
SHEEN

Surrounding Area:
CONCRETE PAD

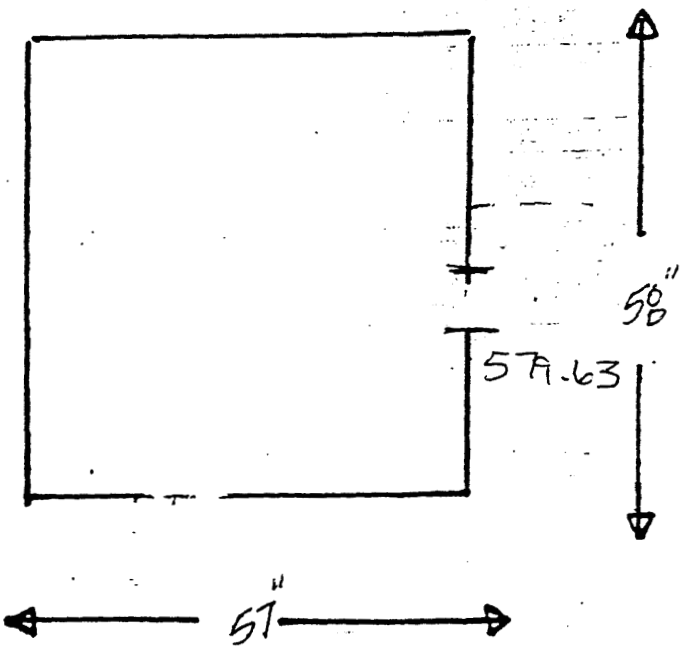
Flow:
4" EAST TO PAD DRAIN
4" SLW TO MH-59

1-10-01 (6)

N

Notes:

Structure # CB-69



Rim Elevation:

Depth to Bottom:

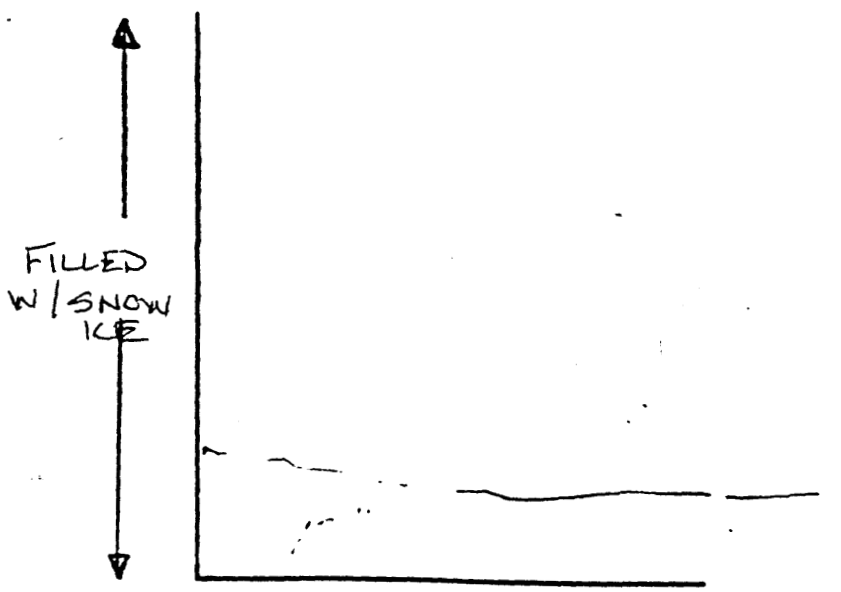
Constructed of:

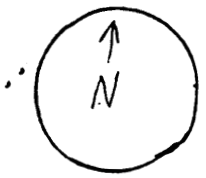
Sediment:

Product:

Surrounding Area:

Flow:

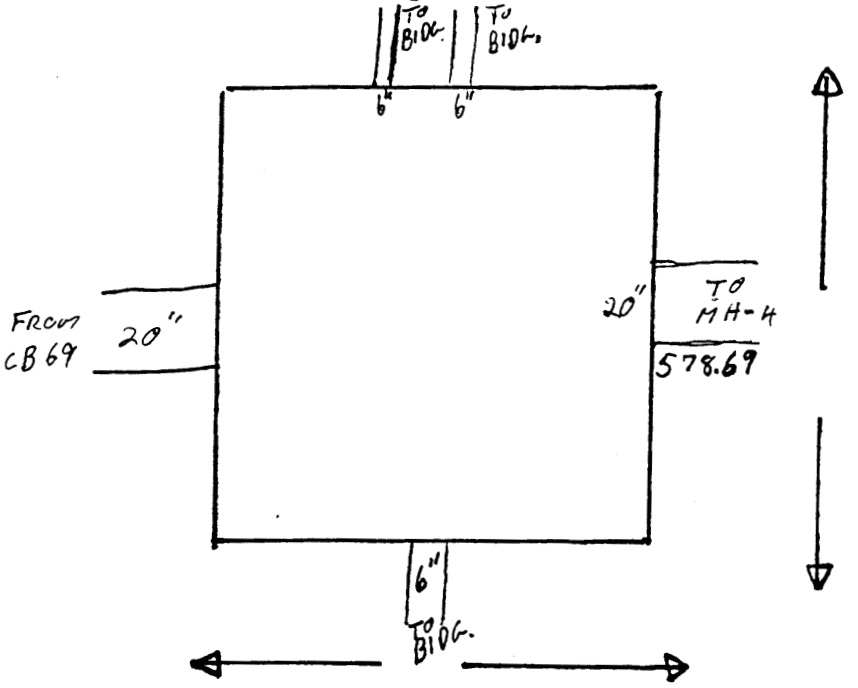




Notes: BC 8/10/00

CATCH BASIN
20" LINE TO MH-4 HAS
3" VALVE CEMENTED IN
CENTER VALVE CLOSED.
VALVE REMOVED 9/30/00
ALLOWING FLOW TO MH-4

Structure # CB 70



Rim Elevation:

Depth to Bottom:

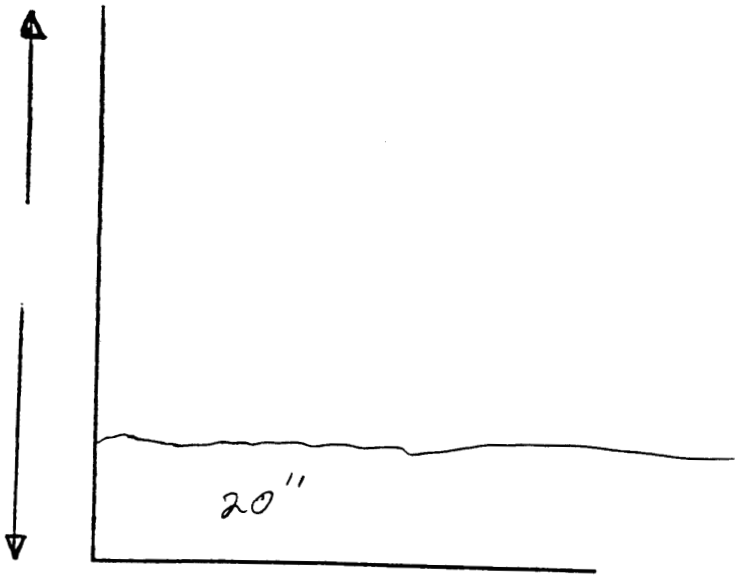
Constructed of: BRICK AND CONCRETE

Sediment: 20" 0.17 SAND.

Product: SHEEN

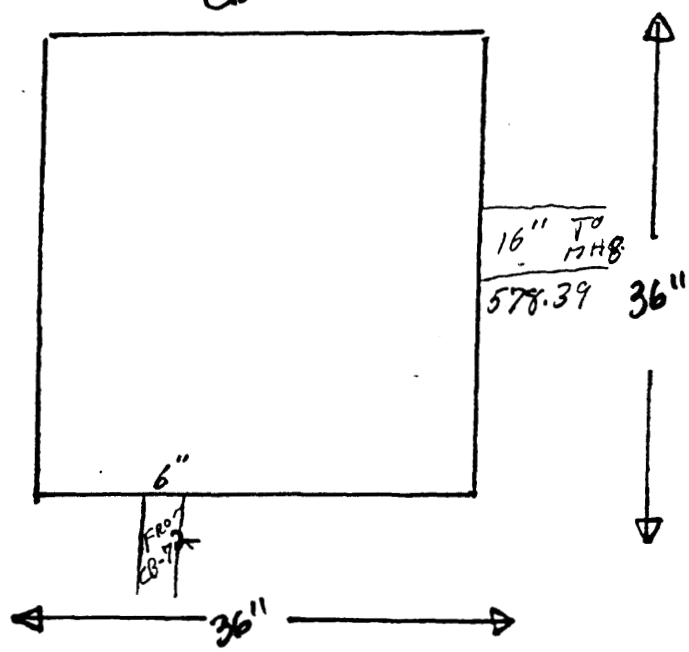
Surrounding Area: PAVED

Flow: ~~WEST~~ EAST TO MH-4



Notes: BC 8/10/00
- Concrete construction
- Lines jetted clean.
- Good Flow from CB-72 and good Flow to MH-8.

Structure # ~~CB-71B~~ A
CB-71



Rim Elevation:

Depth to Bottom:

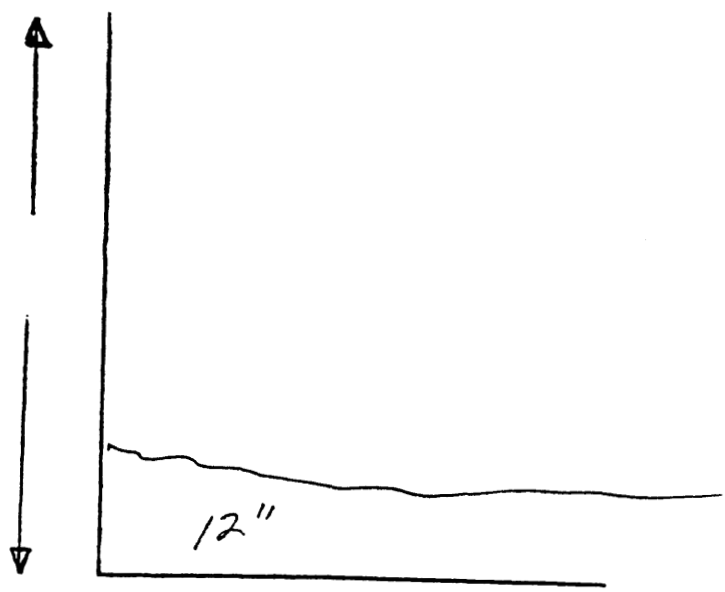
Constructed of: Cement

Sediment: 1 Foot

Product: Sheen

Surrounding Area: ~~Pave~~
Concrete/Asphalt

Flow: East to MH-8

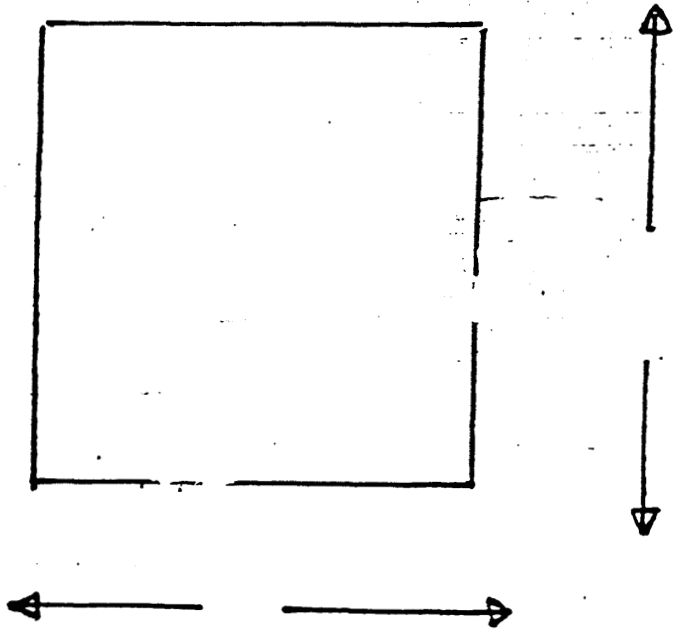


N

1-16-91

Notes:

Structure # CB-72



BASIN BOTTOM

580.26

Rim Elevation:

Depth to Bottom:

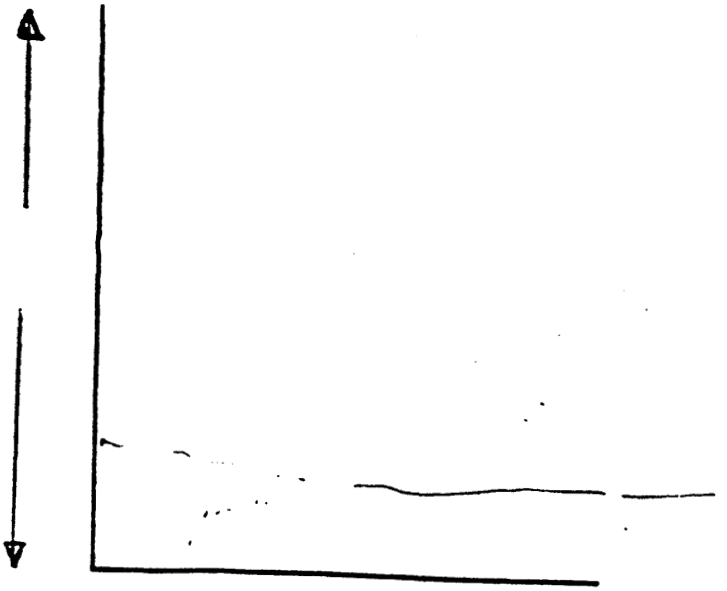
Constructed of:

Sediment:

Product:

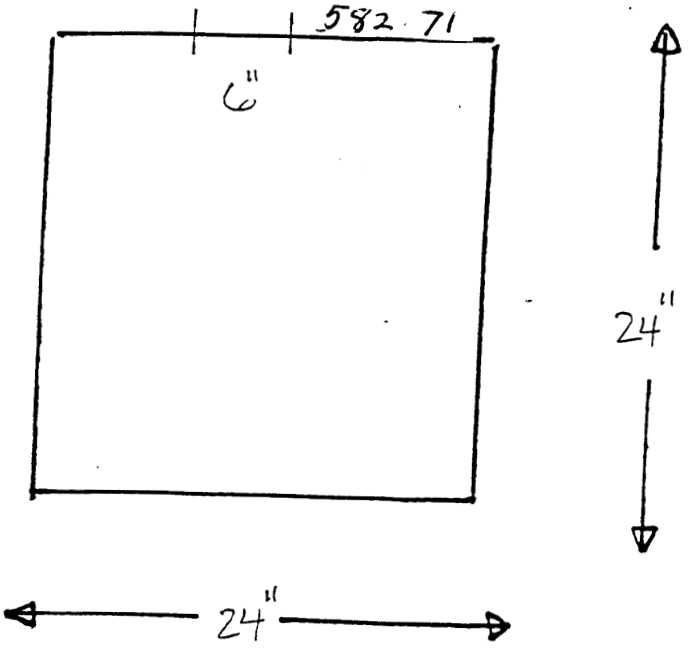
Surrounding Area:

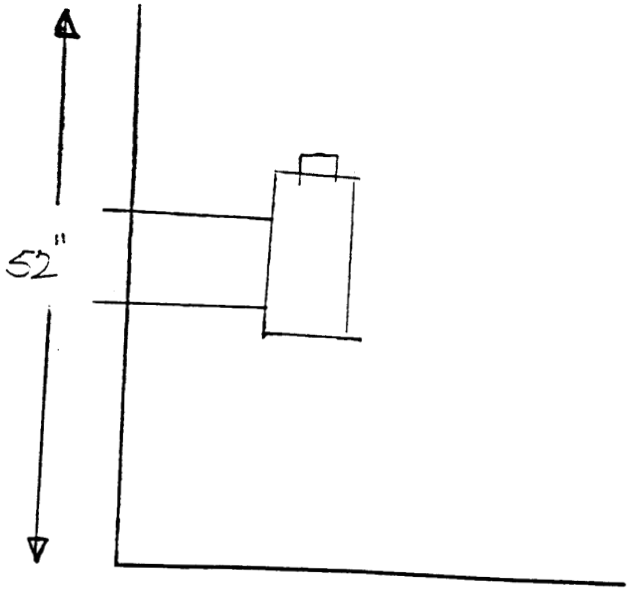
Flow:



N

Structure # CB-73





Notes: BC 10/2/00
- formed concrete const.
- inside asphalt parking lot - discharges to BSA
- line in CB. runs north to Elic ST. cast const. w/te. and top clean-out

Rim Elevation:
585.29

Depth to Bottom: 52"

Constructed of:
Concrete

Sediment:
CLEAN

Product:
CLEAN

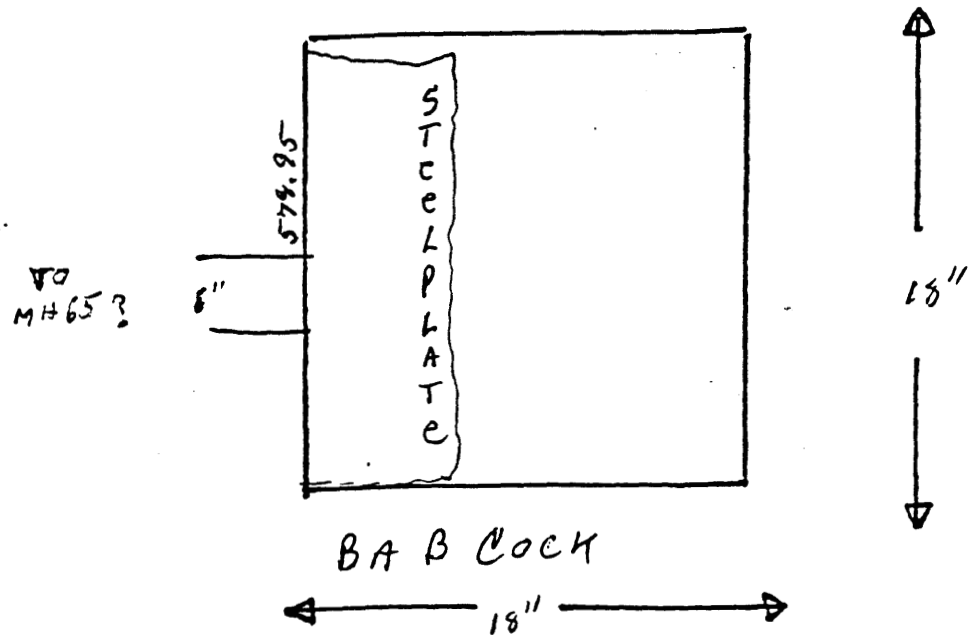
Surrounding Area:
ASPHALT PARKING LOT

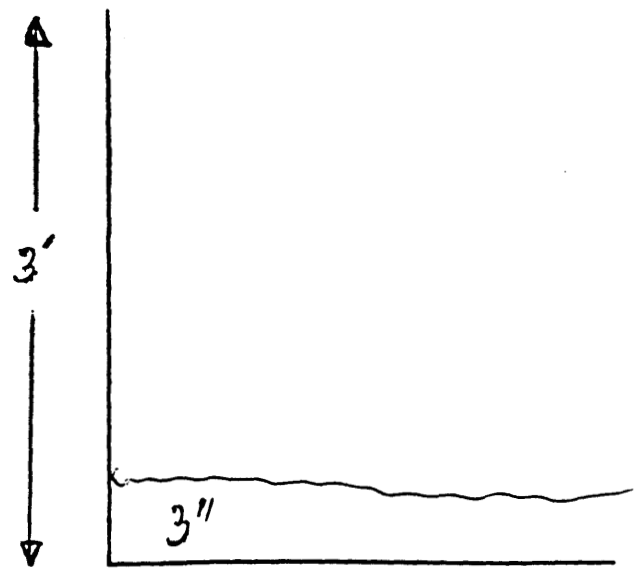
Flow:
TO B.S.A.

N →

Notes: BC 4/19/01
- CB DRY
- 6" FLOWS TO MH 65

Structure # CB 74





Rim Elevation: 582.13

Depth to Bottom: 3'

Constructed of: CEMENT

Sediment: 3" SAND

Product: NONE

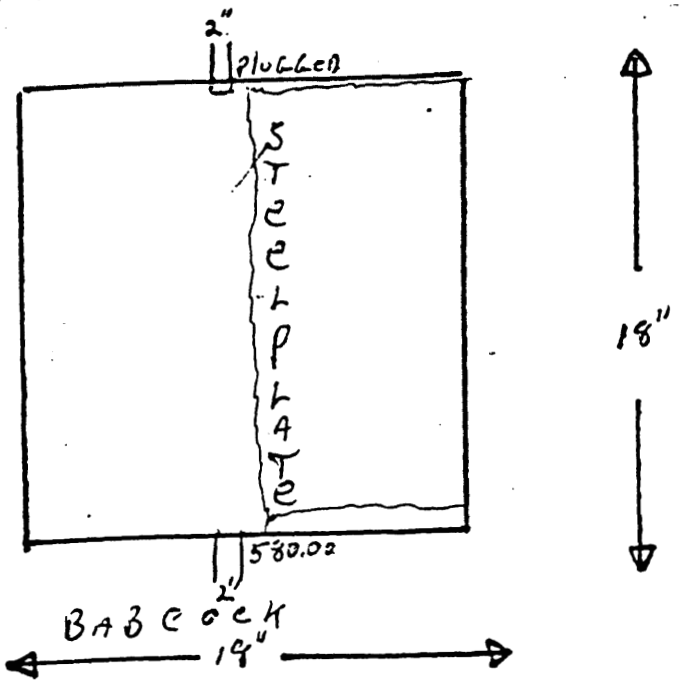
Surrounding Area: PAVED

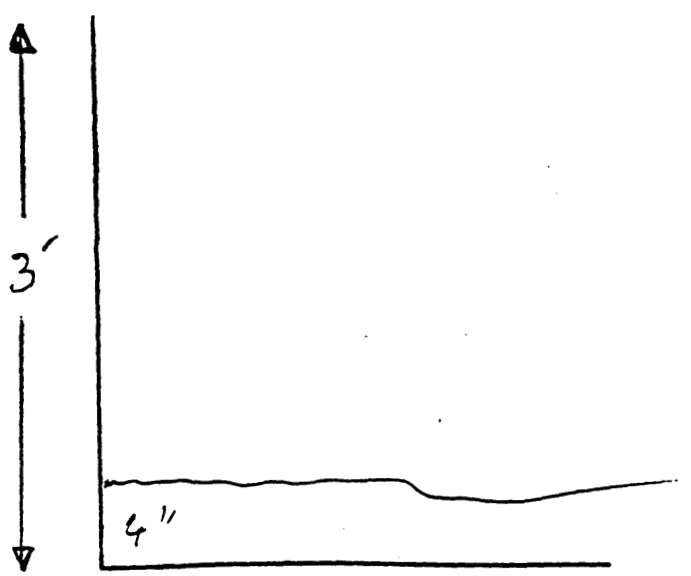
Flow: SOUTH

(←N)

CTS

Structure # CB 75





Notes: BC 4/19/01
- Could not Remove Steel Plate
- 2" to East Plugged
- 2" to West to Small to Jct.

Rim Elevation: 582.61

Depth to Bottom: 3'

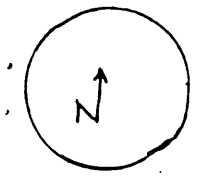
Constructed of: cement

Sediment: 4" sand

Product: ~~oil~~ None

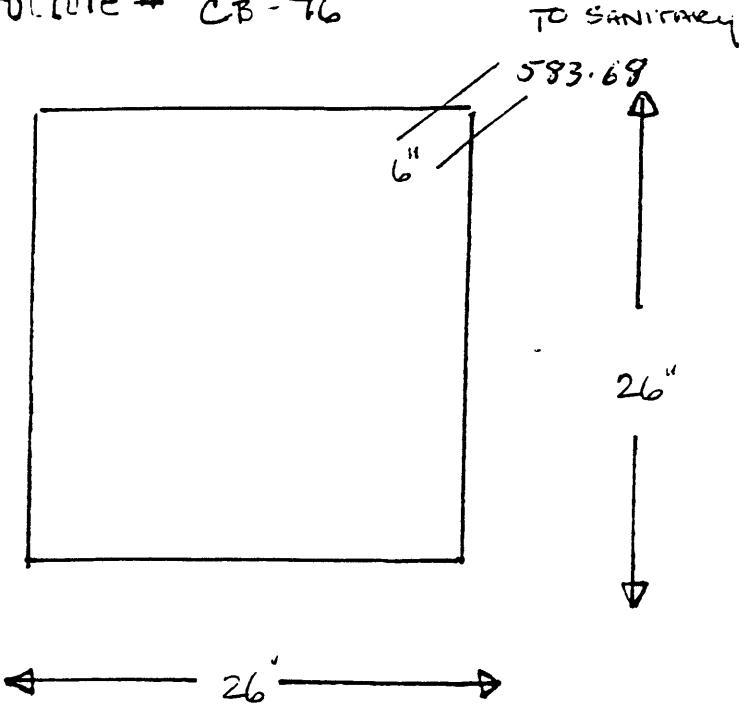
Surrounding Area: Paved

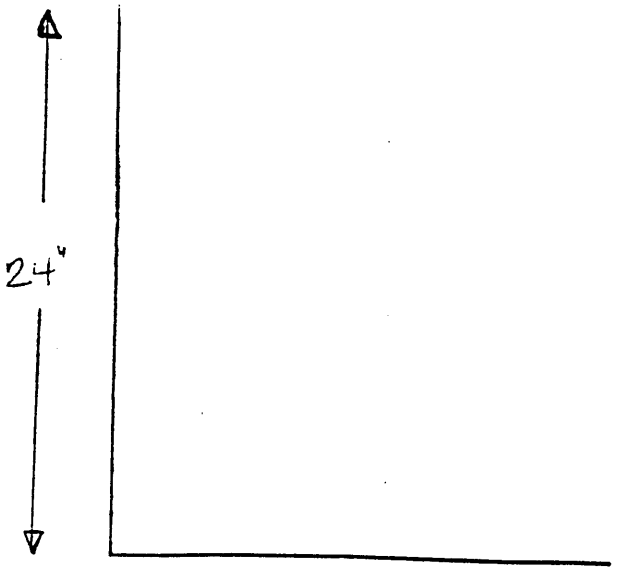
Flow:



Notes: BC 9/8/00
- CONCRETE CONSTRUCTION
- AT MAIN GATE
- PIPE BELLS TO BOTTOM
- CAST LINE

Structure # CB-76





Rim Elevation. 585.68

Depth to Bottom: 24"

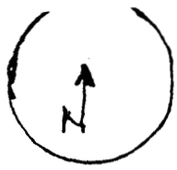
Constructed of:
CONCRETE

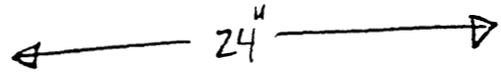
Sediment: NONE

Product: NONE

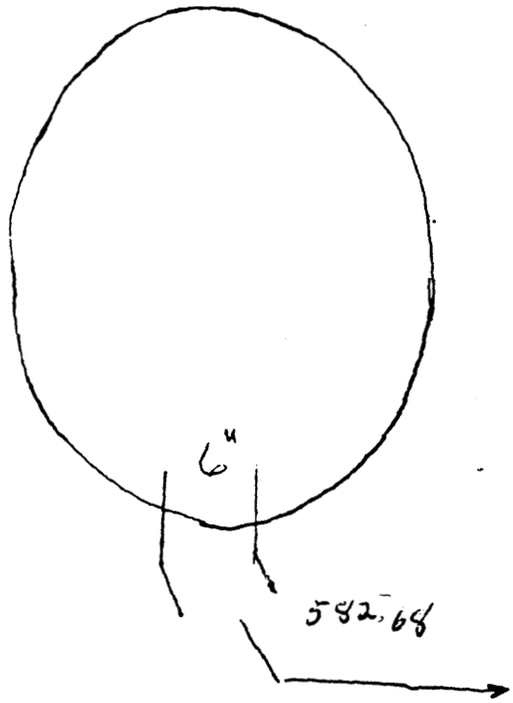
Surrounding Area:
- ASPHALT
- MAIN GATE

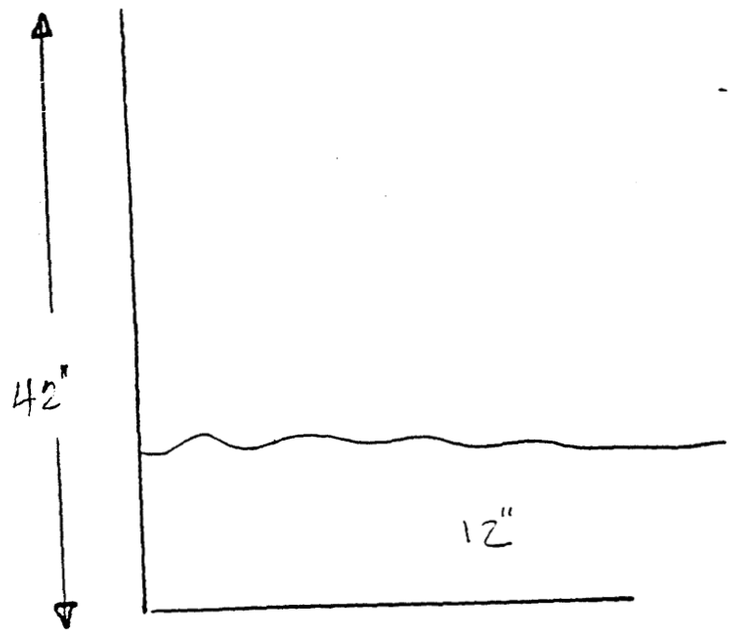
Flow:
TO SANITARY





Structure # CB-77





Notes: BC 9/29/21
- STEEL COVER
- IN PARKING LOT
- BRICK CONSTRUCTION
- POOR SHAPE
- WATER FLOW INCOMING FROM MISSING BRICKS
- CLAY PIPE

Rim Elevation: 585.56

Depth to Bottom: 42"

Constructed of:
CONCRETE

Sediment: 12" SLUDGE/EE

Product:
SHEEN

Surrounding Area:
- ASPHALT PARKING LOT

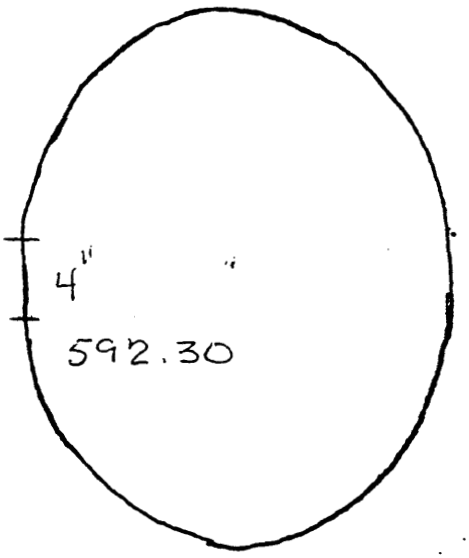
Flow:
FLOWS EAST 40'

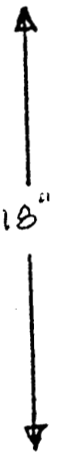
1-10-01 (B)

N

Structure # CB-78

Notes:
- 4" PVC LINE
- IN WASH BAY
- STEEL COVER
- FORMED CONCRETE





Rim Elevation:
597.83

Depth to Bottom:
24"

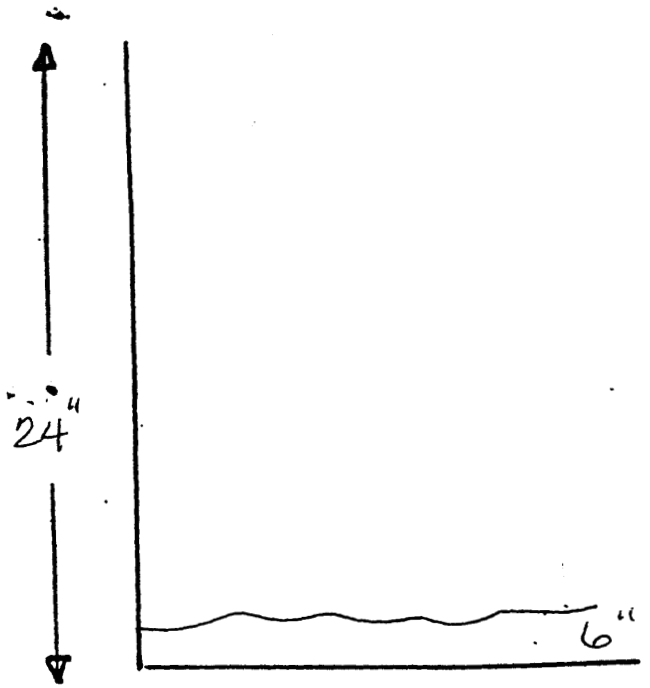
Constructed of:
CONCRETE

Sediment:
SAND 6"

Product:
NONE

Surrounding Area:
CONCRETE

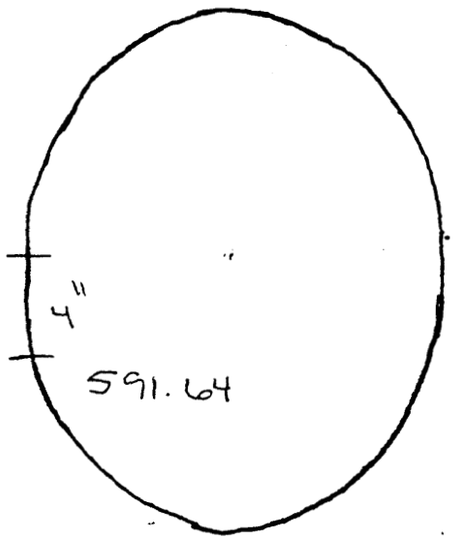
Flow:
COUNECTS TO CB-64 THEN TO CB-63

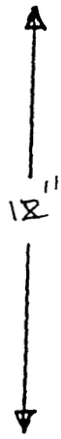


Structure # CB-79

1-10-81

Notes:
- 4" PVC
- IN WASHBAY
- STEEL COVER
- FORMED CONCRETE





Rim Elevation:
597.16

Depth to Bottom:
24"

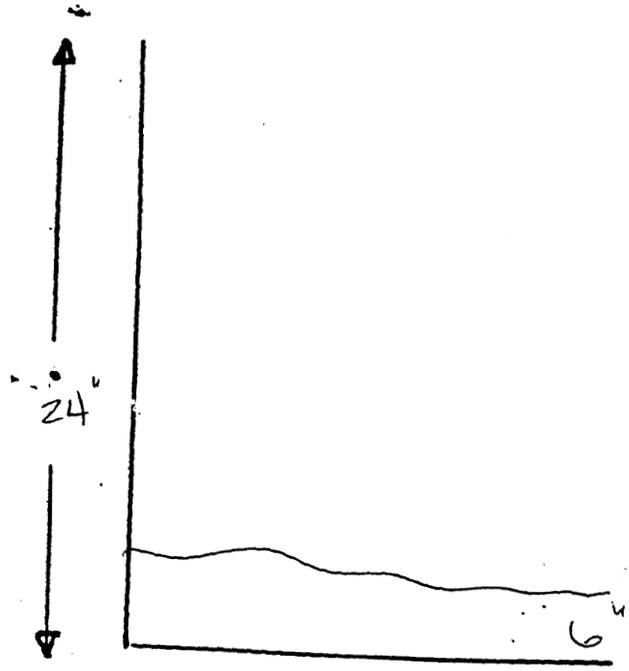
Constructed of:
CONCRETE

Sediment:
6" SAND

Product:
NONE

Surrounding Area:
CONCRETE

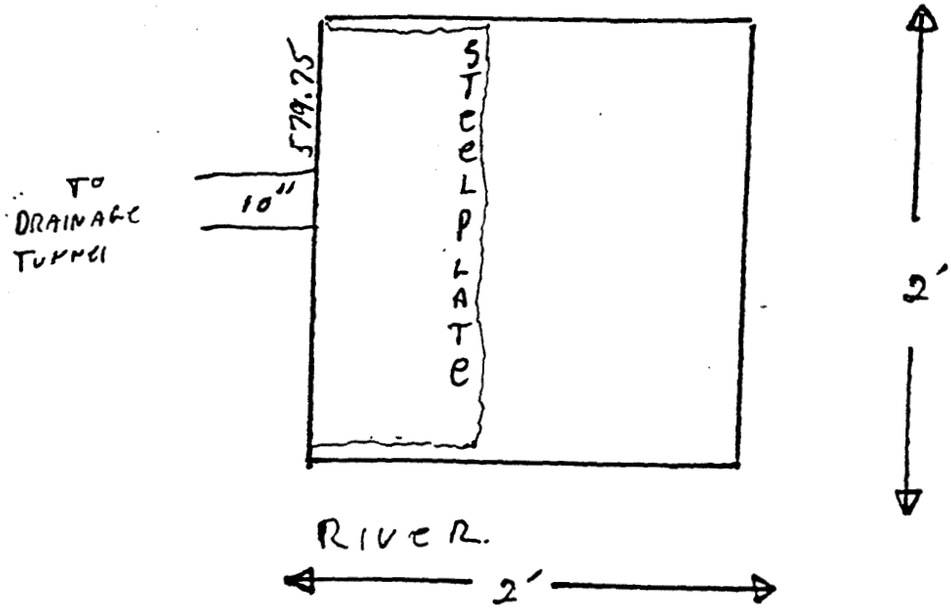
Flow:
CONNECTS TO CB-64
THEN TO CB-63

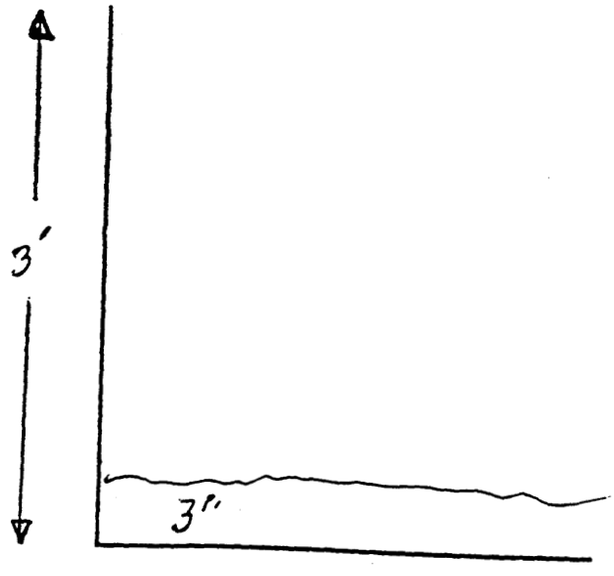


N

Notes: BC 4/19/01
- 10" PIPE FLOWS TO 6' DRAINAGE TUNNEL

Structure # CB 80





Rim Elevation: 581.81

Depth to Bottom: 3'

Constructed of: cement

Sediment: 3"

Product: none

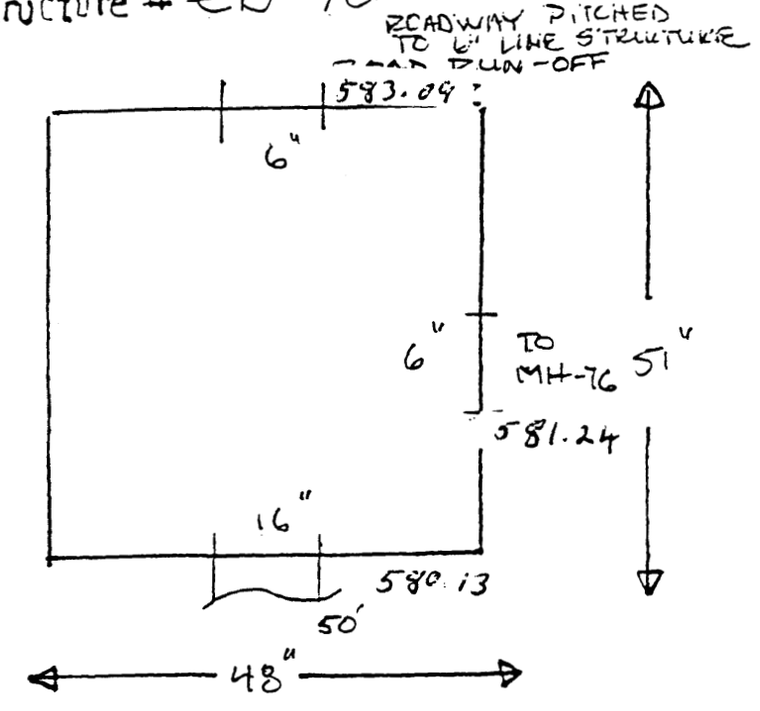
Surrounding Area: PAVED

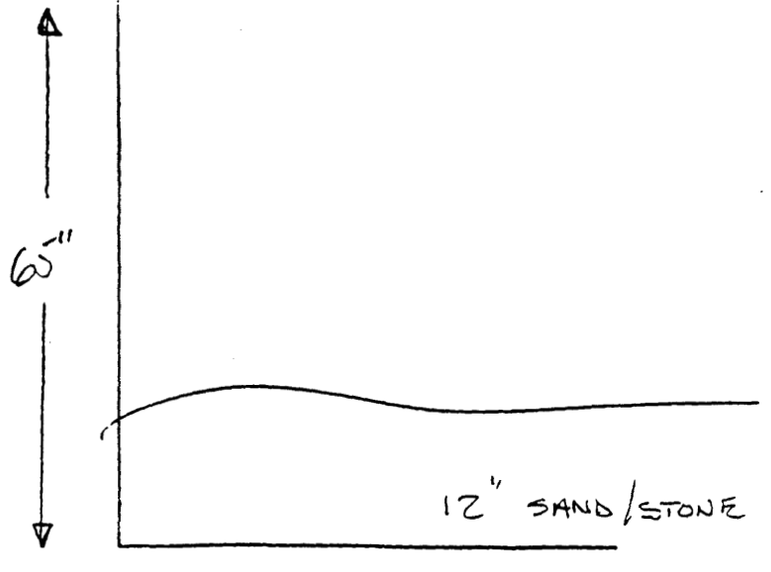
Flow: west

(CBS 70 - surveyor)

now is CB-81

Structure # ~~CB-70~~





Notes: BC 11/29/00
Concrete Const.
Clay Pipes
Stone cover on surrounding Sur-
6" NORTH LINE ROAD RUN-OFF
6" EAST LINE PVC

Rim Elevation.
584.64

Depth to Bottom: 65"

Constructed of:
CONCRETE

Sediment: 12" SAND/STONE

Product: NONE

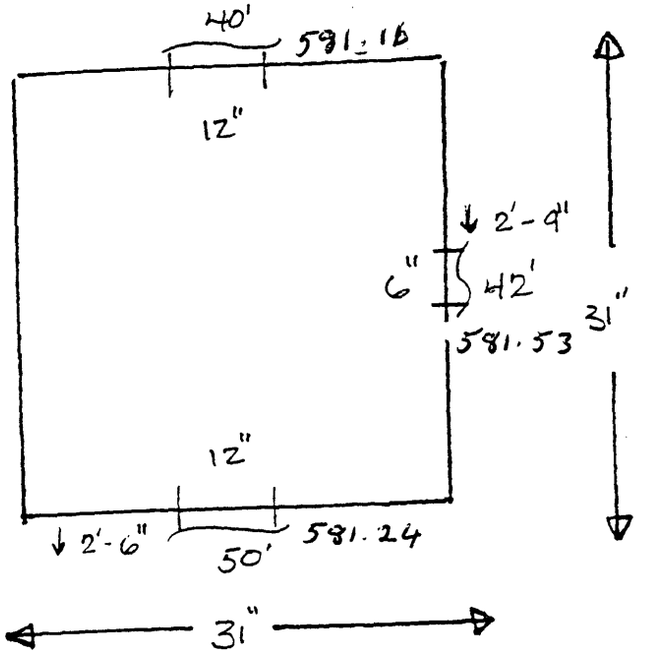
Surrounding Area:
- ~~ASPHALT~~ DRIVEWAY
- STONE

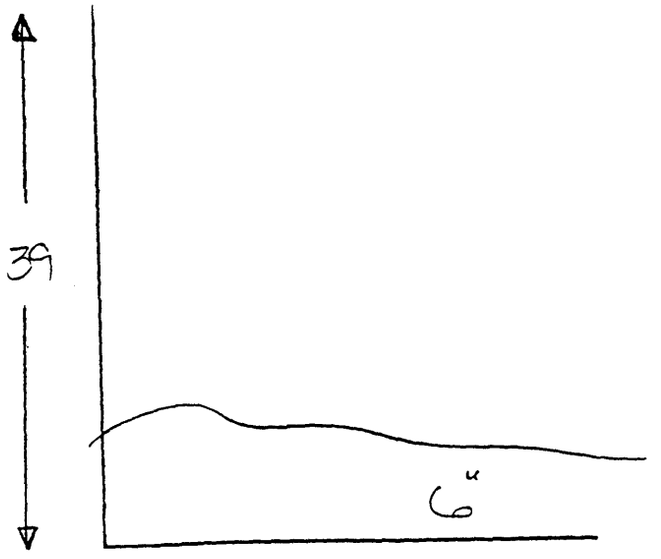
Flow:
6" EAST LINE TO MH-76

(CBS71-Surveyor)

now CB-82

Structure # ~~CB-77~~





Notes: BC 4/24/00

Steel construction w/concrete behind steel

12" N LINE STOPPED AT CONCRETE DEBRIS AREA (POSSIBLE BURIED STRUCTURE)

12"S LINE STOPPED AT CONCRETE DEBRIS AREA

Rim Elevation:
584.95

Depth to Bottom: 39"

Constructed of:
~~STEEL FRAME~~
CONCRETE BACK

Sediment: 6" SAND/STC

Product:
~~SHEEN~~

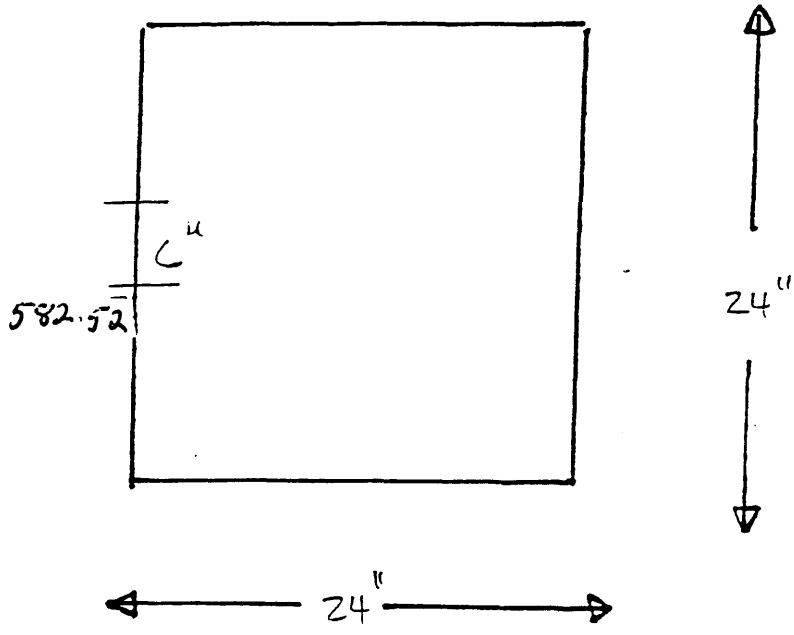
Surrounding Area:
~~ASPHALT~~ ROADWAY EDGE
CONCRETE DEBRIS

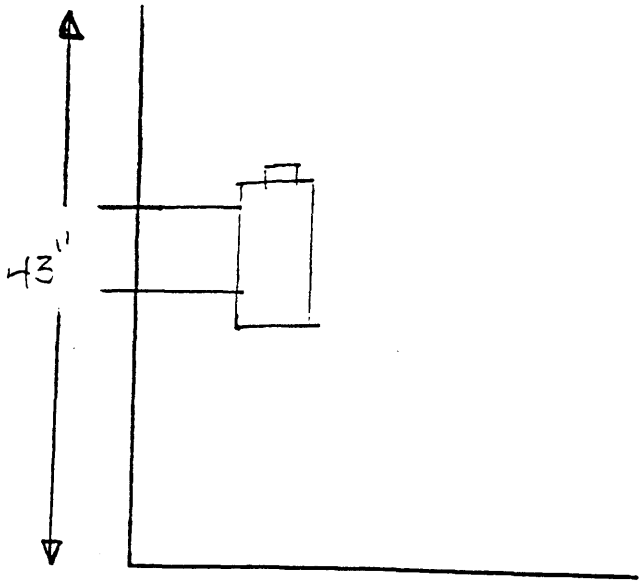
Flow:
UNKNOWN

(CBS72-surveyor)

now CB-83

Structure #~~CB-77~~





Notes: BC 12/2/00
formed concrete const.
inside asphalt parking lot
discharge to BSA
line in CB runs west, cast
const. w/tee end and a top
clean-out

Rim Elevation:
584.95

Depth to Bottom: 43"

Constructed of:
concrete

Sediment:
CLEAN

Product:
CLEAN

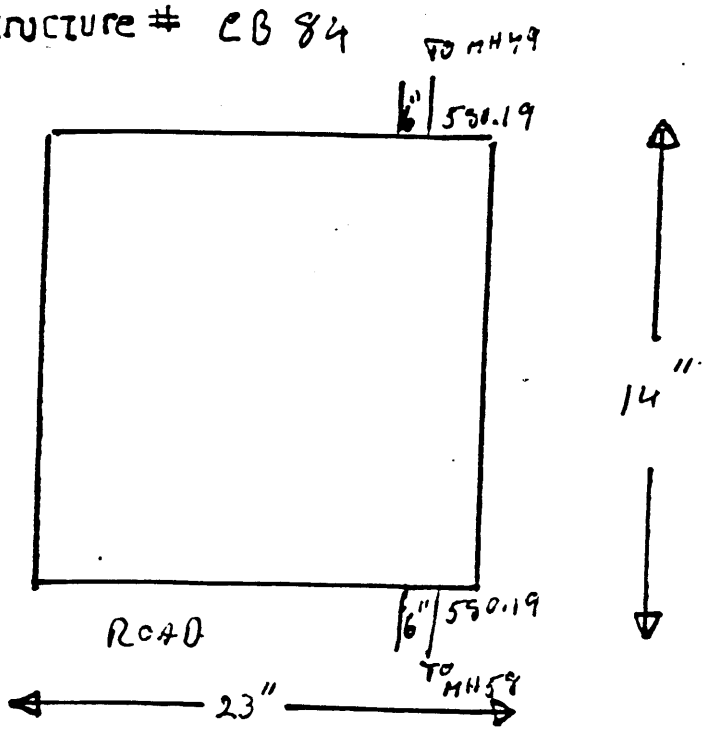
Surrounding Area:
ASPHALT PARKING LOT

Flow:
TO NORTH B.S.A.

Notes: BC 4/25/01

LOCATED ON EDGE OF ROA.
2-6" STEEL PIPES.
GOOD SHAPE.

Structure # CB 84



Rim Elevation: 583.49

Depth to Bottom: 40"

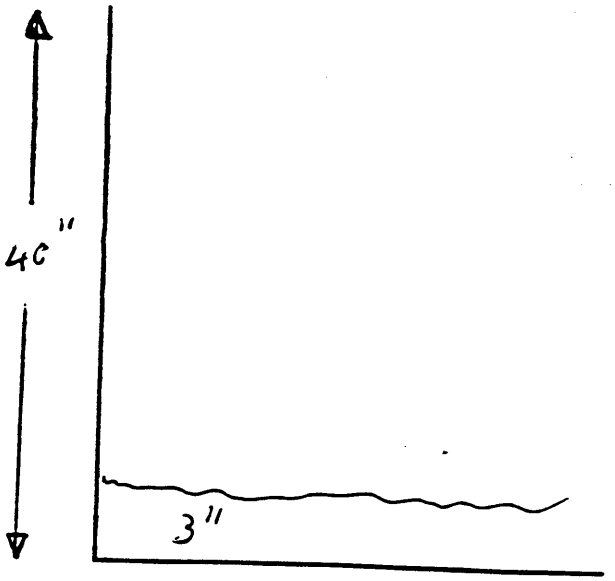
Constructed of: CEMENT & BRICK.

Sediment: 3"

Product: NONE

Surrounding Area: PAVED

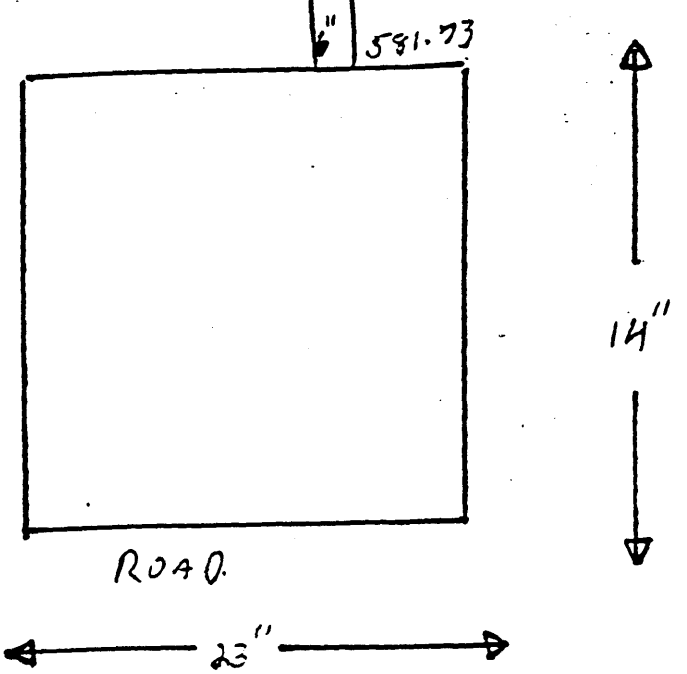
Flow: NORTH AND SOUTH



N

Notes: BC 485/01
GOOD SHAPE.
6" STEEL PIPE TO MH44
LOCATED ON EDGE OF ROAD

Structure # CB 85 TO MH44



Rim Elevation: 584.13

Depth to Bottom: 30"

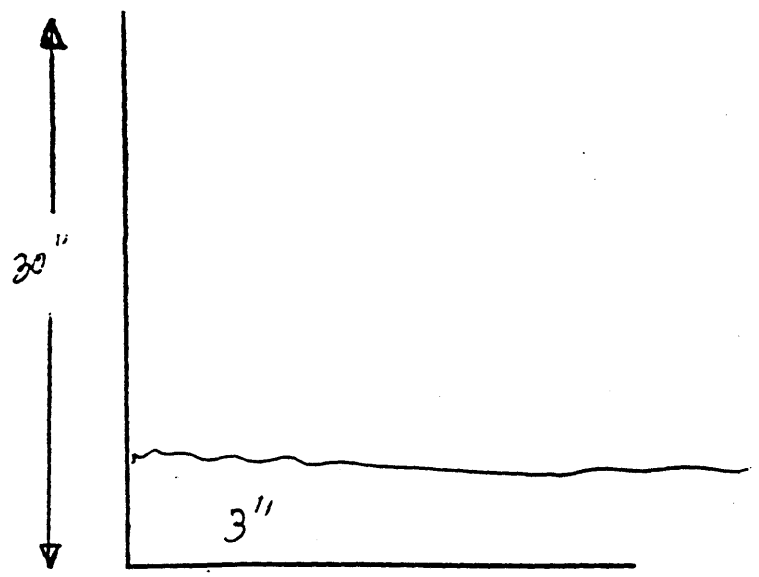
Constructed of: CEMENT & BRICK

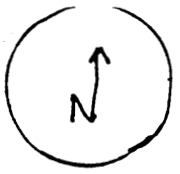
Sediment: 3" SAND

Product: NONE

Surrounding Area: PAVED

Flow: NORTH TO MH44

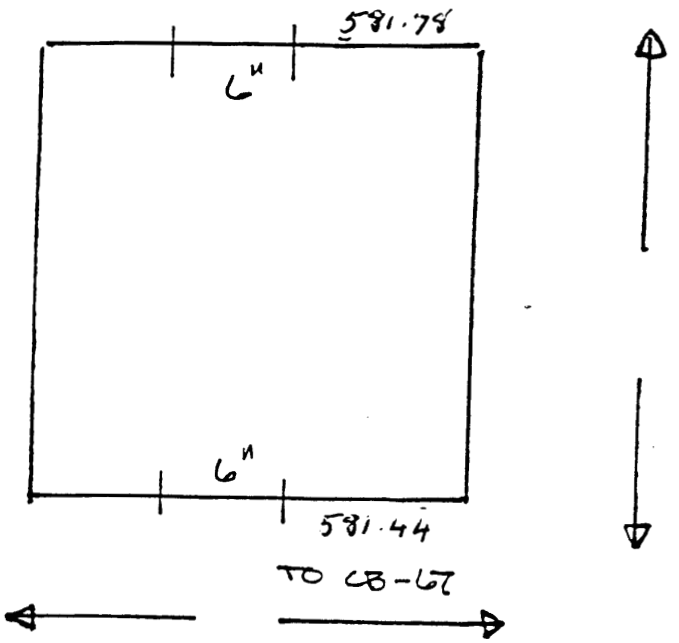




(CB575A)

Notes: BC 9/27/22
- CONCRETE CONSTRUCTION
- ASPHALT ROADWAY
- STEEL COVER
- CLAY LINES

Structure # 10' CB-~~75~~ 86



Rim Elevation. 583.65

Depth to Bottom: 26"

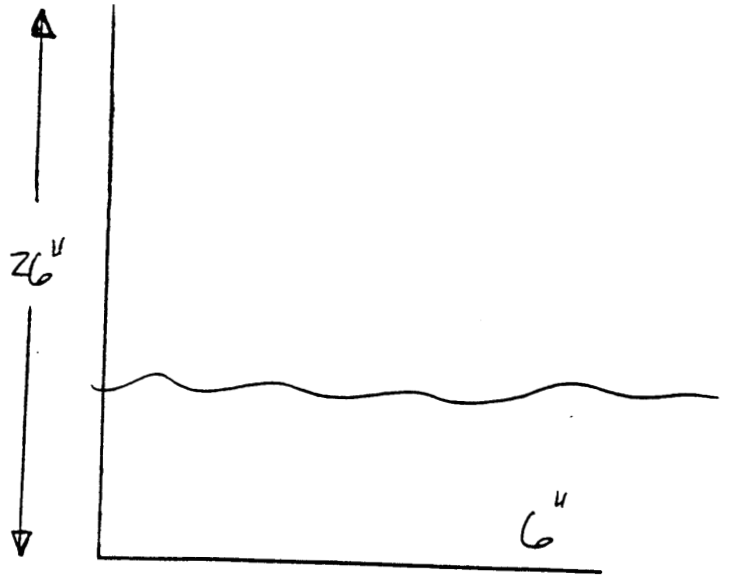
Constructed of:
CONCRETE

Sediment: 6"

Product: NONE

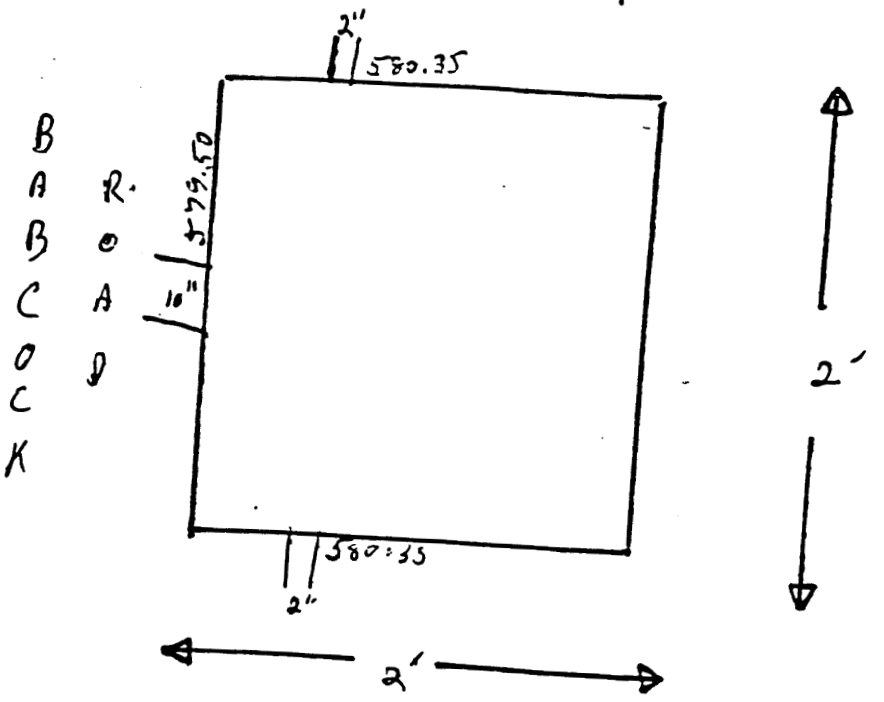
Surrounding Area:
- ASPHALT ROADWAY

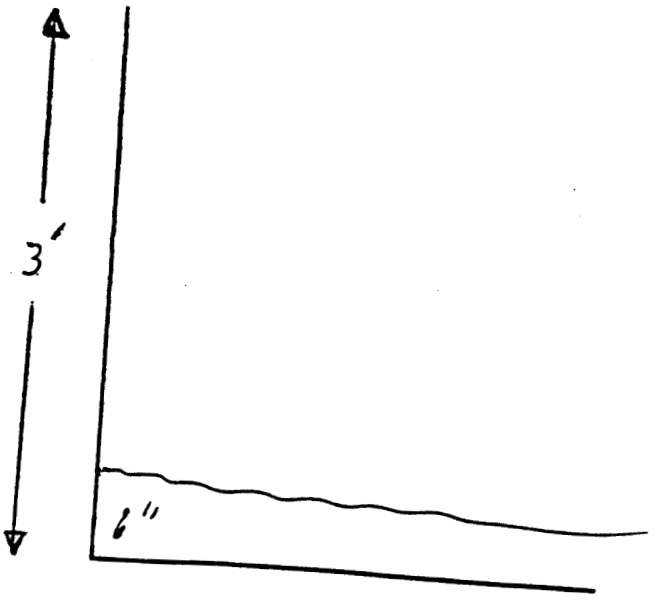
Flow:
- UNKNOWN
- 6" SOUTH LINE OUT 40'. POSSIBLY TO MAIN 36" LINE



N

Structure # ~~NO~~ CB-87





Notes: BL 4/19/04
2" PIPE NORTH COULD NOT JET
2" PIPE SOUTH COULD NOT JET
10" PIPE WEST TO 6' DRAINAGE TUNNEL

Rim Elevation: 582.67

Depth to Bottom: 3'

Constructed of: CEMENT

Sediment: 6"

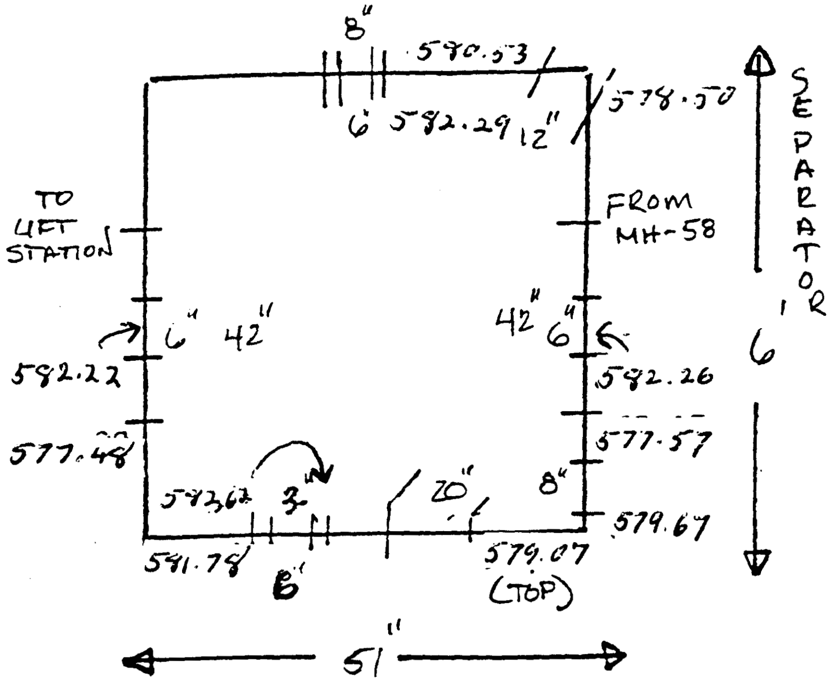
Product: NONE

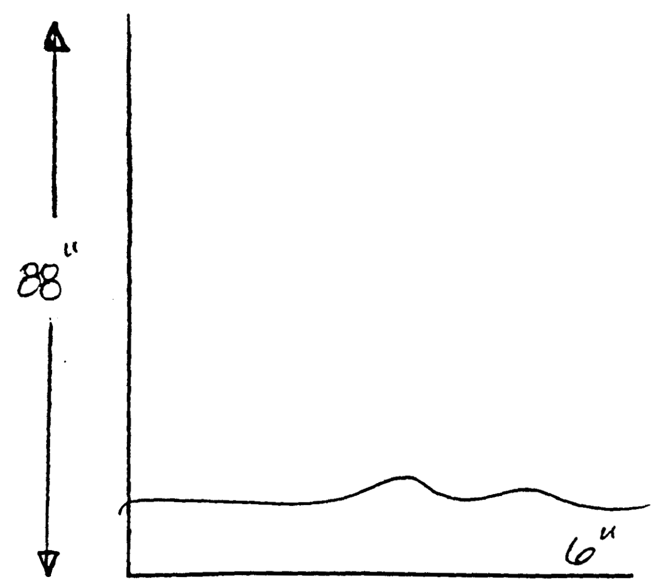
Surrounding Area: PAVED

Flow: ~~NO~~ WEST

Manhole Field Notes

Structure # MH-1





Notes: Be 10/1/04
formed Concrete cons.
mild product
good flow
3" line SE to pipe racks then ...
all 6" line blocked 21'-31' 04.
8" NW line out of 36' stop
12" line 60' out stops
8" NE Line

Rim Elevation:
584.48

Depth to Bottom:

Constructed of:
concrete

Sediment: 6"

Product:
SHEEN

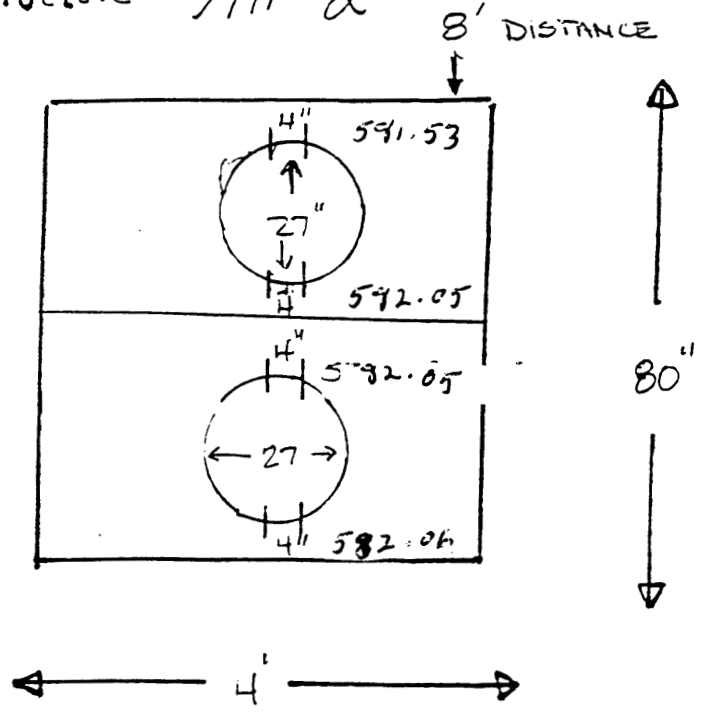
Surrounding Area:
STONE

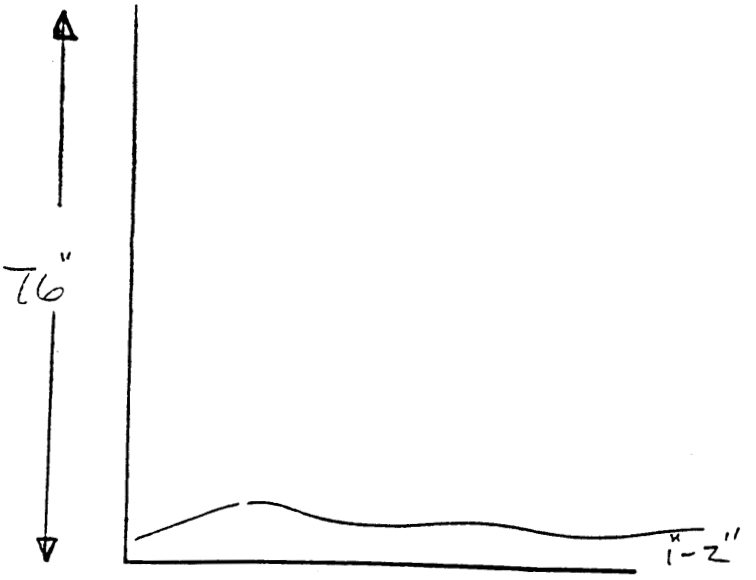
Flow:
ALL INCOMING LINES
GO TO LIFT STATION

(MH 2A - surveyor)

SEPARATOR (OWS - 1)

Structure # MH-2





Notes: BC 10/1/20
Clean water
formed concrete cor
clay pipes
Stone rock cover
- 12" RISER
- STEEL PLATE COVER
- 2 x 27" DIA. TUBES

Rim Elevation:
586.41

Depth to Bottom:

Constructed of:
Concrete

Sediment: 1-2"

Product: CLEAN

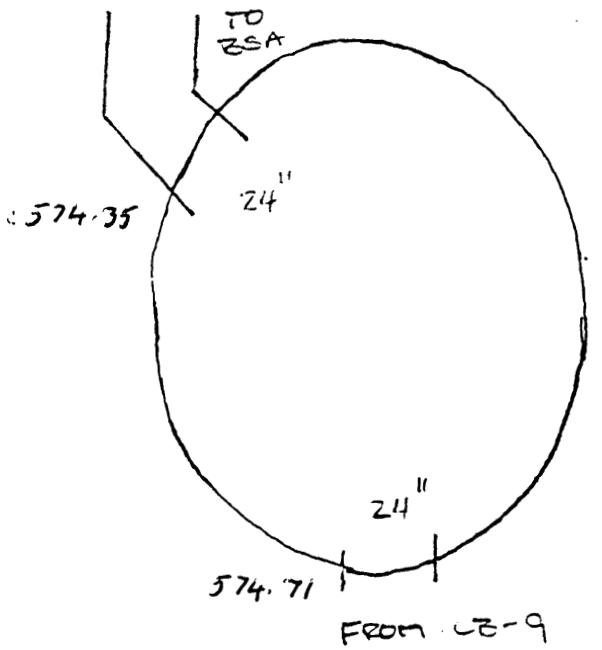
Surrounding Area:
STONE

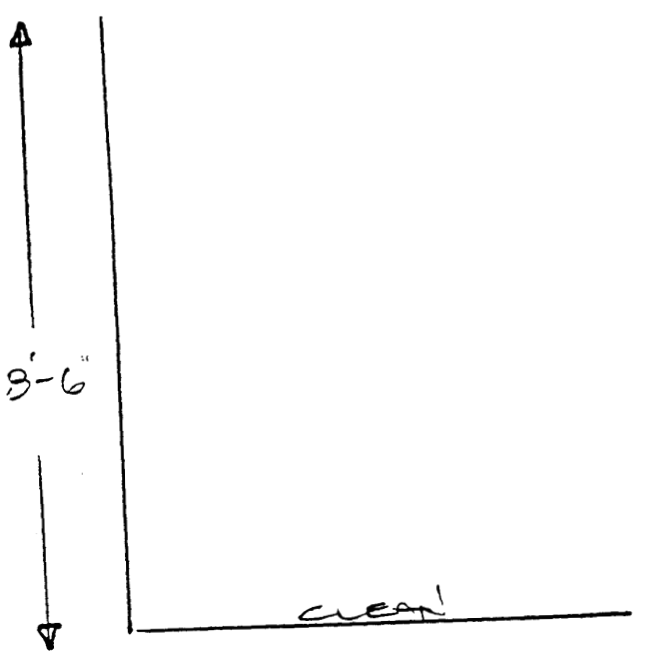
Flow:
SOUTH TO MH-1

* VERIFY 4" LINE BY JETTING FROM MH-1 TO MH-2 DUE TO BAFFLES UNABLE TO JET OTHER LINES

(MHSA-Surveyor)

Structure # MH-3 (BSA) LINE





Notes: BC 10/1/00

- FORMED CONCRETE CONSTRUCTION
- DISCHARGES TO B.S.A
- DUE TO LIQUID, COULD NO VERIFY LINE SIZE.

Rim Elevation:
583.00

Depth to Bottom: 8'-6"
~~585.00~~

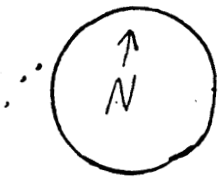
Constructed of:
CONCRETE

Sediment: NONE

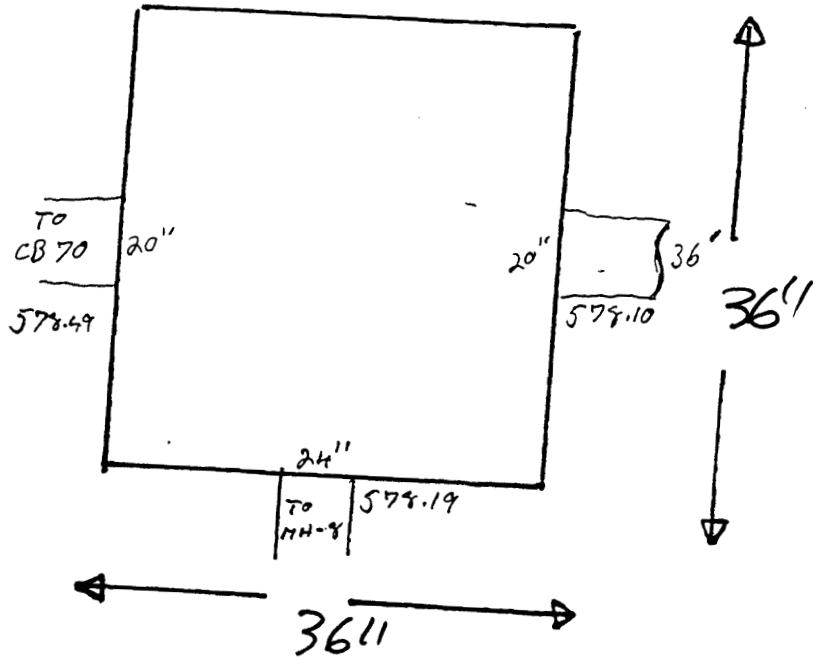
Product
SHEEN

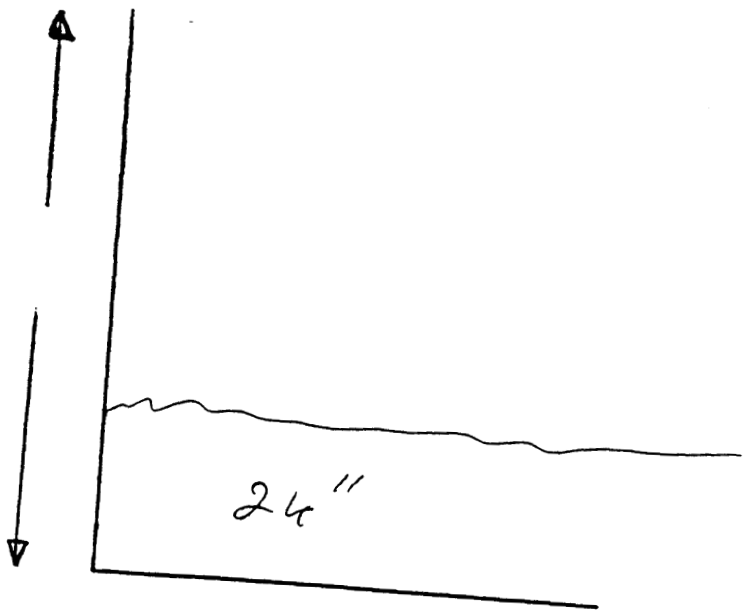
Surrounding Area:
STONE

Flow:
SOUTH FROM CB-9 DISCHARGE, TO N/W B.S.A. LINE



Structure # MH-4





Notes: 8/10/00 BC
- Lines Jetted
- Good Flow Btwn. MH-4 & MH-8
- Pipe To EAST Plugged 9/30/00 Removed
- Valve ~~Opened~~ In CB-70 To Allow Flow From CB-70
- Well Screen & Pump Installed
- ? Invert on west pipe due to angle of pipe coming in to MH-4

Rim Elevation:

Depth to Bottom:

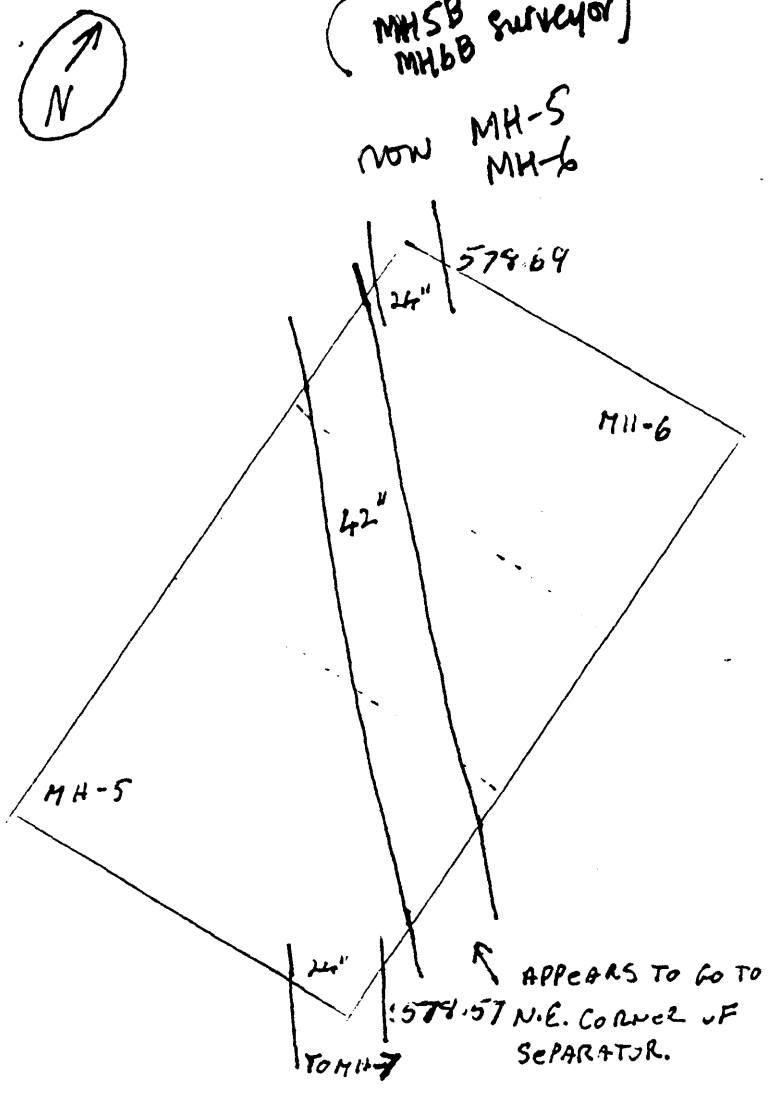
Constructed of: BRICK

Sediment: 2'

Product: SHEEN

Surrounding Area: GRAVEL

Flow: SOUTH TO MH-8



NOTES: BC 10/8/00

FORMED CONCRETE, A RUN 4" ABOVE GRADE. AREA COVERED W/ STONE. MH 5&6 APPEAR TO BE 1 STRUCTURE BELOW GRADE.

- 4" line (EST. 52.) APPEARS TO RUN THRU BOTH 5 & 6

RIM ELEVATION: MH-5 580.30
MH-6 580.27

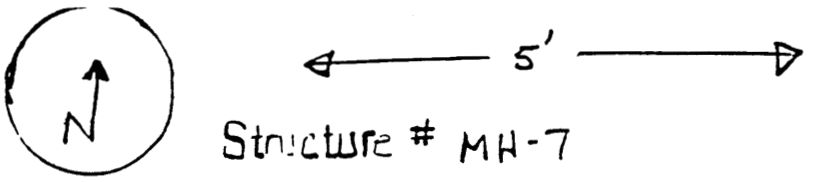
DEPTH TO BOTTOM: MH-5 11'2"
MH-6 11'4"

CONSTRUCTED OF: MH-5, MH-6 } CONCRETE.

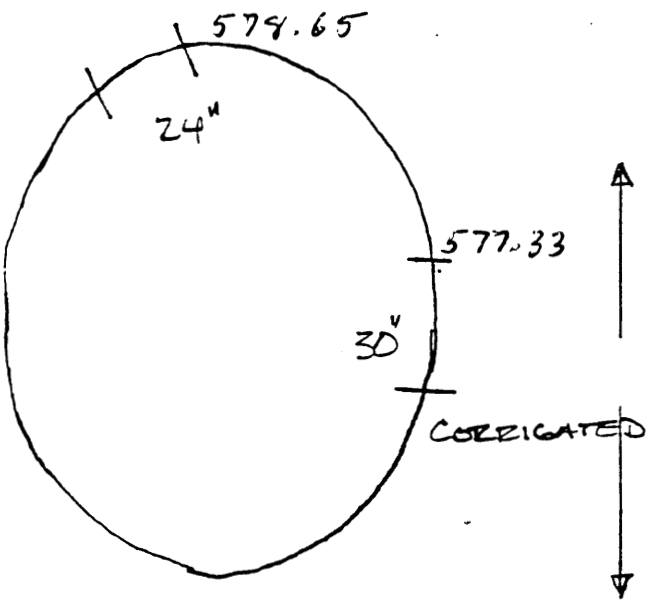
SURROUNDING AREA: MH-5, MH-6 } STONE.

FLOW: S.E. TO MH-7

N.W. TRACED AS FAR AS C.T.S.



Structure # MH-7



Notes: BC 7/20/00
FORMED CONCRETE
CLEAN
GOOD SHAPE
~~HEIGH~~ RISE STRUCTURE
STONE COVERED AREA
- 30" CORRIGATED
24" CLAY

Rim Elevation: 584.37

Depth to Bottom: 8'-3"

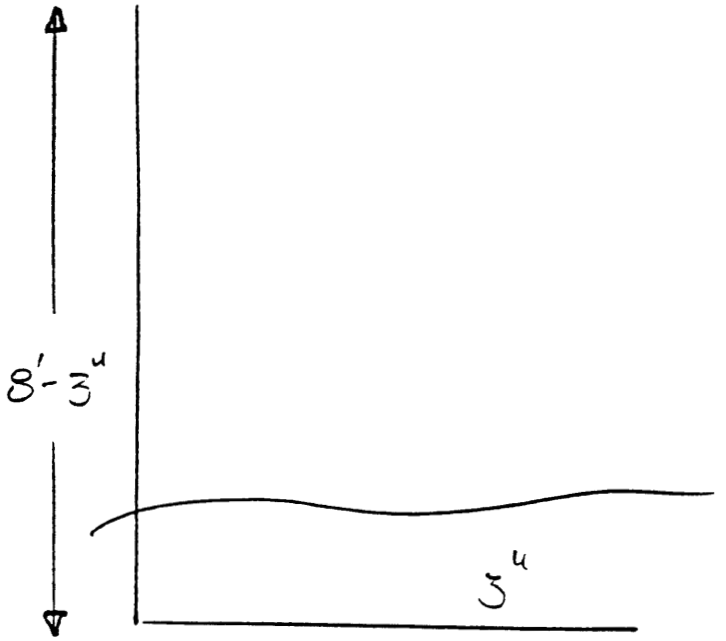
Constructed of:
CONCRETE

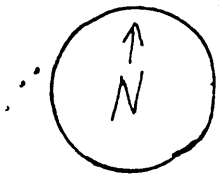
Sediment: 3"
~~STONE~~ SAND

Product:
CLEAR

Surrounding Area:
STONE

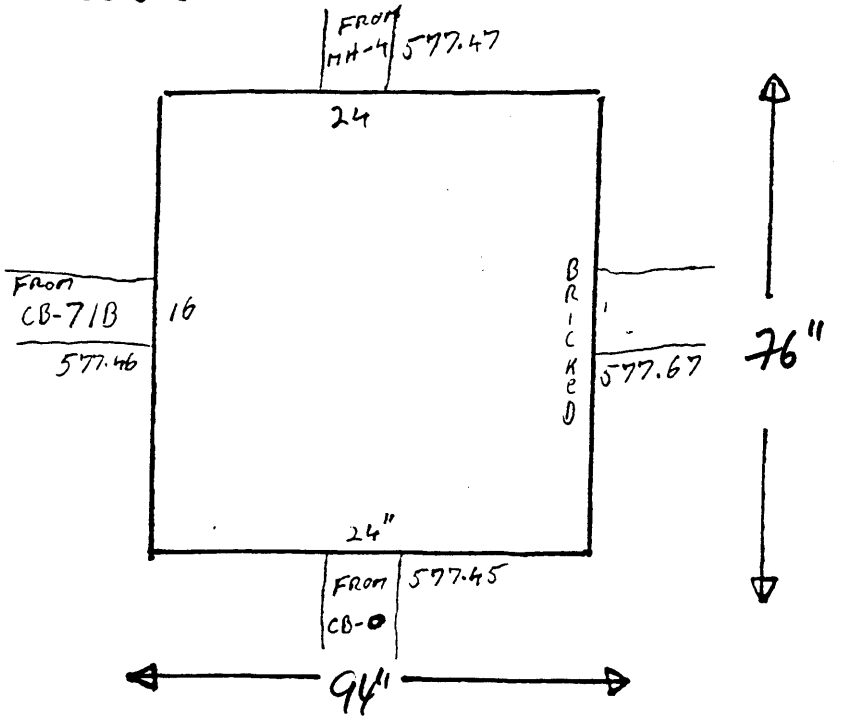
Flow:
N/W FLOW FROM MH-5
TO EAST INTO LIFTSTA

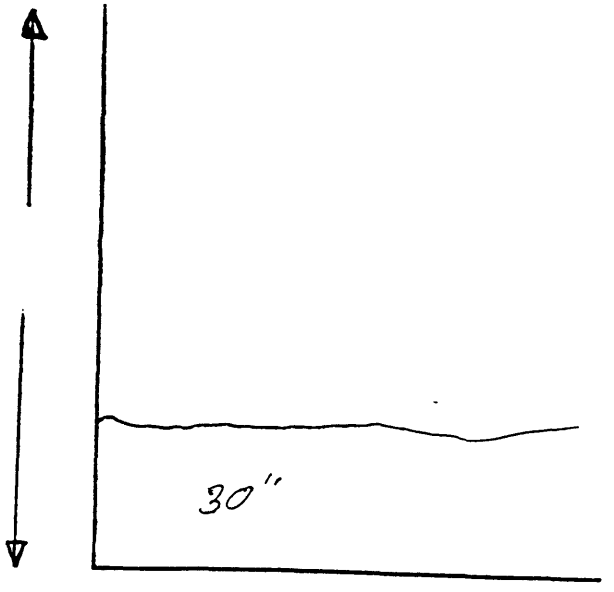




Notes: 8/10/00 BC
- LINES JETTED.
- INVERTS ARE NOT 100% ACCURATE ON NORTH & SOUTH PIPES, ARE BELLED INTO MH-8. CONFINE SPACE ENTRY WAS MADE TO OBTAIN INVERTS.

Structure # MH-8





Rim Elevation:

Depth to Bottom:

Constructed of: BRICK

Sediment: 30"

Product: SHEEN.

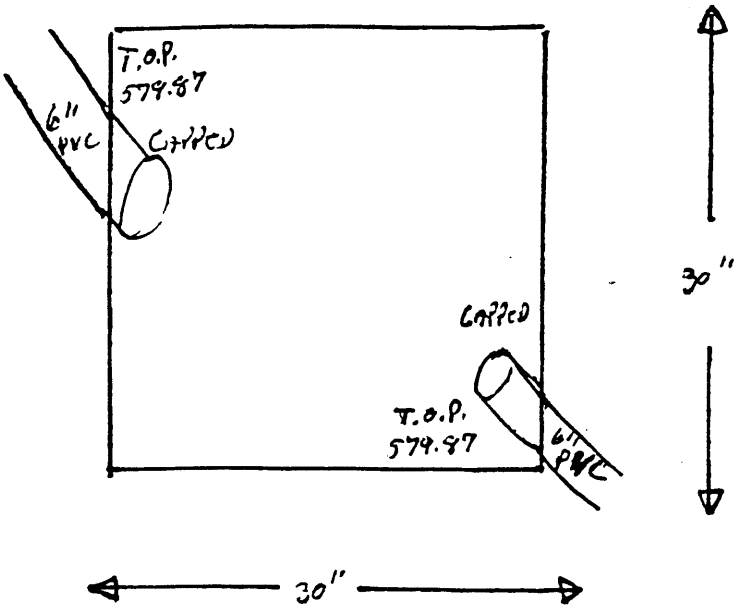
Surrounding Area: GRAVEL

Flow: TO MH-4 NOW THAT PUMP IS INSTALLED.

N

Notes: BC 4/19/01
- APPEARS TO BE PART OF WESTERN WELLPOINT SYSTEM.

Structure # MH 9



Rim Elevation: 582.87

Depth to Bottom: 42"

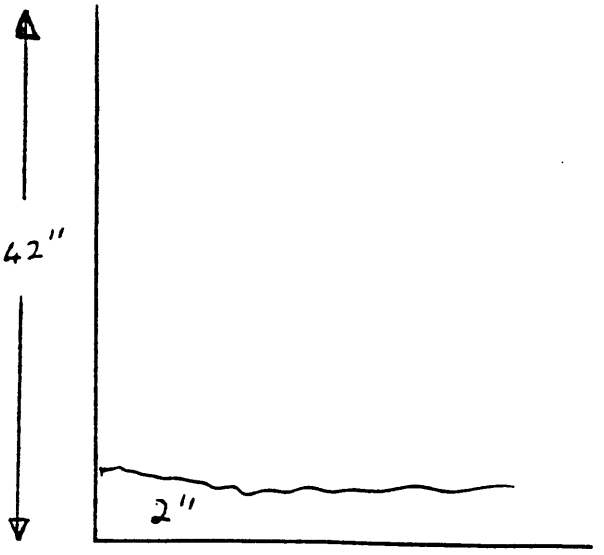
Constructed of: CEMENT

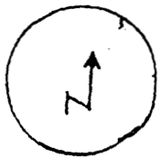
Sediment: 2"

Product: NONE

Surrounding Area: STONE

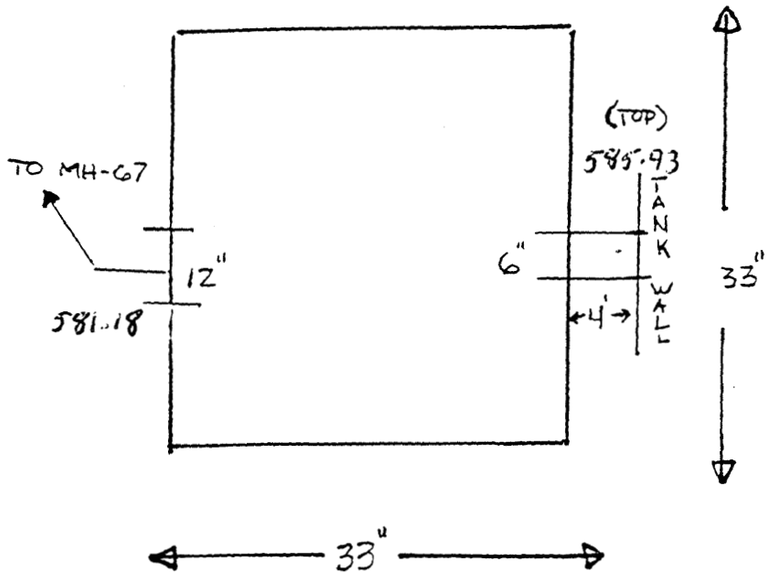
Flow: N/A





- ALL LINE STEEL
NOTES: BC 1/27/00
- FORMED CONCRETE CONSTRUCTION 4"
- CINDER BLOCK 38"
- NO COVER
- WOOD DEBRIS
- 6" LINES GOES TO OLD TA FARM

Structure # MH-10



Rim Elevation: 593.16

Depth to Bottom: 86"

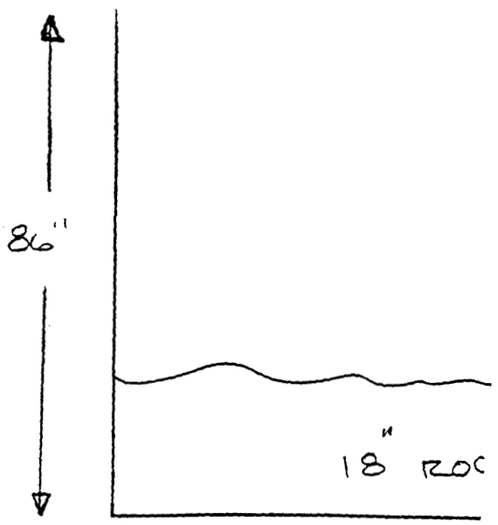
Constructed of:
CONCRETE

Sediment: 18" ROCK/DEBRIS

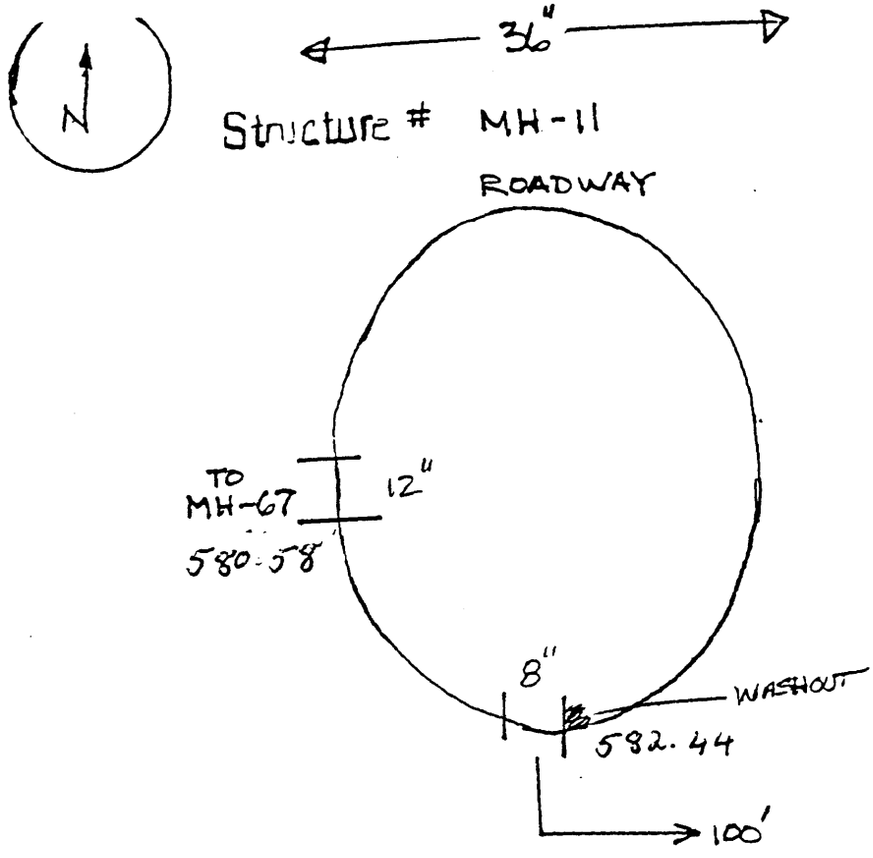
Product: SHEEN

Surrounding Area:
ASPHALT ROADWAY

Flow:
12" LINE FLOWS N/W TO MH-67

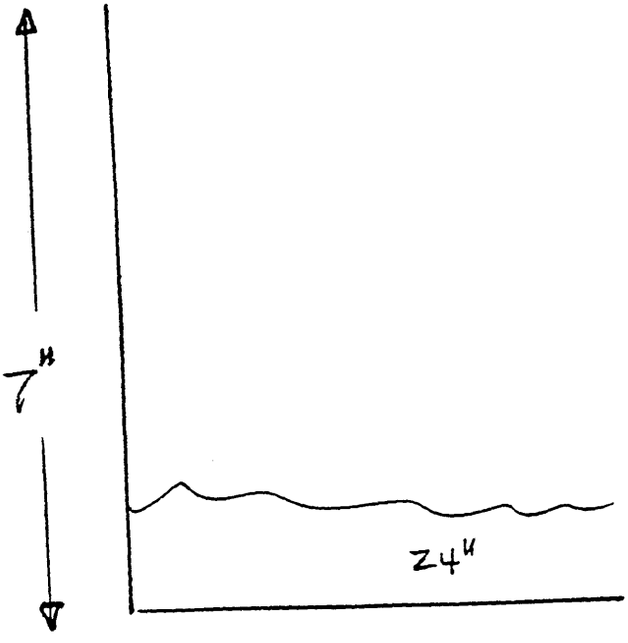


RIM CHANGED



Structure # MH-11

TANK 25/26



Notes: BC 4/21/10

- ROUND FORMED CONCRETE
- PRODUCT FLOW WEST IN 12" PIPE.
- STEEL LINES
- STEEL COVER
- SOME WASHOUT ON RIGHT SIDE OF 8" PIPE
- 8" LINE GOES INTO TANK FAR

Rim Elevation: 584.75

Depth to Bottom: 7'

Constructed of:
CONCRETE

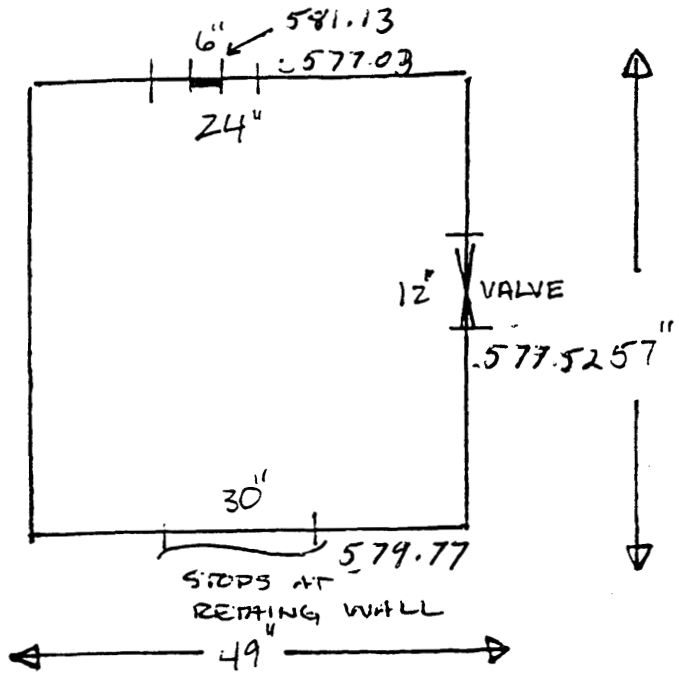
Sediment: 24"
OILY SLUDGE

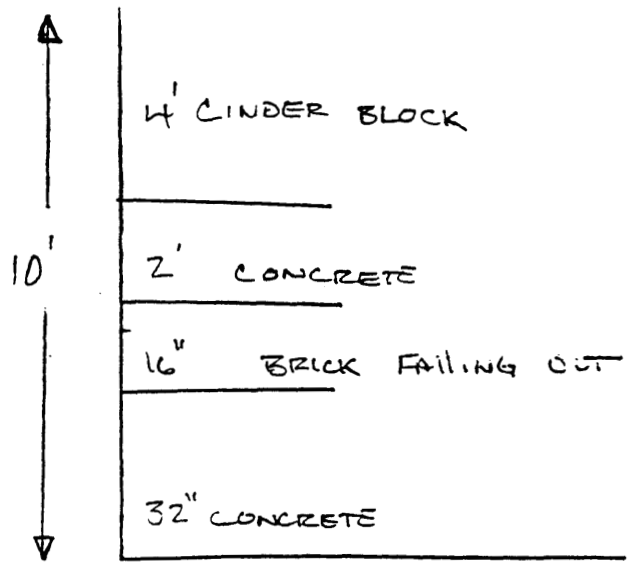
Product
SHEEN

Surrounding Area.
- ASPHALT ROADWAY

Flow:
WEST TO MH-67

Structure # MH-12





Notes: BC 7/30/00
mixed form structure
bricks in poor shape
falling out
30" LINE CORRUGATED STEEL
12" EAST LINE VALVED
6" NORTH LINE SEALED

Rim Elevation:
586.51

Depth to Bottom: 10'

Constructed of:
MIXED

Sediment: RESIDUAL

Product: SHEEN

Surrounding Area:
STONE

Flow:

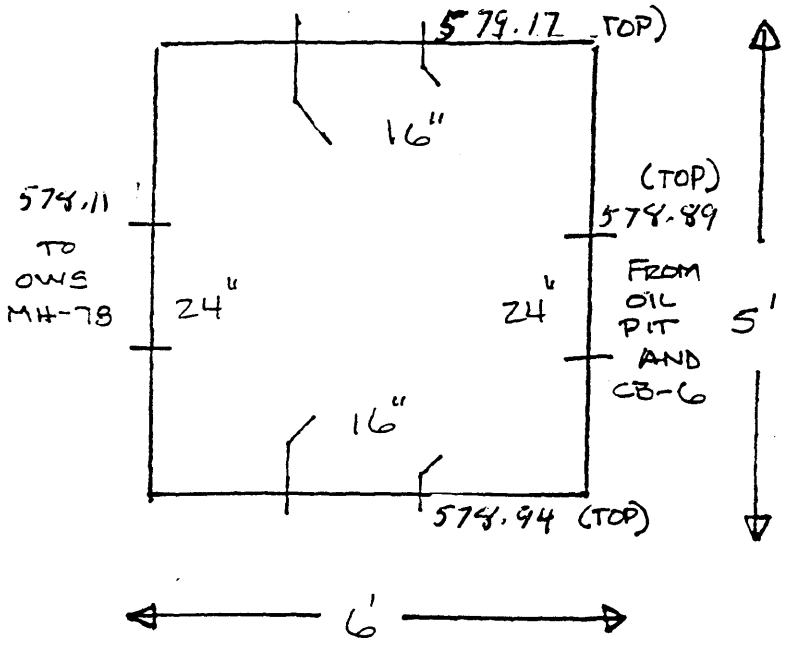
30" SOUTH LINE SEALED
20' FROM RIVER

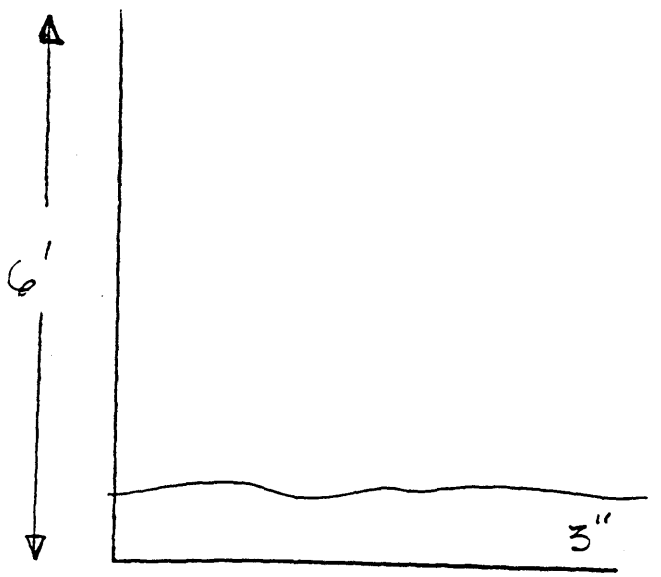
24" LINE TO CB-2

12" LINE FROM MH-7E (CMS

Notes: BC 4/27/00
Brick construction
pool shape
heavy product onto
ALL PIPES CAST

Structure # MH-13





Rim Elevation:
583.53

Depth to Bottom: 6'

Constructed of:
Brick

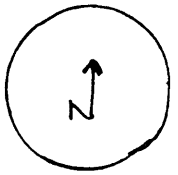
Sediment: 3" SANDY SLU

Product:
HEAVY PRODUCT STAININ

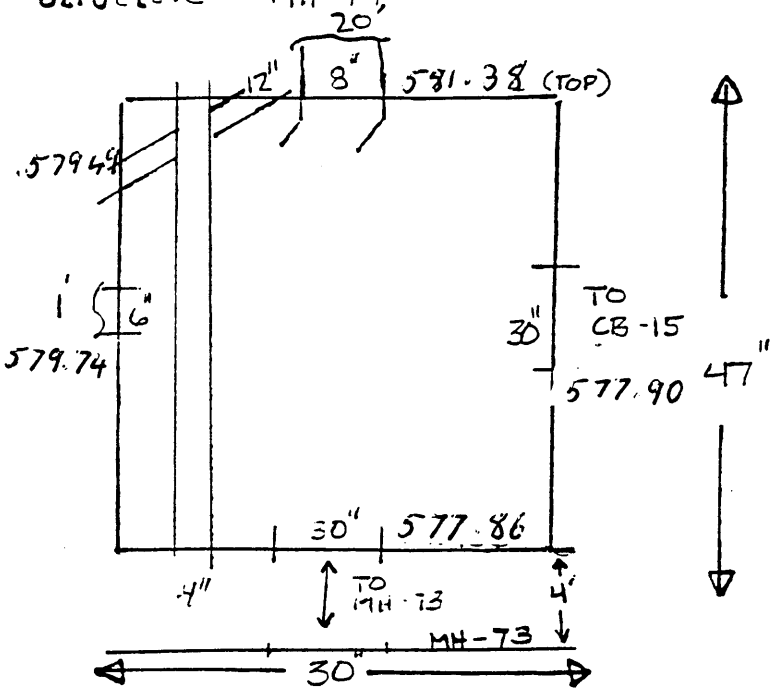
Surrounding Area:
STONE

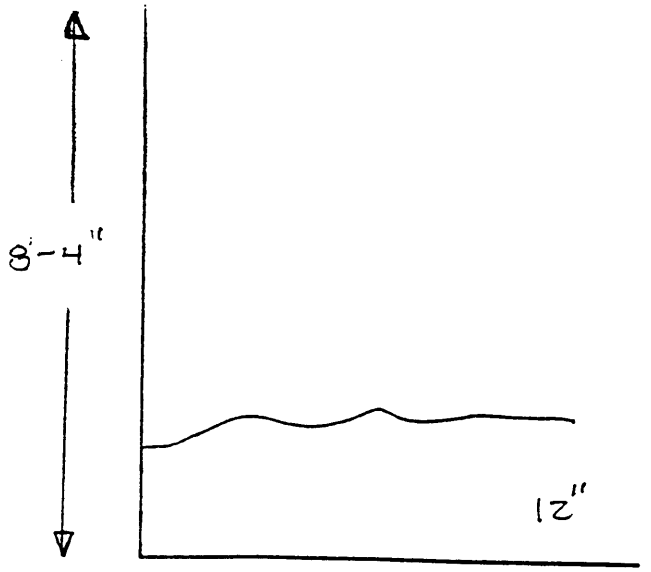
Flow:

- SURFACE WATER FLOW FROM SOUTH
- EAST FROM MH-~~79~~ COLLP TO OWS (MH-78)



Structure # MH-14





NOTES: BC 9/2/00

- CONCRETE CONSTRUCTION
- VERY HEAVY SLUDGE, PRODU
- STEEL PLATE COVER
- CLAY LINES
- 30" SOUTH LINE CONNECTS TO M
- 30" EAST LINE CONNECTS TO CB-1
- PRODUCT / WATER REMOVED 1500 GALS

Rim Elevation. 585.65

Depth to Bottom: 8'-4"

Constructed of:
CONCRETE

Sediment: 12" OILY SLUDGE

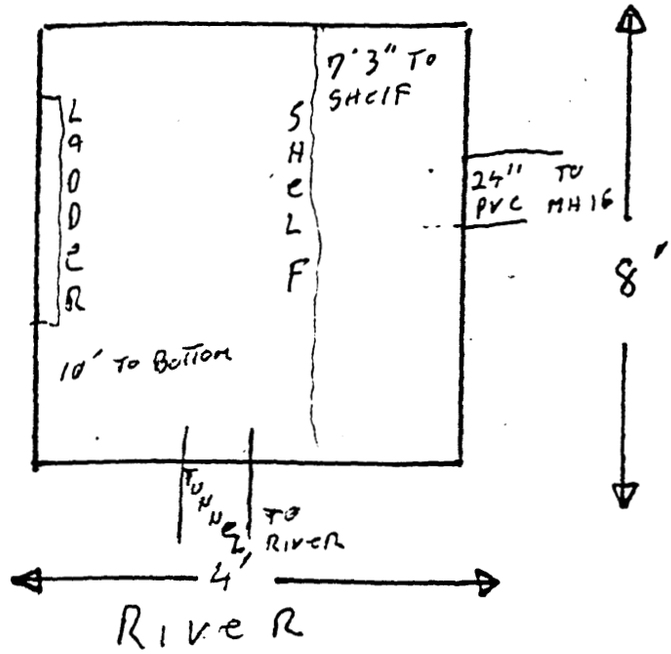
Product:
VERY HEAVY PRODUCT

Surrounding Area:
- ASPHALT ROADWAY WEST
- GRAVEL

Flow:
30" EAST FLOWS TO CB-15
30" SOUTH FLOWS TO MH-73

Notes: BC 4/19/01
- DRAINAGE SYSTEM FOR LINED ABOVE GROUND STORAGE TANKS

Structure # MH 15



Rim Elevation: 582.81

Depth to Bottom: ~~10'~~

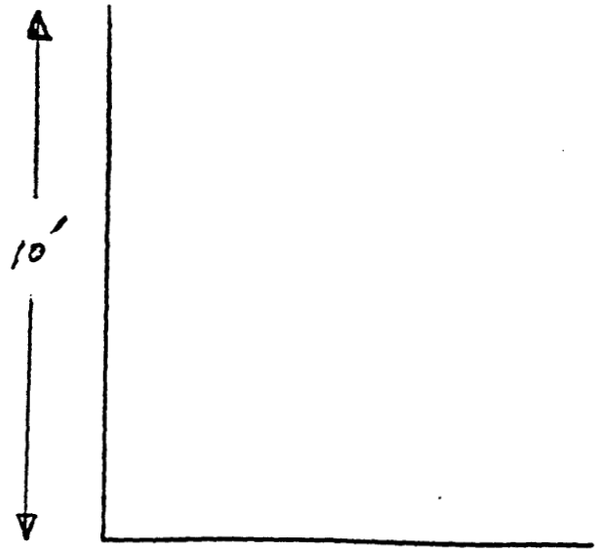
Constructed of: CEMENT

Sediment: RESIDUAL

Product: NONE

Surrounding Area: PAVED

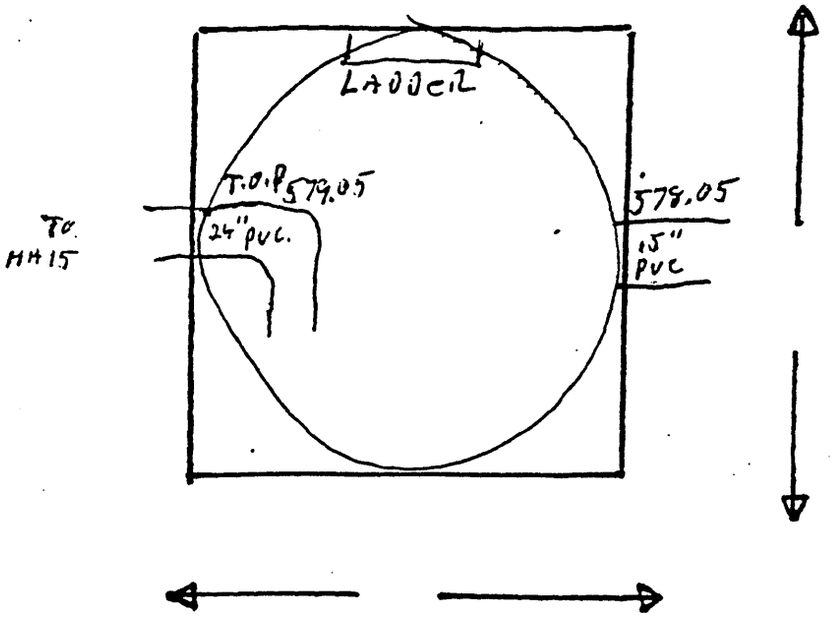
Flow: EAST TO SOUTH

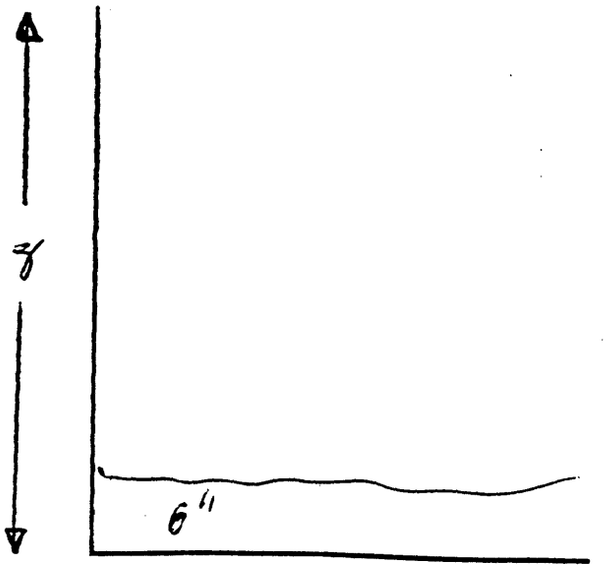


N

Notes: BC 4/19/01
- DRAINAGE SYSTEM FOR LINED ABOVE GROUND STORAGE TANKS

Structure # MH 16





Rim Elevation: 583.05

Depth to Bottom: 8'

Constructed of: cement

Sediment: 6"

Product: none

Surrounding Area: paved

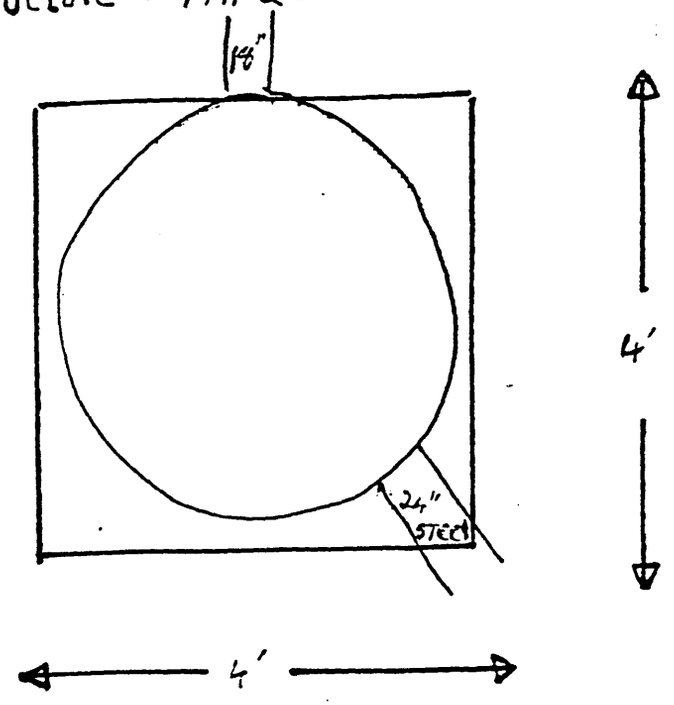
Flow: East to West

N

Notes: BC 4/19/01

- COULD NOT SHOOT INVERTS DUE TO STEEL PIPE SUPPORTED ON CATCH BASIN
- STEEL PIPES.

Structure # MH 20



Rim Elevation: 583.11

Depth to Bottom: 8'6"

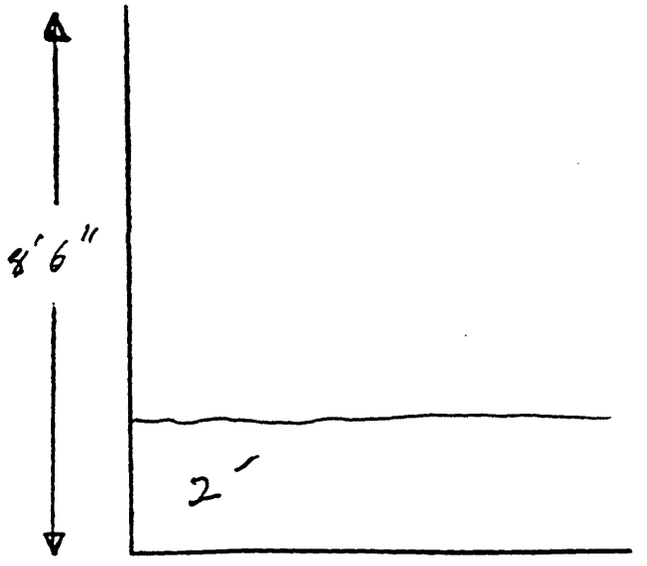
Constructed of: Concrete

Sediment: 2'

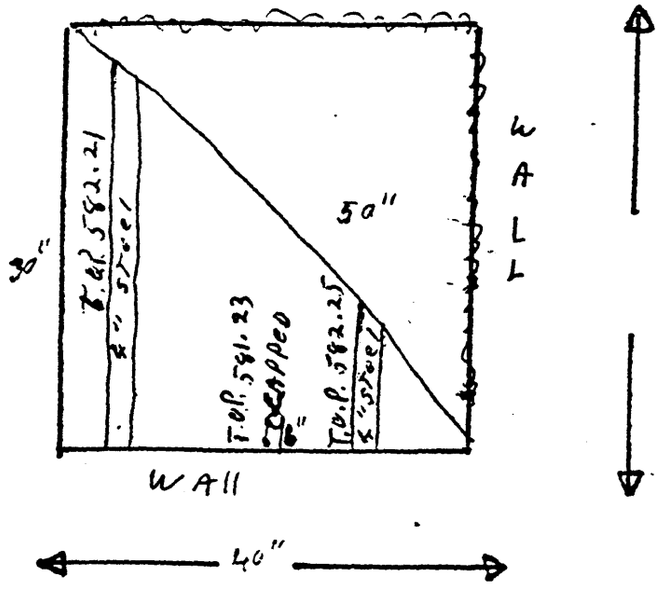
Product: None

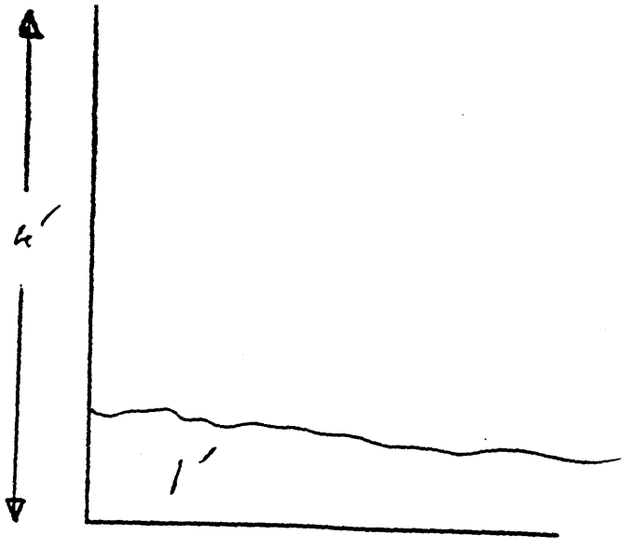
Surrounding Area: Stone

Flow:



Structure # MH 21





Notes: BC 4/25/01
- ACTUAL LOCATION IS E. S.E. CORNER OF CEMENT WALL BERM FOR TANKS 25-26
- 6" PIPE CAPPED
- STRUCTURE IN POOR SHAPE

Rim Elevation: 583.91

Depth to Bottom: 4'

Constructed of: CEMENT

Sediment: 1'

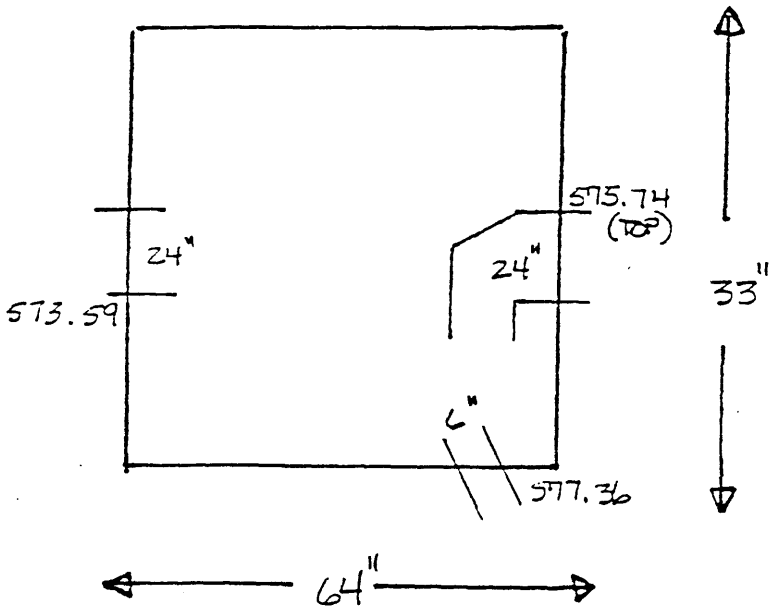
Product: NONE

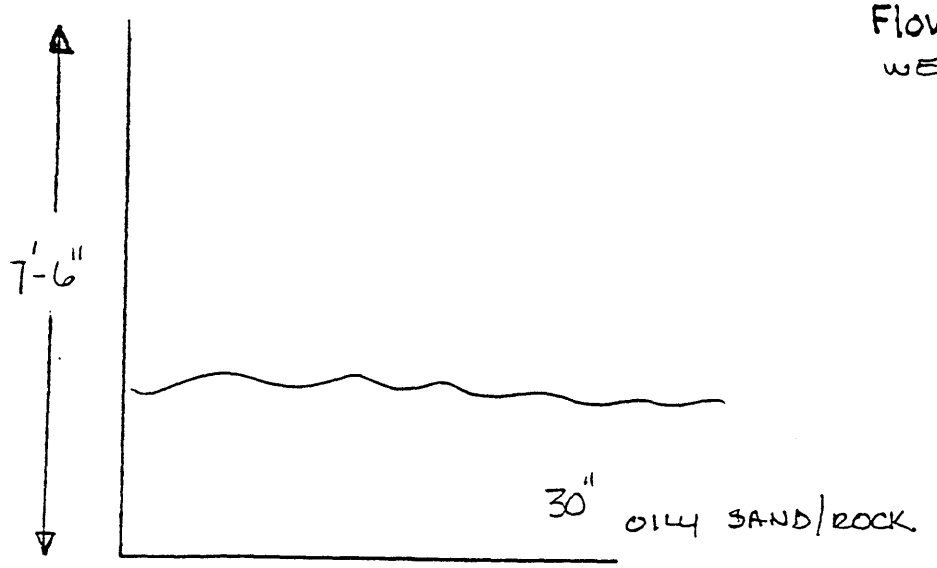
Surrounding Area: STONE VEGETATION

Flow: NONE

N

Structure # MH-22





Notes: BC 9/23/00
- CONCRETE/BRICK CONSTRUCT
- FUEL OIL USABLE
- SOME BRICKS MISSING IN STRUCTURE
- PRODUCT FLOW FROM EAST BY TANK 75
- CLAY LINES
- STEEL PLATE COVER

Rim Elevation: 585.44

Depth to Bottom: 7'-6"

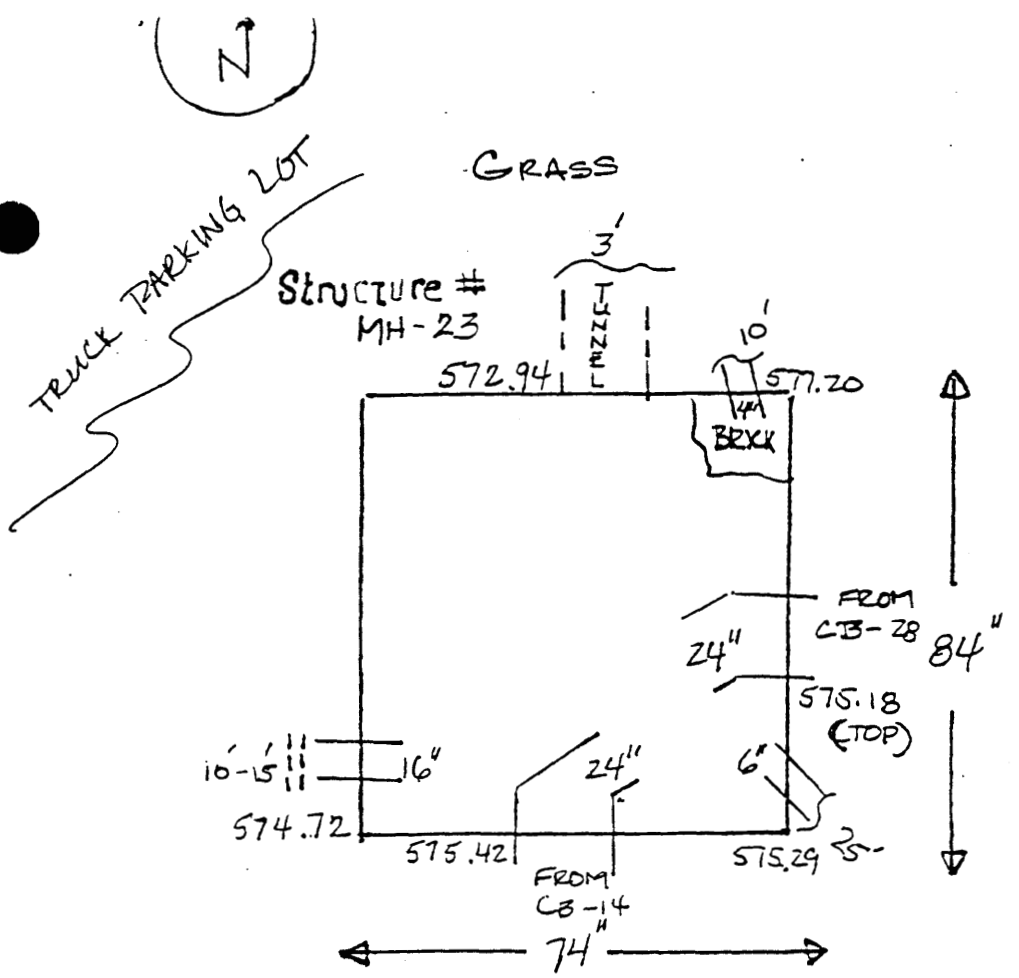
Constructed of:
CONCRETE / BRICK

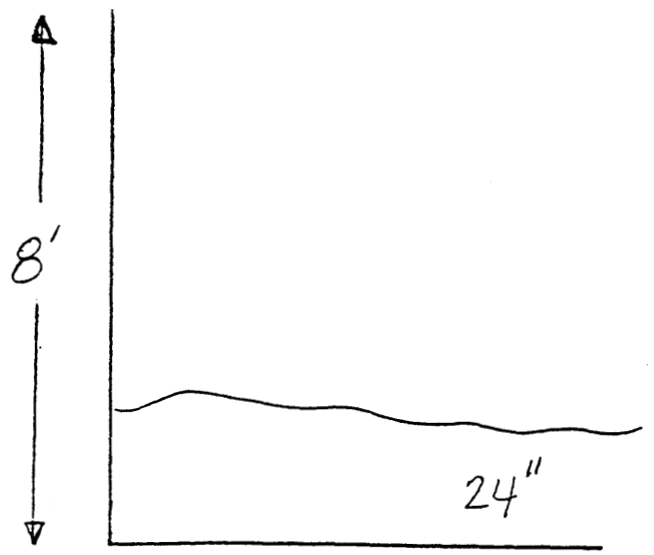
Sediment: 30" OILY SAND

Product: 1" - 1½"
Fuel oil & water Removed

Surrounding Area:
STONE

Flow:
WEST TO CB-29





Notes: BC 9/26/00

- CONCRETE TOP, BRICK CONSTRUCTION
- IN NEW GRASS AREA
- 16' WEST LINE SIGNAL LOST DUE ELECT. PROBLEM
- CLAY PIPES
- POSSIBLE TUNNEL STRUCTURE NORTH

Rim Elevation: 585.50

Depth to Bottom: 8'

Constructed of:
- CONCRETE TOP
- BRICK CONSTRUCTION

Sediment:
- DEPTH IS QUESTIONABLE DUE TO HARD MATERIAL

Product: SHEEN

Surrounding Area:
- GRASS COVERED

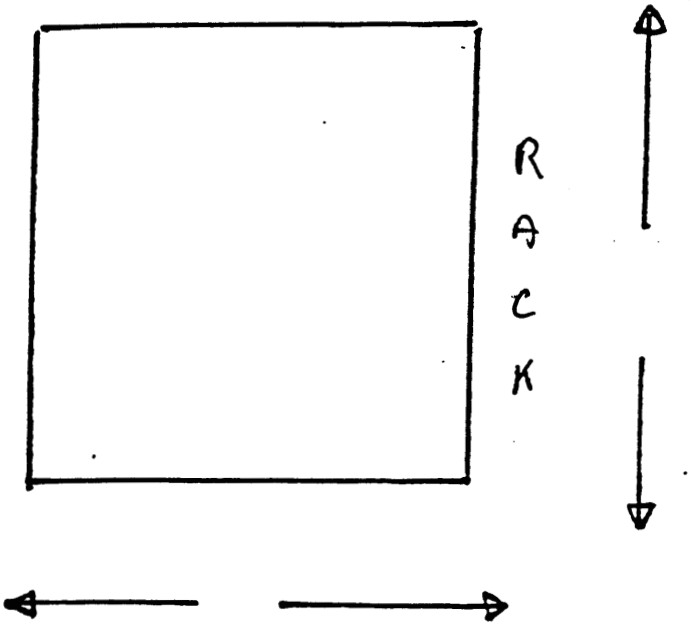
Flow:
NORTH LINE PLUGGED

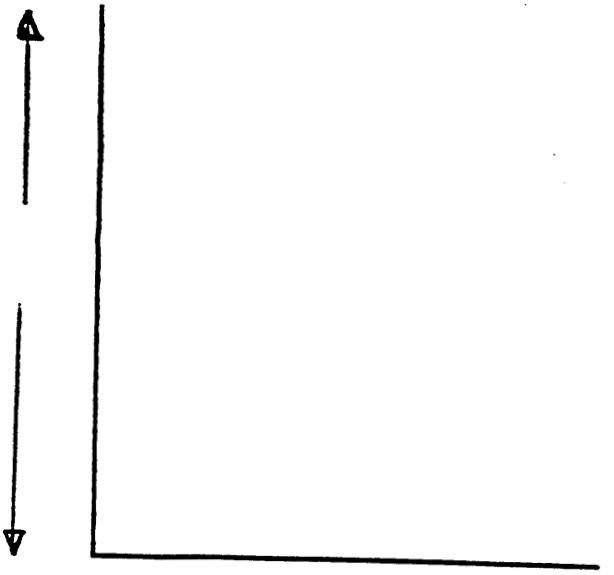
N

Notes: BC 4/25/01

HANDLES SPILLAGE AND [redacted] FROM NORTH CATCH BASINS SIDE OF RACK.

Structure # ~~CB~~ MH 24





Rim Elevation: 585.82

Depth to Bottom:

Constructed of: cement

Sediment:

Product:

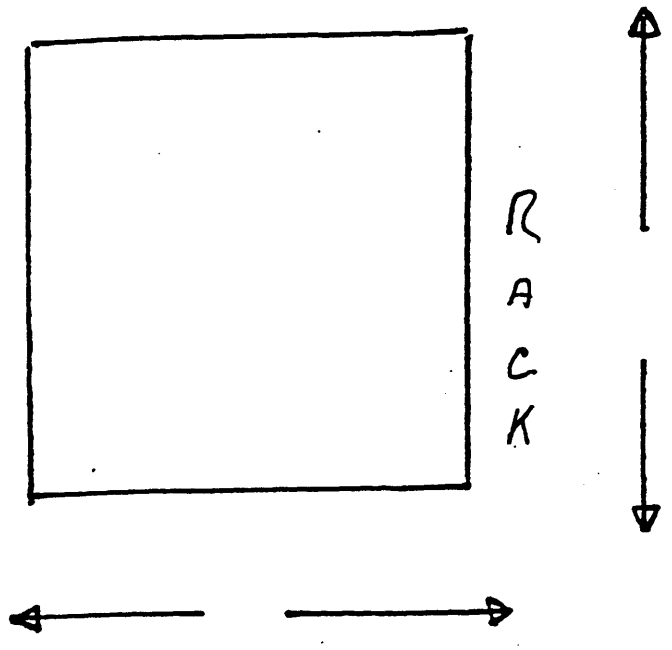
Surrounding Area: GRASS.

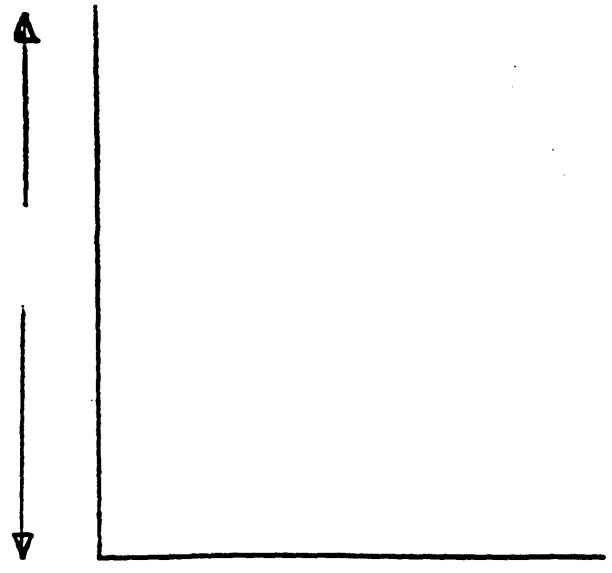
Flow:

N

Notes: BC 4/25/91
Handles spillage and catch basins from both side of rack.

Structure # MH 26





Rim Elevation: 585.74

Depth to Bottom:

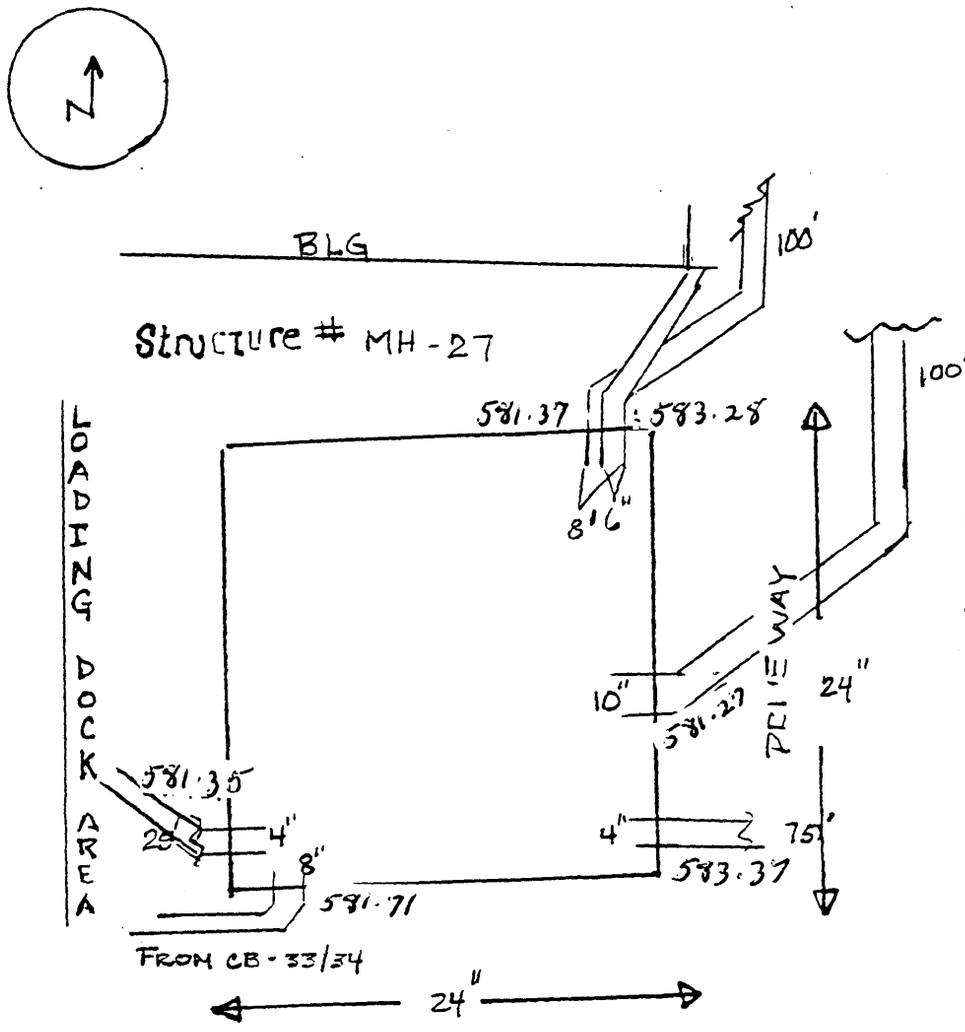
Constructed of: cement

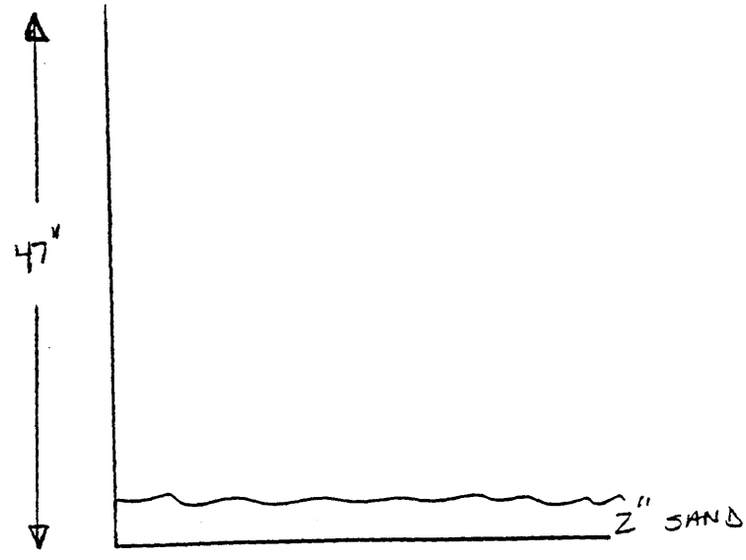
Sediment:

Product:

Surrounding Area: grass

Flow:





Notes: BC 9/1/00
- CONCRETE CONSTRUCT
- ROUND STEEL LOVE
- 6" DRAINS FROM BLG.
- 8" RUNS PARALLEL TO BLG. 100' DOWN
- 10" RUNS ON OTHER S OF ROADWAY 100' DO
- 4" OUT 75' STOPPED

Rim Elevation.

Depth to Bottom: 47"

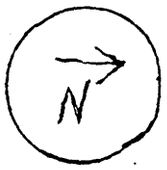
Constructed of:
FORMED CONCRETE

Sediment: 2" SAND

Product: NONE

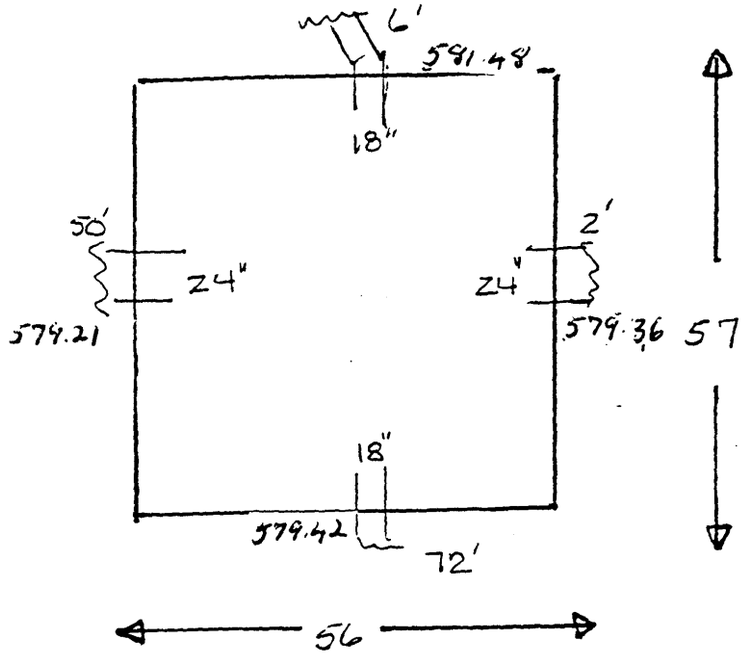
Surrounding Area:

Flow:
CB-33/34 FLOW TO MH W/ NO OTHER OUT FLOW CONNECTIONS.



ROAD

Structure # MH-28



⇒ LINED BLOCKED

Notes: BC 9/13/00
- POOR CONDITION
- BRICK CONSTRUCTION
- SOUTH WALL COLAPSING
- N/W WALL COLAPSING
- 18" W/LINE 6' BLOCKED
- 18" E/LINE 72' BLOCKED
- 24" N/LINE 2' BLOCKED
- 24" S/LINE 50' BLOCKED

Rim Elevation. 585.92

Depth to Bottom: 7'

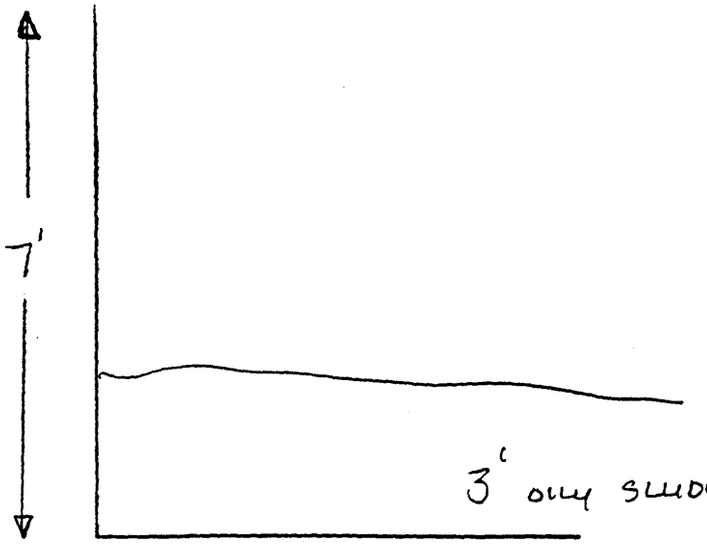
Constructed of:
38" FORMED CONCRETE
46" BRICKS

Sediment: 3' OILY SLUDGE

Product: 1-2" REMOVED

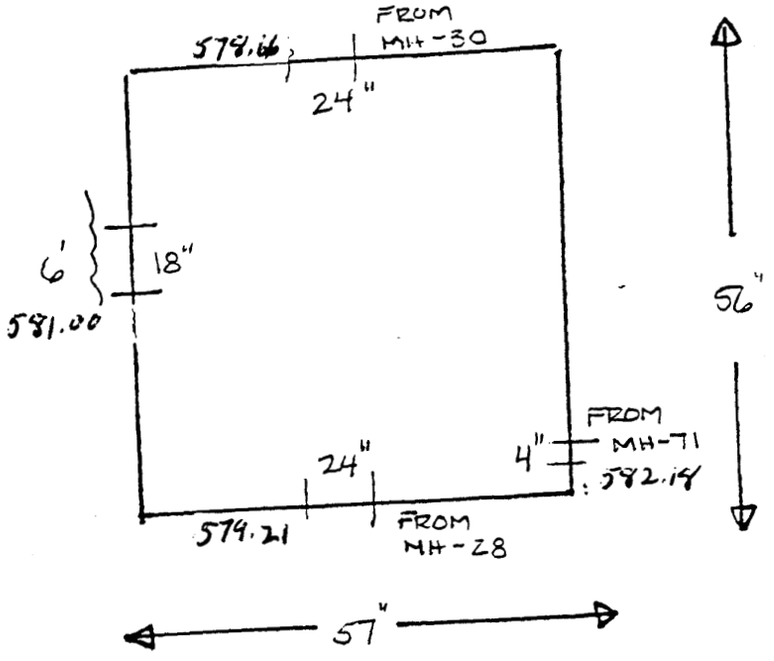
Surrounding Area:
DIRT/STONE

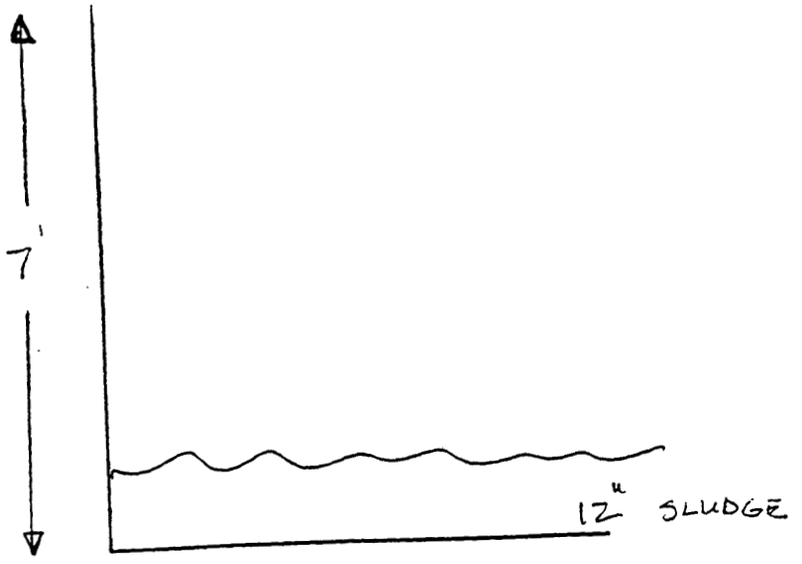
Flow:
EAST UNKNOWN
WEST 50' OUT, STOPPED



N

Structure # MH-29





NOTES: BC 7/12/01
- BRICK CONSTRUCTION
- 24" CONCRETE RISER
- CLAY PIPES
- 18" WEST LINE BLOCKE
- 24" NORTH LINE CONNECTS TO MH-30
- 24" SOUTH LINE CONNECTS TO MH-28

Rim Elevation: 585.38

Depth to Bottom: 7'

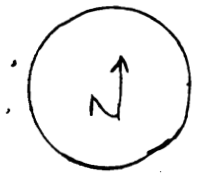
Constructed of:
BRICK / CONCRETE

Sediment: 12" SLUDGE

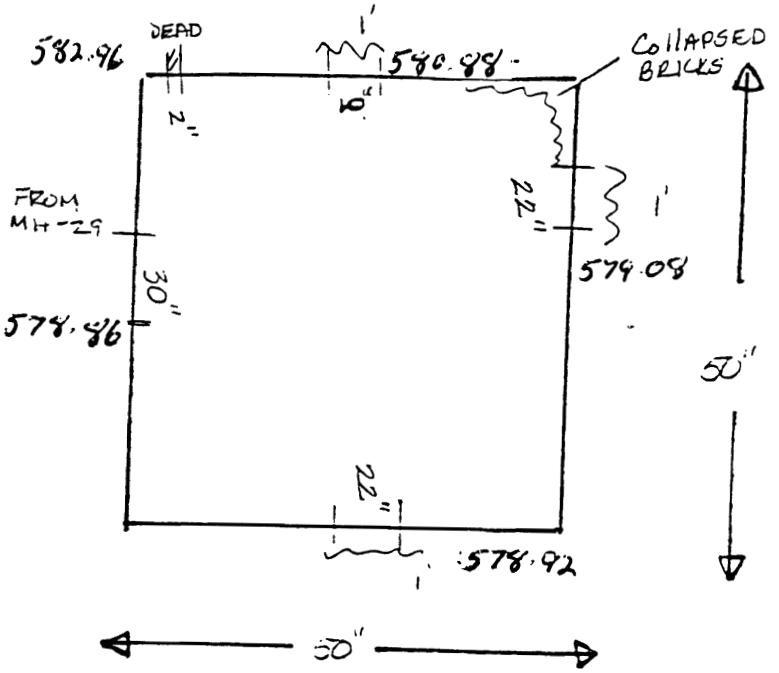
Product: 1-2" REMOVED

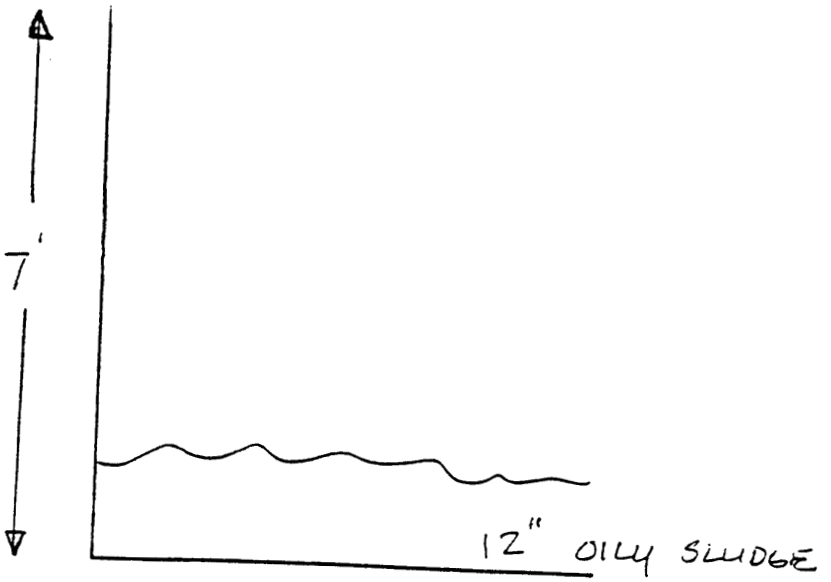
Surrounding Area:
DIRT / STONE

Flow:
SOUTH LINE FROM MH-2
NORTH LINE FROM MH-3
EAST LINE FROM MH-7



Structure # MH-30





Notes: BC 9/12/00
- BRICK CONSTRUCTION
- 12" SLUDGE
- 6" REMAING
- N/E WALLS, BRICKS MISSIN
- 2" LINE DEAD AT WALL
- 10" LINE BLOCKED 1' OUT
- 22" LINES BLOCKED 1' OUT

Rim Elevation. 585.91

Depth to Bottom: 7'

Constructed of: BRICK

Sediment: 12" SLUDGE

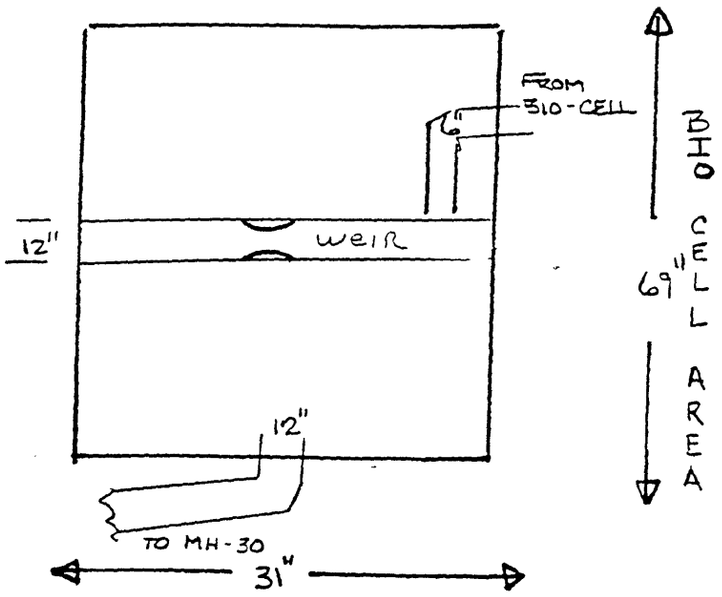
Product: 1"-2" REMOVED

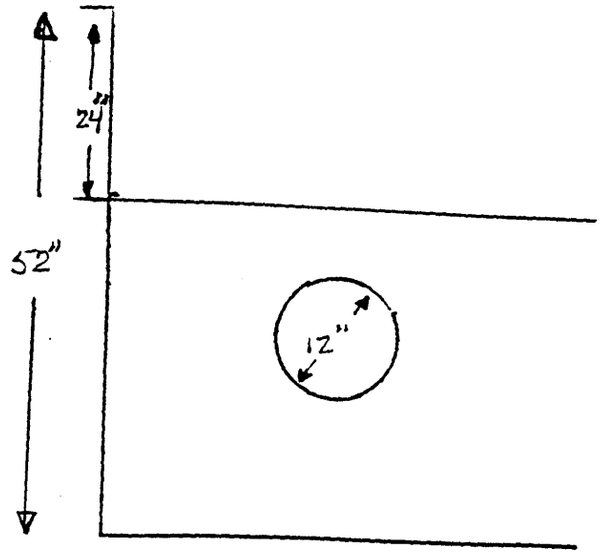
Surrounding Area:
DIRT/STONE

Flow:
FROM MH-29

N

Structure # MH-31





Notes: BC 11/1/00
- FORMED CONCRETE CONSTRUC
- 12" THICK WEIR IN MIDDL OF MH W/12" PIPE.
- SEVERAL CRACKS W/ W. FLOWING IN.
- 6" STEEL PIPE
- 12" CLAY PIPE
- ABUTS BIO-CELL

Rim Elevation. 580.32

Depth to Bottom: 52"

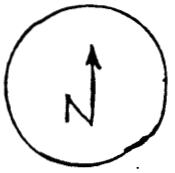
Constructed of:
CONCRETE

Sediment: 32"

Product: SHEEN

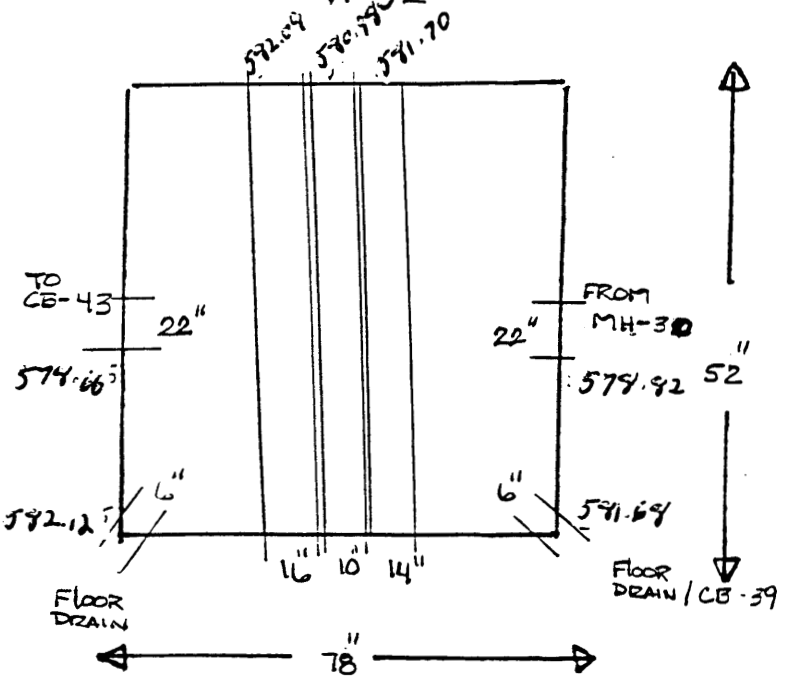
Surrounding Area:
DIRT

Flow:
6" FROM BIO-CELL
12" TO MH-30 STOPPED ± BEFORE MH.



Notes: BC 11/13/00
- BRICK / CONCRETE CONSTRUCTION
- REMOVED SAND FOR PIPES TO FLOW FROM MH-30 TO CB-34
- NO ACCESS TO 10", 14" AND 16" LINES. (STEEL)
- CLAY PIPES

Structure # MH-32



Rim Elevation. _ _ _

Depth to Bottom: 6'

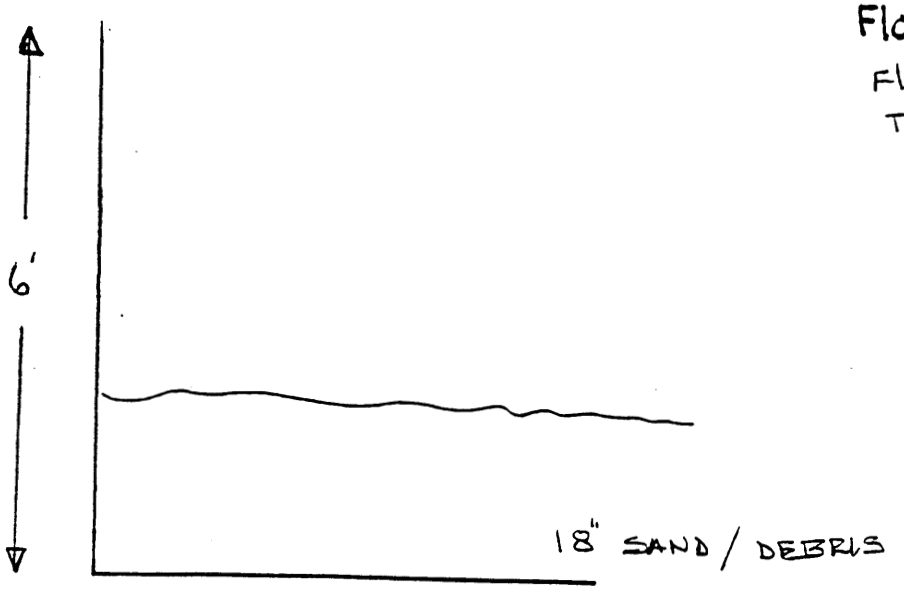
Constructed of:
BRICK / CONCRETE

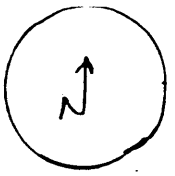
Sediment: 18" SAND / STONE

Product: NONE

Surrounding Area:
- ASPHALT ROADWAY

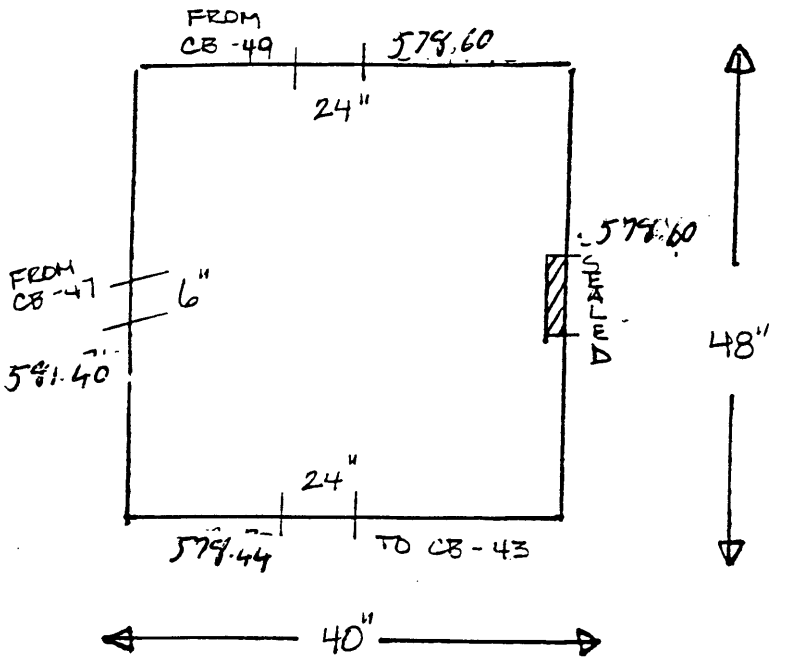
Flow:
FLOWS WEST FROM MH-32 TO CB-43





Notes: BC 9/11/02
- BRICK CONSTRUCTION
- WATER ENTERING FROM OUTSIDE OF EFFLUENT PIPE
- 12" DEBRIS REMOVED
- CLAY LINES

Structure # MH-34



Rim Elevation. 585.14

Depth to Bottom: 63"

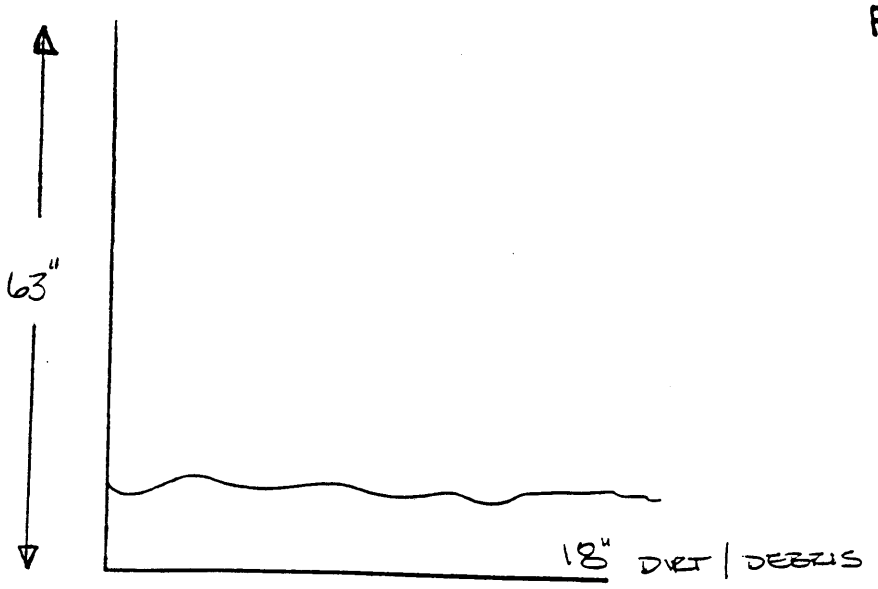
Constructed of: BRICK

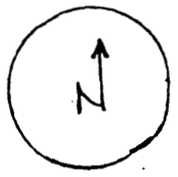
Sediment: 18"

Product: 1" REMOVED

Surrounding Area:
- ASPHALT ROADWAY

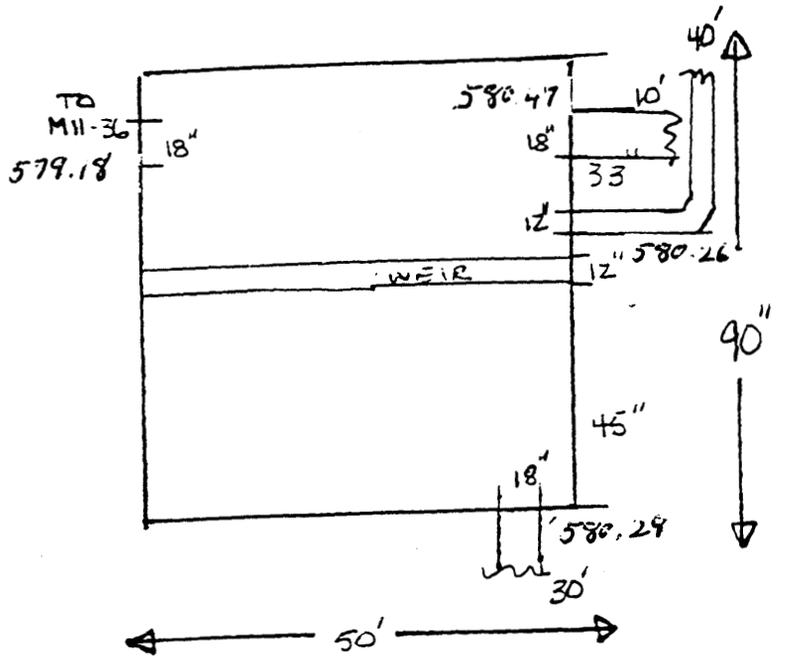
Flow:
SOUTH TO CB-43

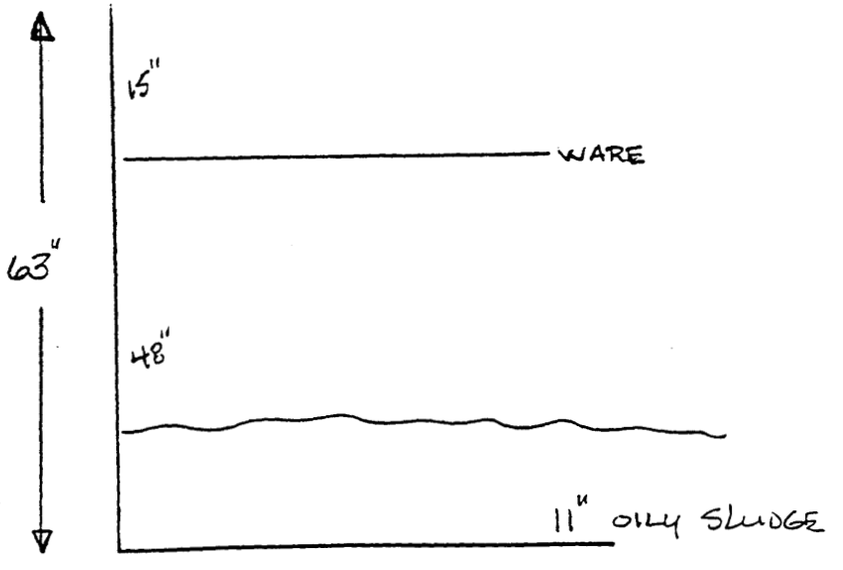




Notes: BC 9/14/00
- BRICK CONSTRUCTION W/ 15" CONCRETE RISER.
- STEEL PLATE COVER
- HEAVY PRODUCT STAINING
- CLAY PIPES

Structure # MH-35





Rim Elevation: 584.88

Depth to Bottom: 63"

Constructed of: BRICK 15" CONCRETE RISER

Sediment: OILY SLUDGE 11"

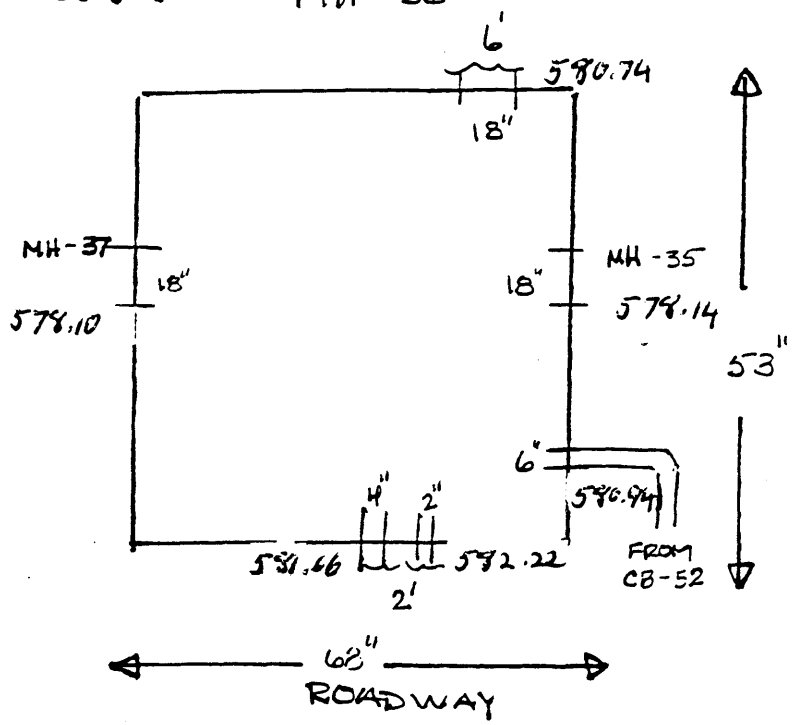
Product: HEAVY PRODUCT STAINING. 2" PRODUCT REMOVED

Surrounding Area: STONE

Flow:
- MH-35 TO MH-36
- ALL OTHER LINES DEAD

Notes: BC 9/18/00
- BRICK CONSTRUCTION W/ 20' CONCRETE RISER
- HEAVY OILY SLUDGE.
- STEEL PLATE COVER
- ASPHALT ROADWAY

Structure # MH-36



Rim Elevation. 585.31

Depth to Bottom: 84"

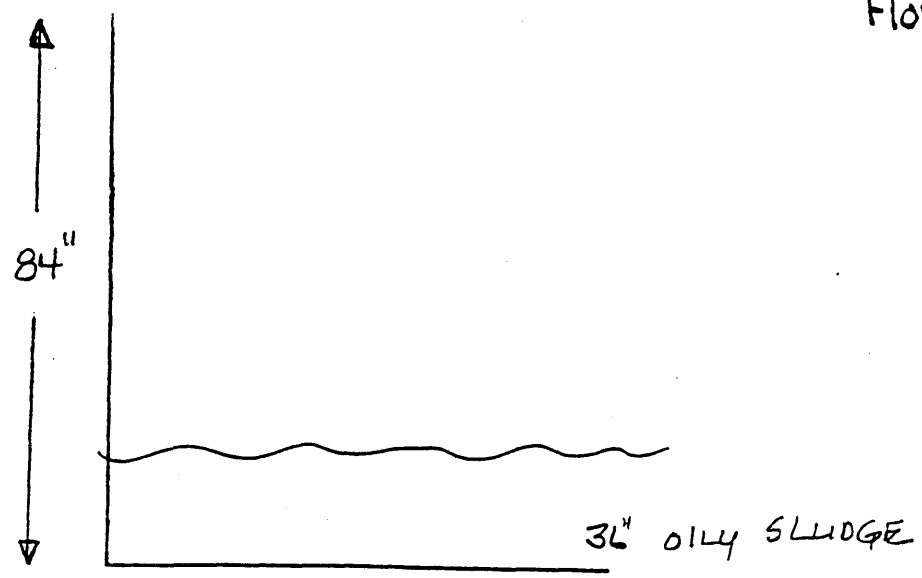
Constructed of: BRICK / CONCRETE RISER 6'

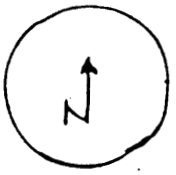
Sediment: 3' OILY SLUDGE

Product: 2" HEAVY PRODUCT REMOVED

Surrounding Area:
- ASPHALT ROADWAY
- STONE / DIRT

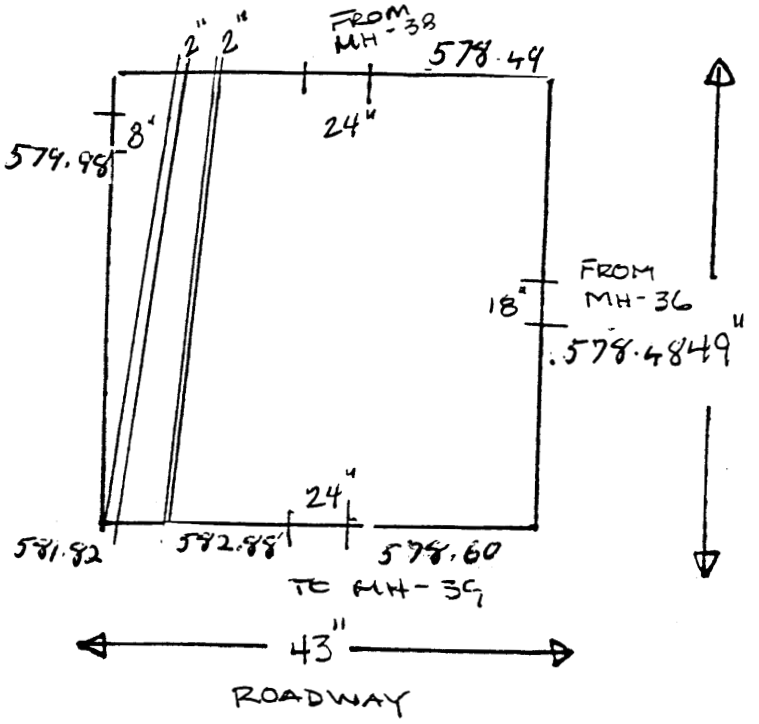
Flow:





Notes: BC 1/11/10
- 24" N LINE FED FROM MH 37
- 18E LINE FED FROM MH-36
- 2" LINES NOT TRACE

Structure # MH-37



Rim Elevation. 585.53

Depth to Bottom: 7'-2"

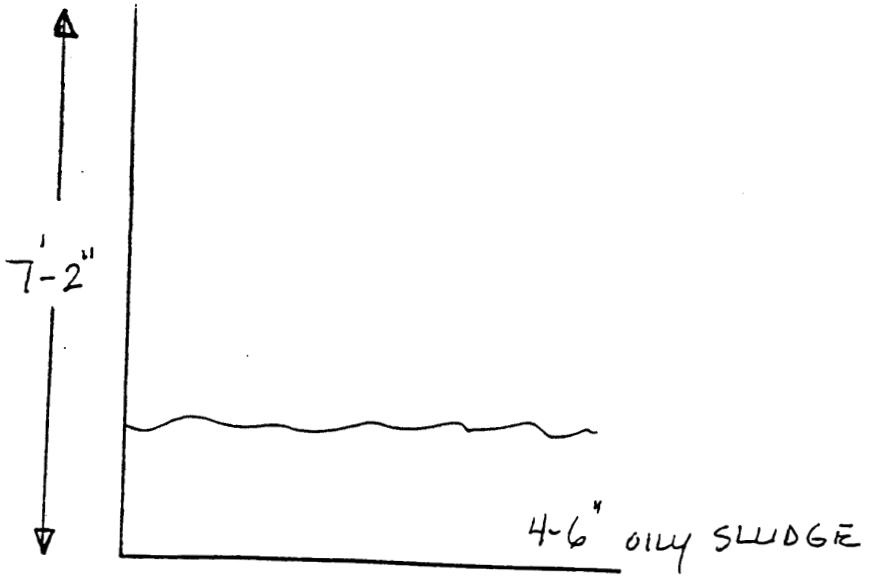
Constructed of:
BRICK / CONCRETE

Sediment: 6" OILY SLUDGE

Product: 2" HEAVY PRODUCT REMOVED

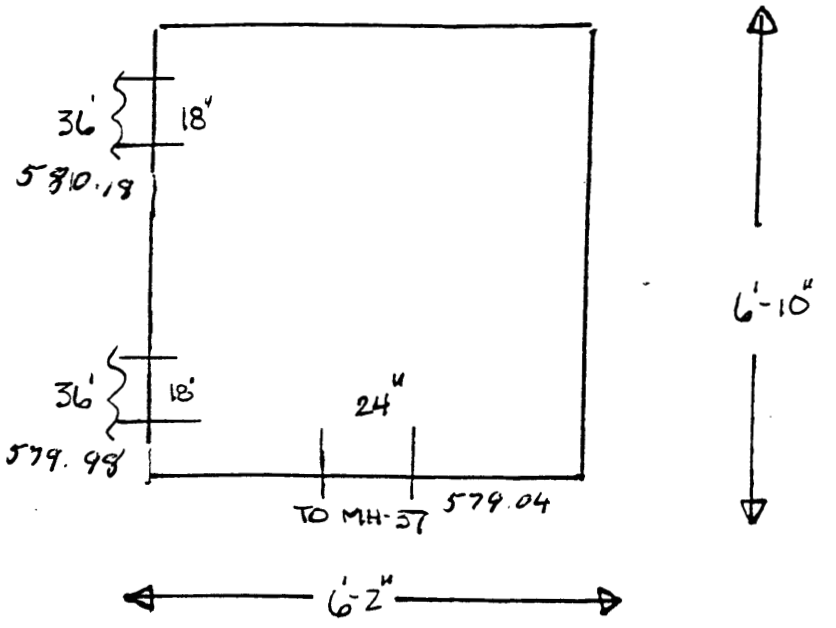
Surrounding Area:
- STONE / DIRT
- ASPHALT ROADWAY

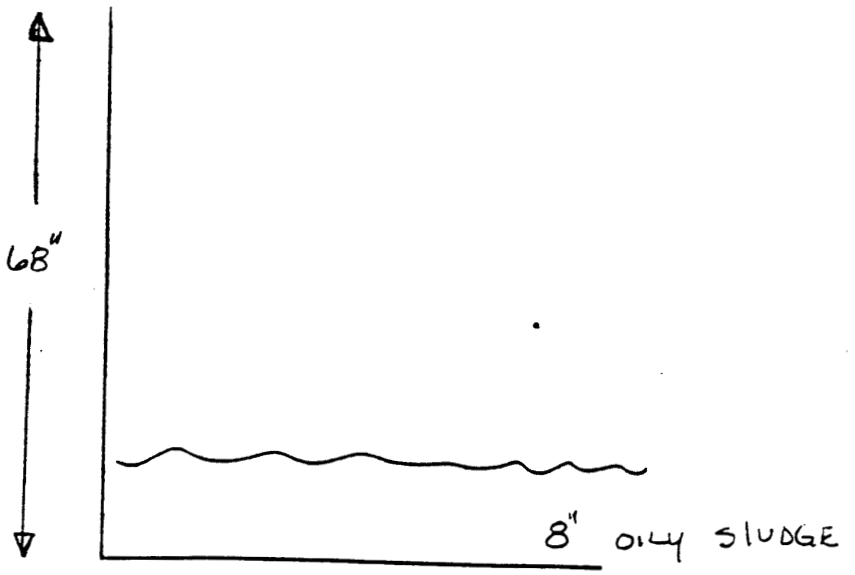
Flow:
SOUTH TO MH-35



N

Structure # MH-38





Notes: BC 7/15/00
- 24" LINE CONNECTS TO MH-37
- 18" LINES HAVE BAFFLE "T" GO WEST 36"
- CONCRETE CONSTRUCTIO
- STEEL PLATE COVER

Rim Elevation: 585.08

Depth to Bottom: 68"

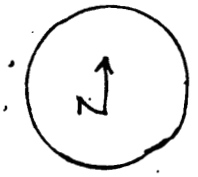
Constructed of: FORMED CONCRETE

Sediment: 8" OILY SLUDGE

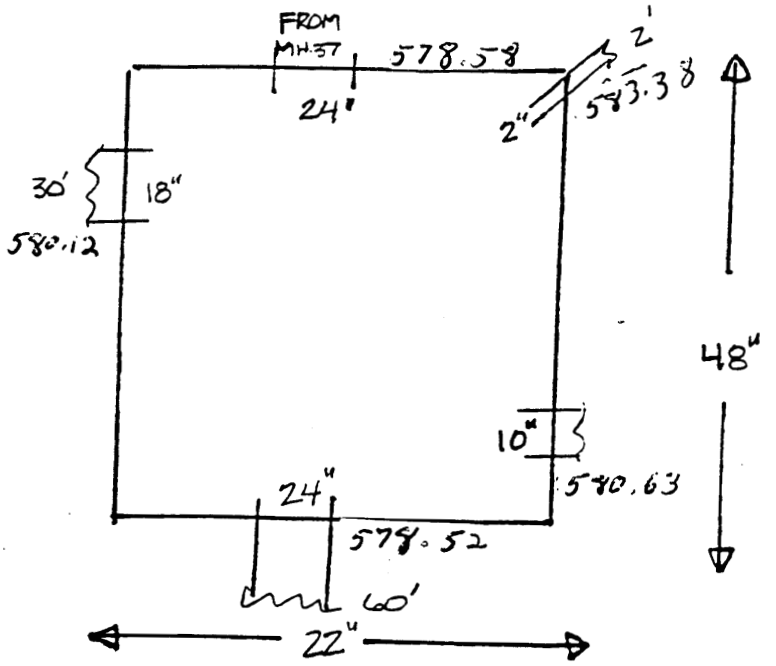
Product: 2" HEAVY OIL REMOVED

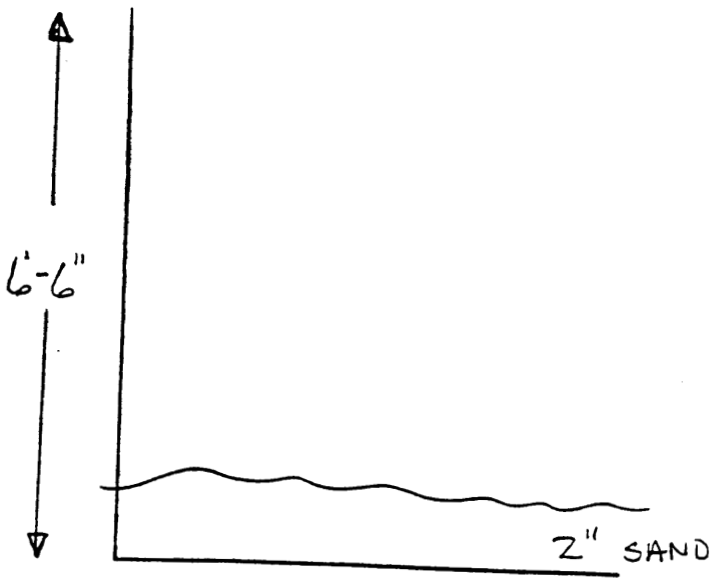
Surrounding Area: STONE/ DIRT

Flow: SOUTH 24" LINE CONNECTS TO MH-37



Structure # MH-39





Notes: BC 9/19/00

- FORMED CONCRETE
- HEAVY OIL STAIN
- 10" LINE HAS 2" LINE SEALED INSIDE.
- 2" LINE STOPPED 1' OUT
- 18" WEST LINE OUT 30' TO POSSIBLE BURIED ~~TANK~~
- CLAY LINES STRUCTURE

Rim Elevation: 585.02

Depth to Bottom: 6'-6"

Constructed of: CONCRETE

Sediment: SAND, 2"

Product: HEAVY PRODUCT STAINING 3" LAYER REMOVED

Surrounding Area:

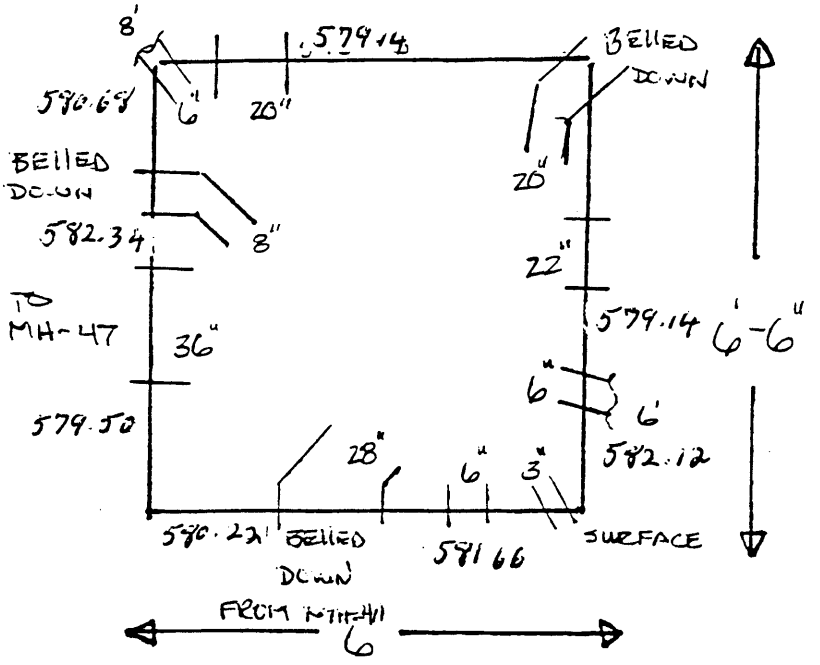
- DIRT
- BRUSH

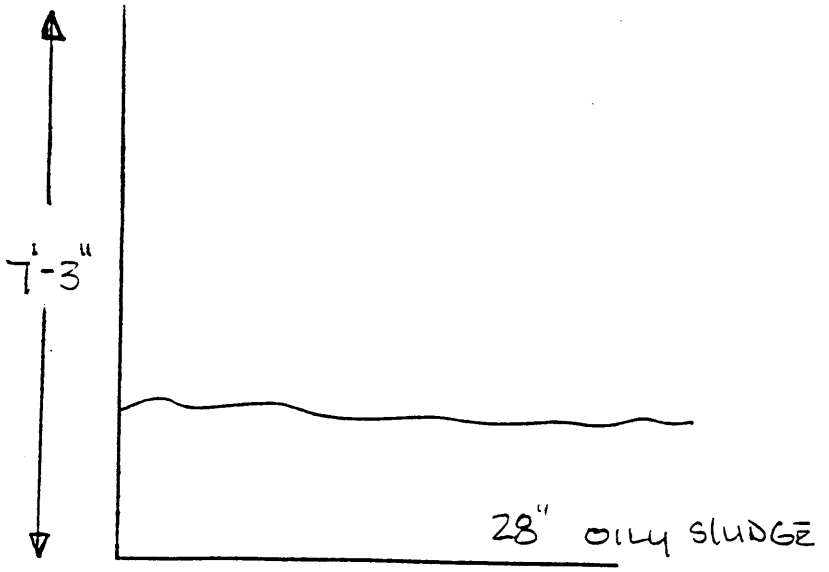
Flow:

- MH-37 TO MH-39
- 24" SOUTH TO CB-60 BLOCKED

N

Structure # MH-40





NOTES: BC 9/21/00
- CONCRETE RISER
- BRICK CONSTRUCTION IN POOR SHAPE
- VISIBLE FLOW W/I
- ALL PIPE 1/2 FULL
- CURBING BROKEN
- N/W LINE STEEL
- CLAY LINES

Rim Elevation: 584.98

Depth to Bottom: 7'-3"

Constructed of:
BRICK / CONCRETE

Sediment: 28"

Product: 2" PRODUCT

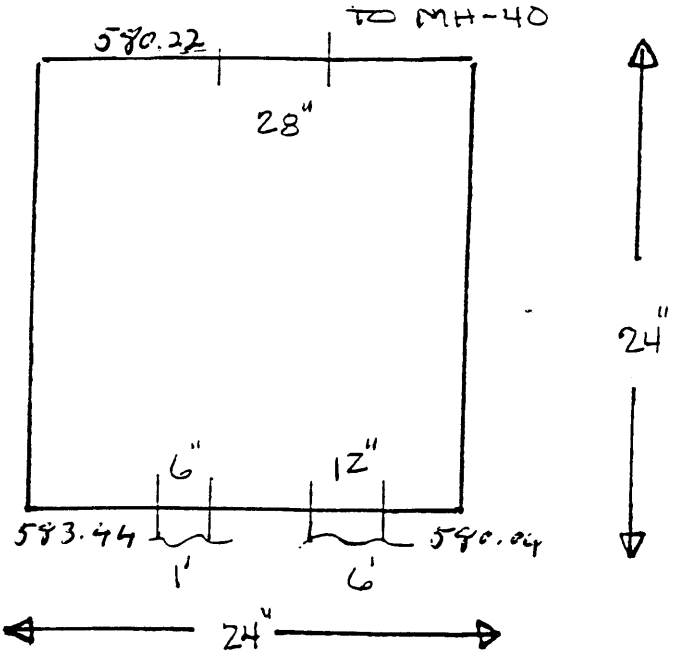
Surrounding Area:
DIRT / STONE

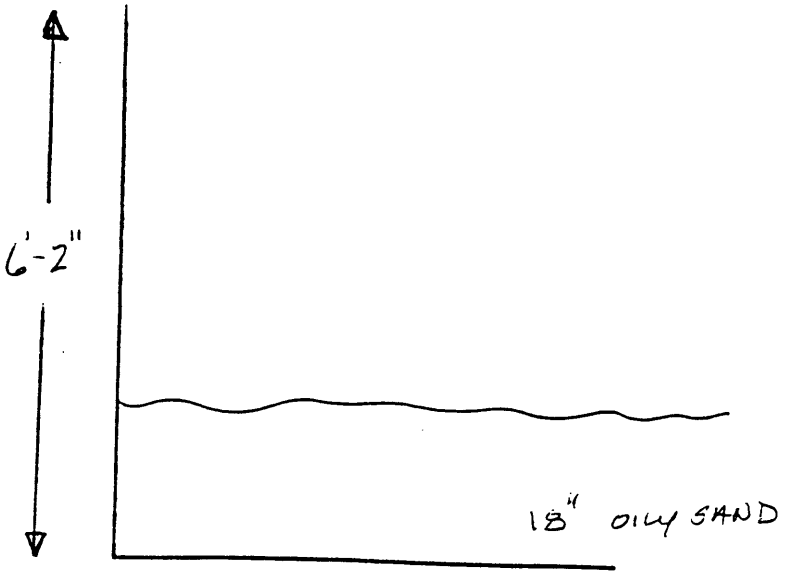
Flow:
WEST TO MH-47

28" SOUTH LINE FROM MH-41

N

Structure # MH-41





Notes: LC 7/20/10
- POOR CONCRETE CONSTR.
- BOTTOM UNDERMINED
- 6" SOUTH LINE PLUGGED 1' OUT
- 12" SOUTH LINE PLUGGED 6' OUT
- STEEL COVER

Rim Elevation: ~~CLAY LINES~~ 595.96

Depth to Bottom: 6'-2"

Constructed of: CONCRETE

Sediment: 18"

Product: OILY SLUDGE

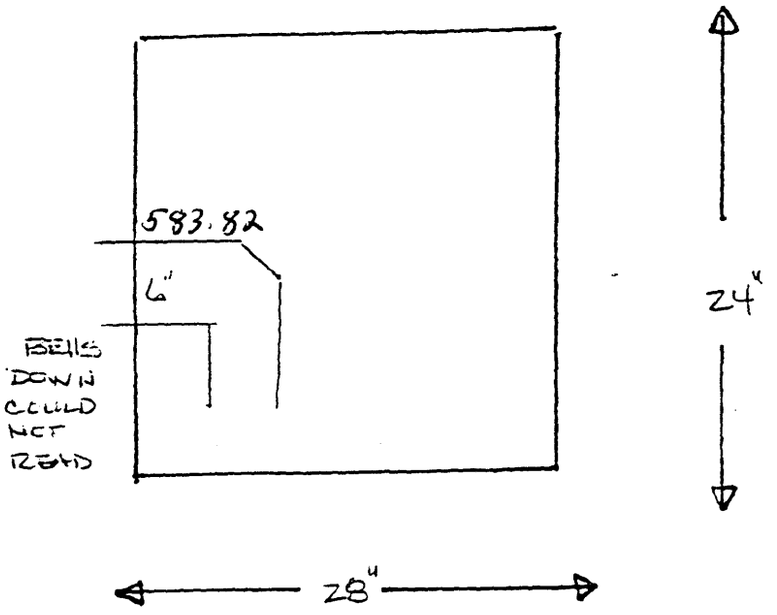
Surrounding Area: DIRT / GRASS

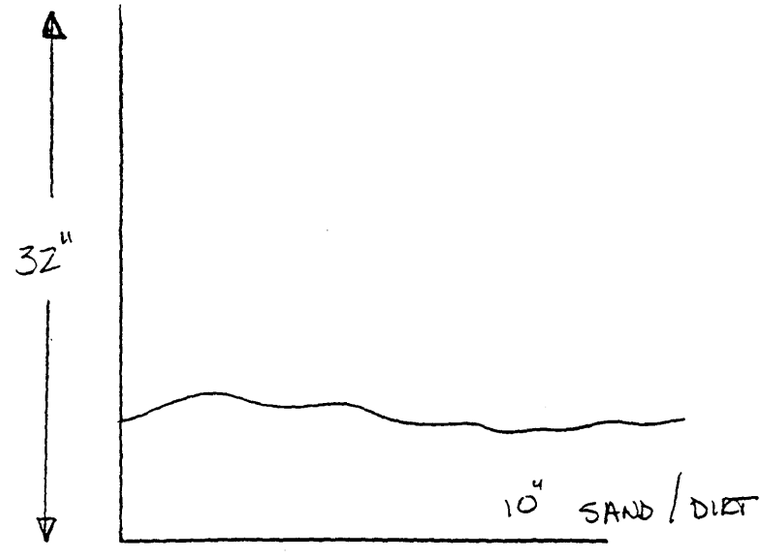
Flow: NORTH TO MH-40

N

Notes: BC 4/21/10
- Concrete Construction
- Poor condition
- Weed covered
- Steel plate cover

Structure # MH-43





Rim Elevation: 585.72

Depth to Bottom: 32"

Constructed of: Concrete

Sediment: 10"

Product: None

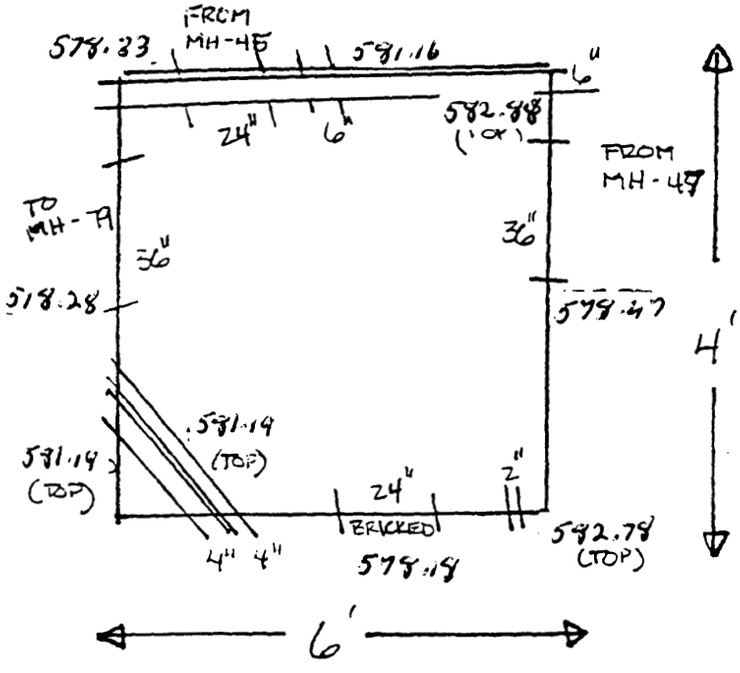
Surrounding Area: Weeds / Brush

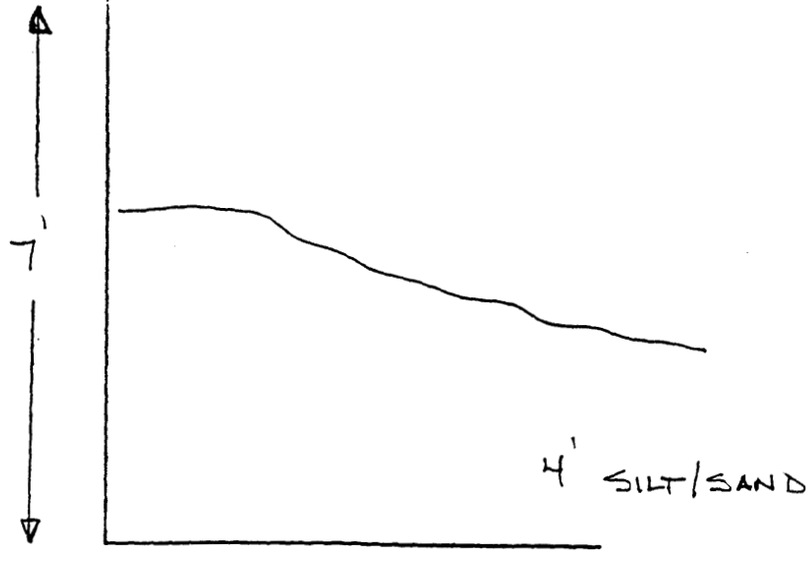
Flow: Unknown
May go to MH-41

N

Notes: BC 4/22/00
- CONCRETE / BRICK CONSTRUC
- WEEDS / BRUSH COVERED
- LINES FULL SILT / SAND
- STEEL PLATE COVER
- 24" SOUTH LINE BRICK
- 6" RISER ON CONCRETE

Structure # MH-44





Rim Elevation: 585.08

Depth to Bottom: 7'

Constructed of:
BRICK / CONCRETE

Sediment: 4' SILT/SAND

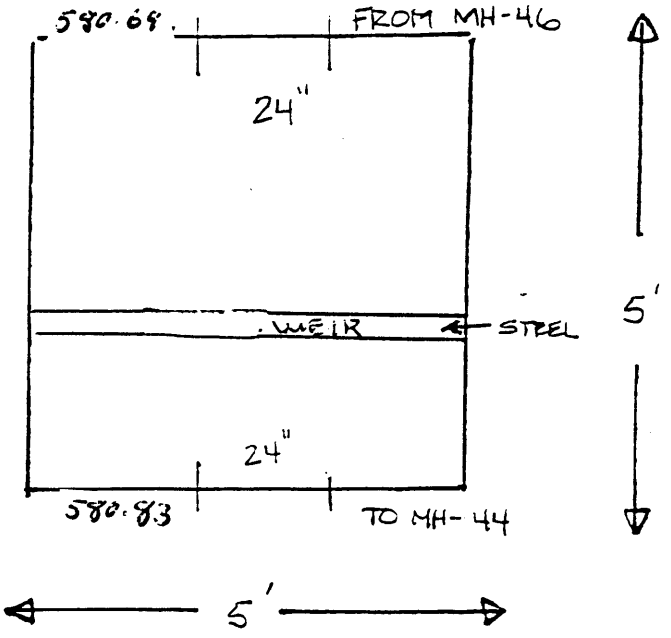
Product: SHEEN

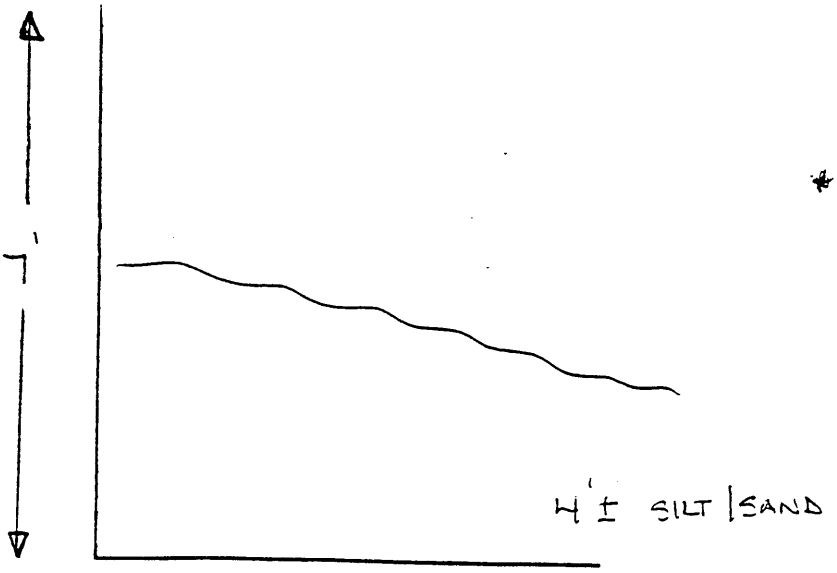
Surrounding Area:
WEEDS / BRUSH

Flow:
- FROM MH-45, MH-47
- TO MH-79 (NEW)*

* WAS BURIED IN CTS

Structure # MH-45





Notes: BC 4/22/10
- CONCRETE / BRICK CONSTRUCTION
- WEIR ON SOUTH SIDE
- STEEL PLATE COVER
- FENCE ON WEST SIDE
- STEEL WARE

Rim Elevation: 586.76

Depth to Bottom: 7'

Constructed of: CONCRETE / BRICK

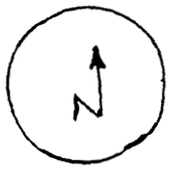
Sediment: 4' ± SILT/SAND

Product: SHEEN

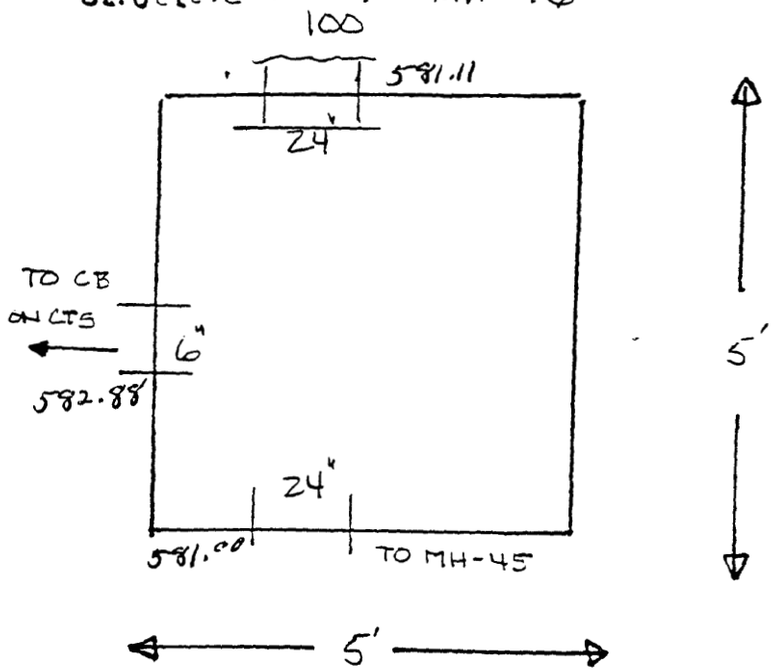
Surrounding Area: WEEDS / BRUSH

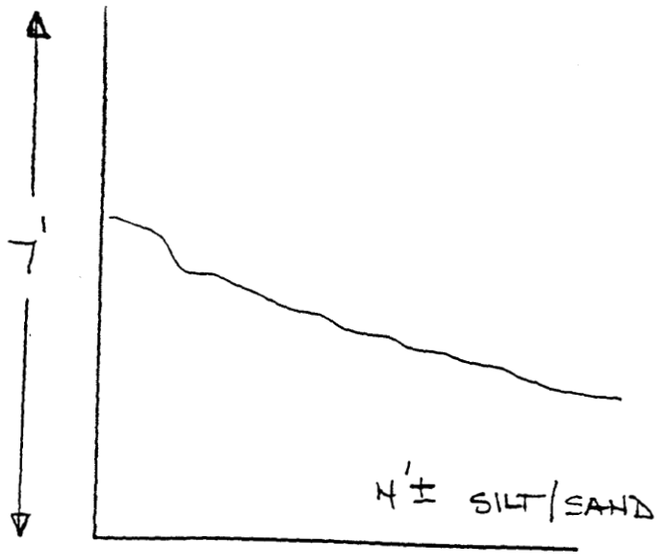
Flow:
SOUTH TO MH-44
NORTH FROM MH-4

* UNABLE TO REMOVE STEEL WEIR



Structure # 100 MH-46





Notes: BC 9/12/00
- CONCRETE / BRICK CONSTRUCTION
- 2/3 FULL SILT/SAND
- FENCE ON WEST SIDE
- NORTH LINE 100' I OUT STOPPED
- STEEL PLATE COVER
- 3' WEST 6" LINE TO CB

Rim Elevation: 586.60

Depth to Bottom: 7'

Constructed of:
CONCRETE / BRICK

Sediment: 4'
SILT/SAND

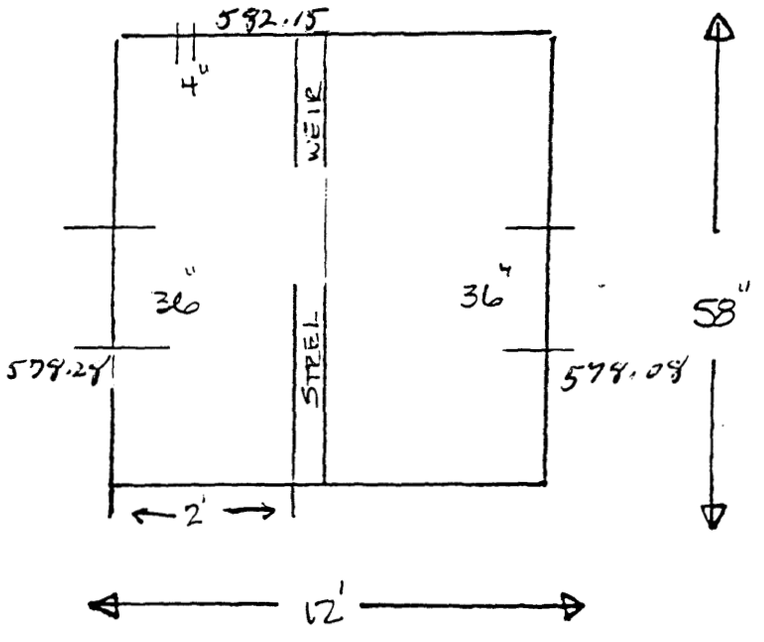
Product: NONE

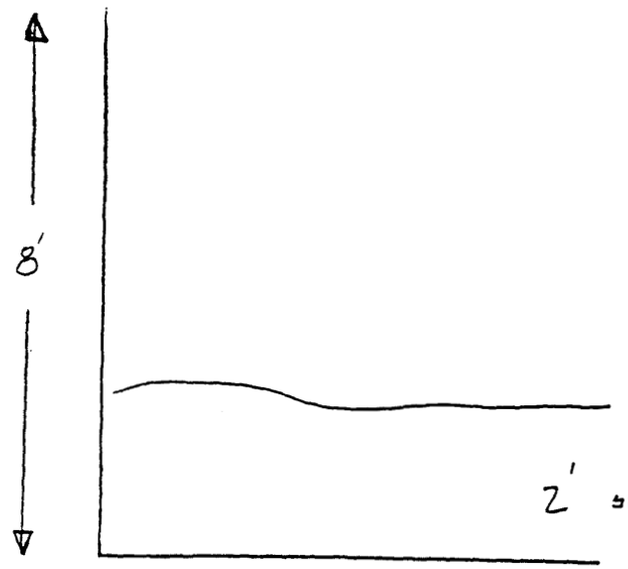
Surrounding Area:
WEEDS/ BRUSH

Flow: SOUTH TO MH-45

N

Structure # MH-47





Notes: BC 7/12/22
- Concrete Construction
- Flow is East to West
- Weeds / Brush Cover
- Dirt / Gravel will wash in during heavy rain
- Steel Plate Cover
- Hidden by trees
- Clay Lines

Rim Elevation. 584.46

Depth to Bottom: 8'

Constructed of:
Concrete

Sediment: 2' silty sludge

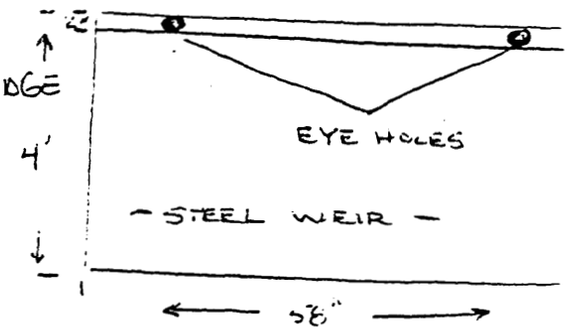
Product: 1/2" Product Remover

Surrounding Area:
Weeds / Brush

Flow:
To MH-58, From MH-

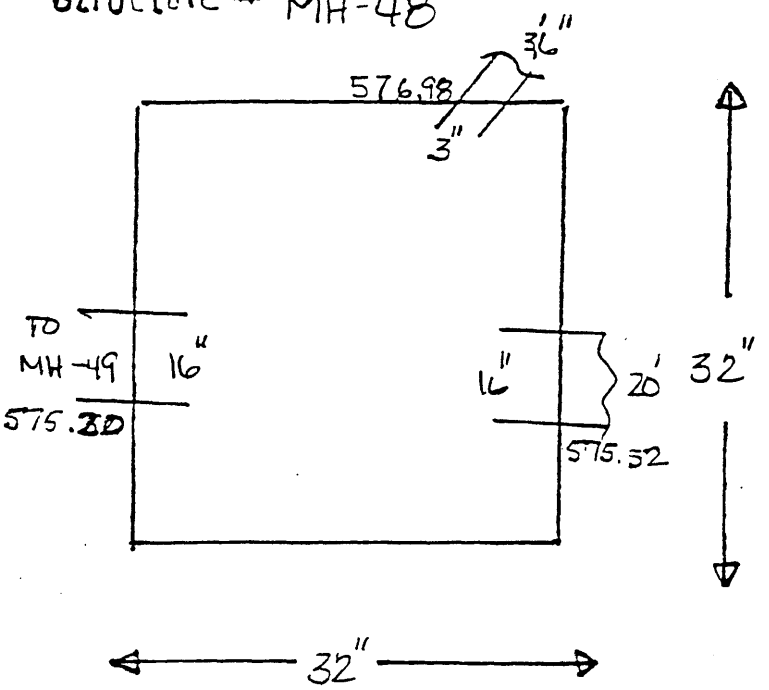
* Attempted to remove steel weir, unsuccessful.

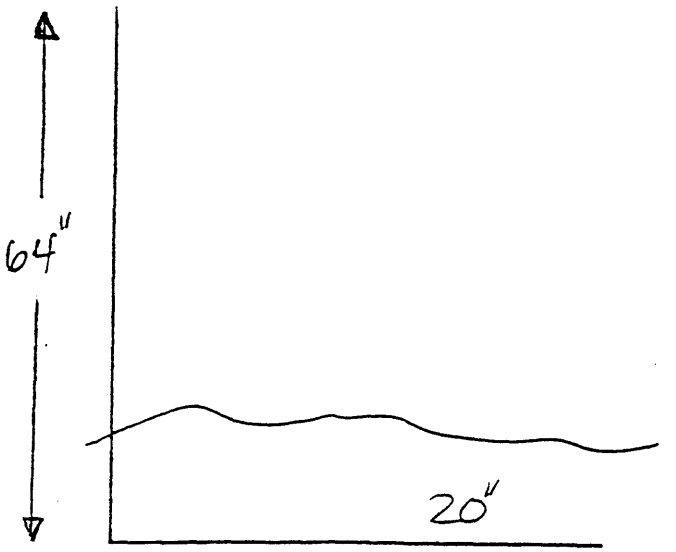
* Weir had 2" lip w/ two eye holes for removal.



N

Structure # MH-48





Notes: BC 9/26/00
- BRICK CONSTRUCTION
- CONCRETE RISER
- 8" LINE STEEL, PLUGGED
- STEEL PLATE COVER
- POOR SHAPE
- JOINTS SEPERATED
- GROUNDWATER INFILTRATED
- CONCRETE DEBRIS
- CLAY LINES

Rim Elevation. 585.44

Depth to Bottom: 64"

Constructed of: BRICK / CONCRETE

Sediment: 20" OILY SLUDGE

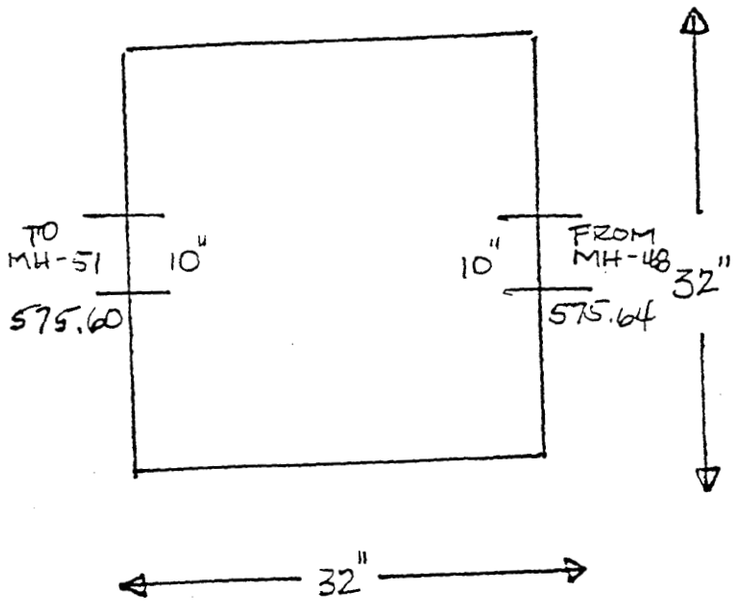
Product: SHEEN

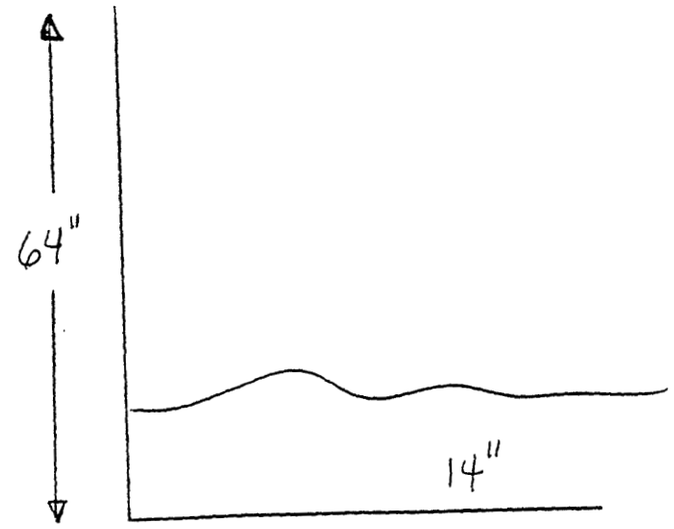
Surrounding Area: CONCRETE DEBRIS

Flow: WEST TO MH-49

N

Structure # MH-49





Notes: BC 4/26/00
- BRICK CONSTRUCTION CONCRETE RISER
- STEEL PLATE COVER
- CONCRETE DEBRIS
- GROUNDWATER INFILTRATED
- CLAY LINES

Rim Elevation: 585.50

Depth to Bottom: 64"

Constructed of:
BRICK / CONCRETE

Sediment: 14" OILY SLUDGE

Product: SHEEN

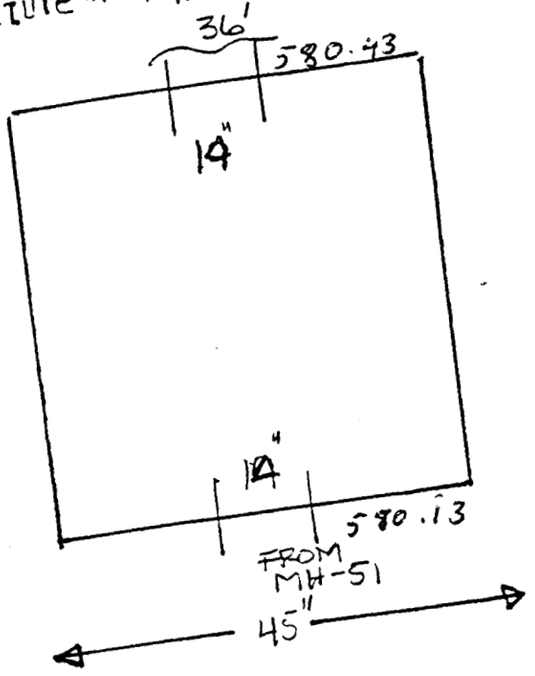
Surrounding Area:
CONCRETE DEBRIS

Flow:
WEST TO MH-51

N

Notes: BC 4/2010
- BRICK CONSTRUCTION CONCRETE RISER
- STEEL PLATE COVER
- CLAY LINES
- GROUNDWATER INFILTRATED
- NORTH LINE STOPS OUT 36

Structure # MH-50



Rim Elevation: 585.25

Depth to Bottom: 64"

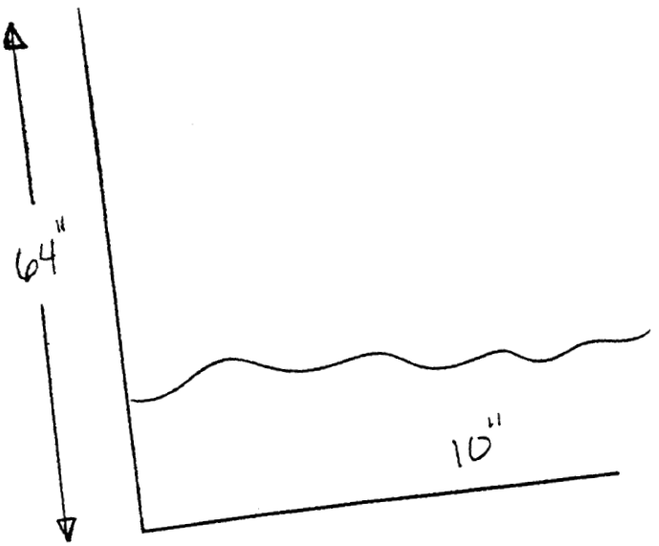
Constructed of:
BRICK / CONCRETE

Sediment: 10" oily SLUDGE

Product: SHEEN

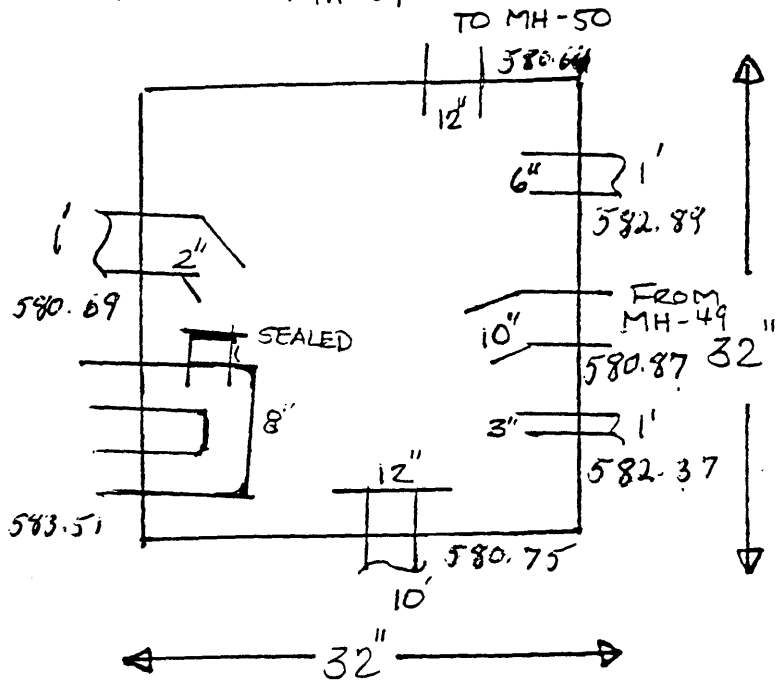
Surrounding Area:
CONCRETE ~~RR~~ DEBRIS

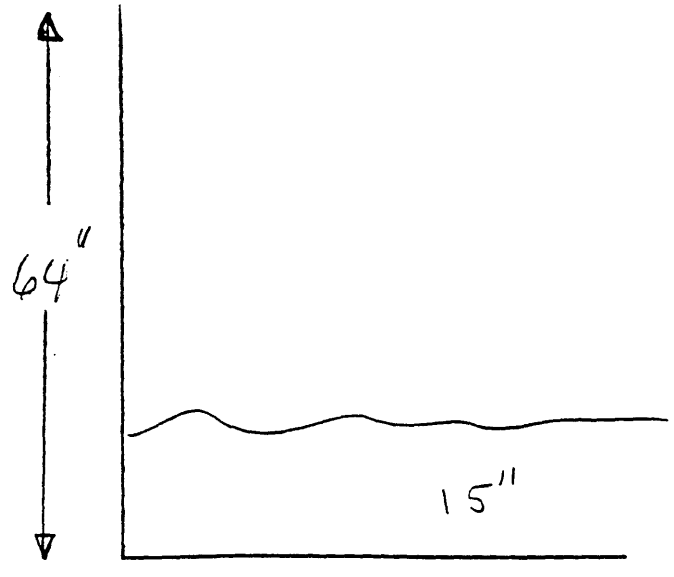
Flow:
SOUTH FROM MH-51



N

Structure # MH-51





Notes: BC 9/20/10

- CONCRETE RISER, BRICK CONSTRUCTION
- CONCRETE DEBRIS
- STEEL PLATE COVER
- EAST 6", 3" LINE STEEL
- WEST 8" "T" PLUGGED
- CLAY LINES
- 12" SOUTH LINE "T"

Rim Elevation: 585.36

Depth to Bottom: 64"

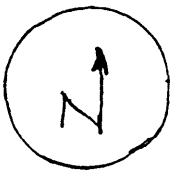
Constructed of:

Sediment: 15" OILY SLUDGE

Product: SHEEN

Surrounding Area:
CONCRETE DEBRIS

Flow:
NORTH TO MH-50

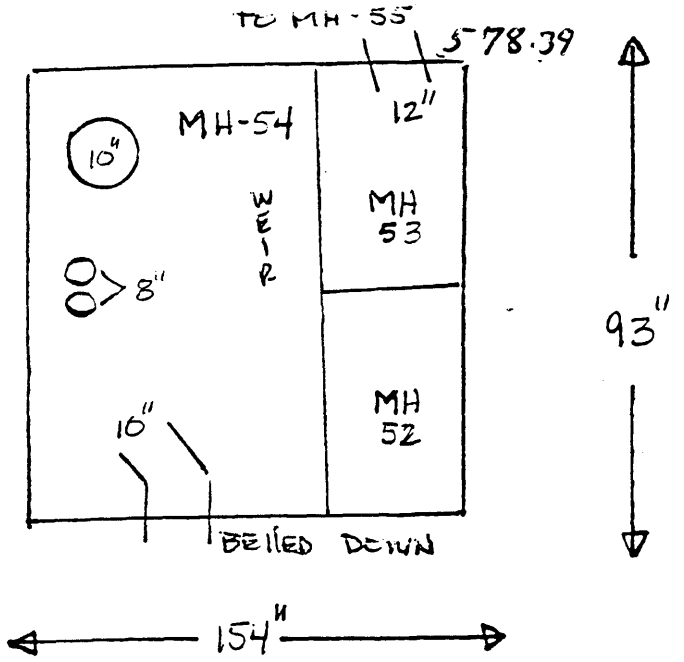


- 10" SOUTH LINE NO READIN.

NOTES: BC 9/27/[illegible]

- CONCRETE CONSTRUCTION
- STEEL LINES
- ONE TANK W/CONNECTING WEIR
- MH-52 TANK W/NO PIPES WEIR = SEPERATING MH-52/M
- LADDER IN MH-54/MH-53
- 1 10" LINE FEEDS DOWN (VER
- 2 8" LINES FEEDS DOWN

Structure # MH-52/53/54 (TANK)



Rim Elevation: 584.97

Depth to Bottom: 10'

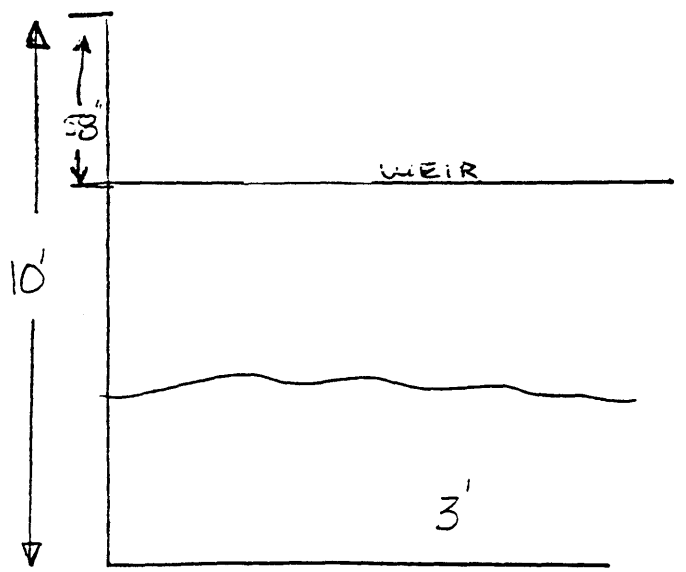
Constructed of: CONCRETE

Sediment: 3' oily SLUDGE

Product: SHEEN

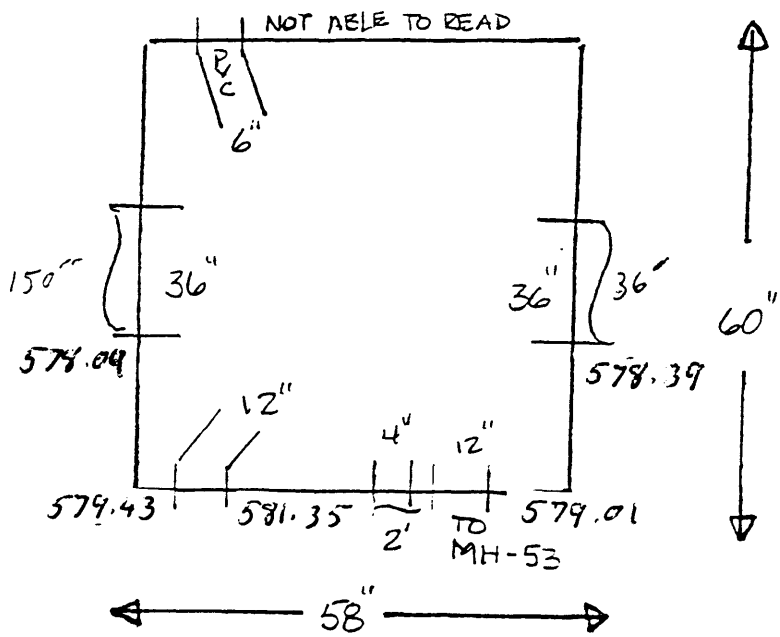
Surrounding Area: CONCRETE PAD

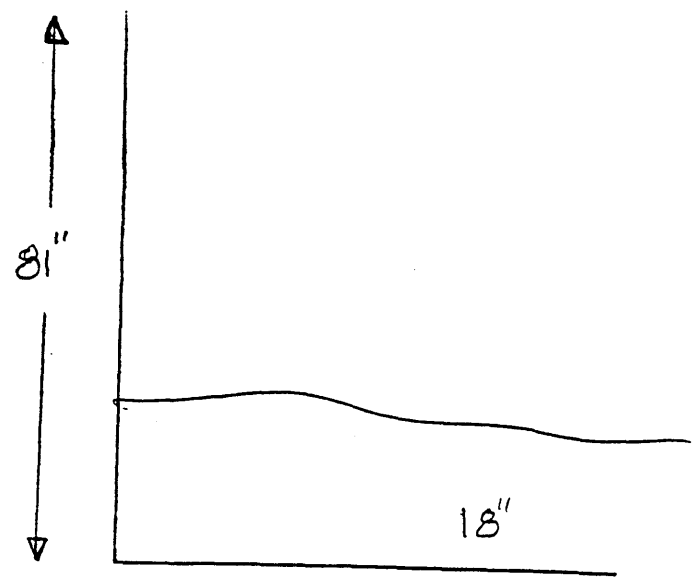
Flow: 12" LINE NORTH TO MH-55



N

Structure # MH-55





Notes: BC 7/28/00
- CONCRETE CONSTRUCTION
- 6" PVC OUT 40' STOPPED
- 4" STEEL LINE OUT 2' STOPPE
- 12" S/E LINE CLAY TO MH-
- STEEL PLATE COVER
- 36" LINES FLOW EAST TO

Rim Elevation: 584.61

Depth to Bottom: 81"

Constructed of:
CONCRETE

Sediment: 18" SAND/ROCK
OILY SLUDGE

Product:
HEAVY PRODUCT SLUDGE

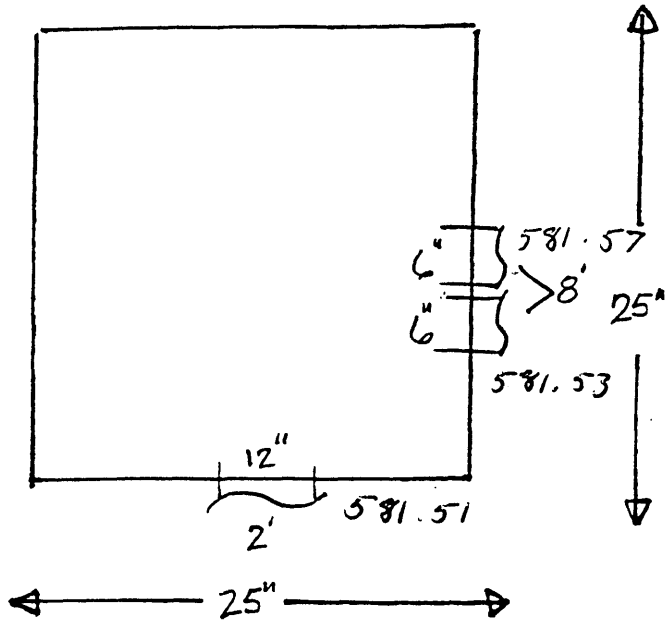
Surrounding Area:
CRUSHED CONCRETE

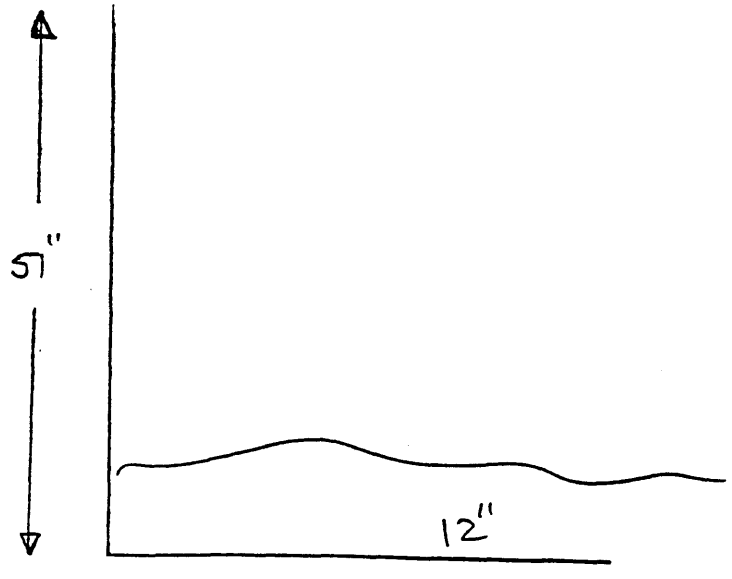
Flow:
EAST TO WEST

WEST 36" LINE ~~STOPP~~
150' OUT

EAST 36" LINE GOES
N/E THEN WEST 36'

Structure # MH-56





Notes: BC 4/27/20
- Concrete Construction
- Clay Pipes
- Product Flow South 12" Line
- 12" Line Stopped 2' OC (Possible Grounwater Entering)
- Steel Plate Cover

Rim Elevation: 585.49

Depth to Bottom: 51"

Constructed of: Concrete

Sediment: 12" Sand/Stone

Product: Sheen

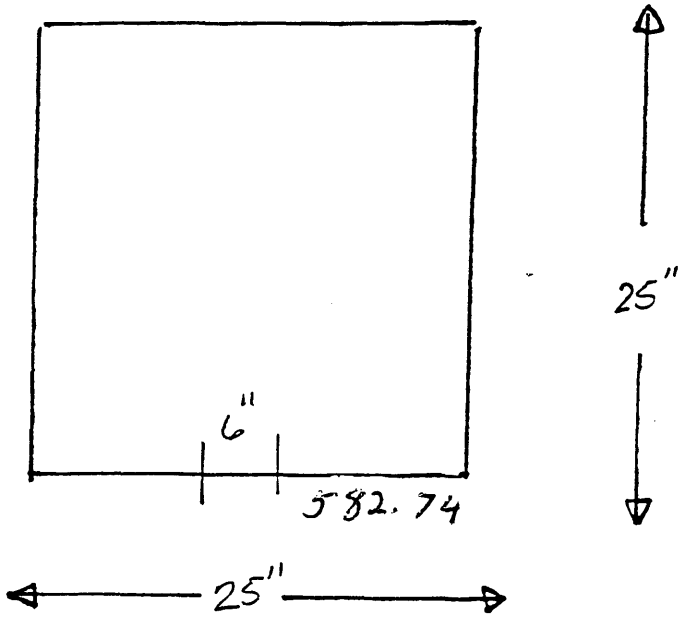
Surrounding Area: Gravel

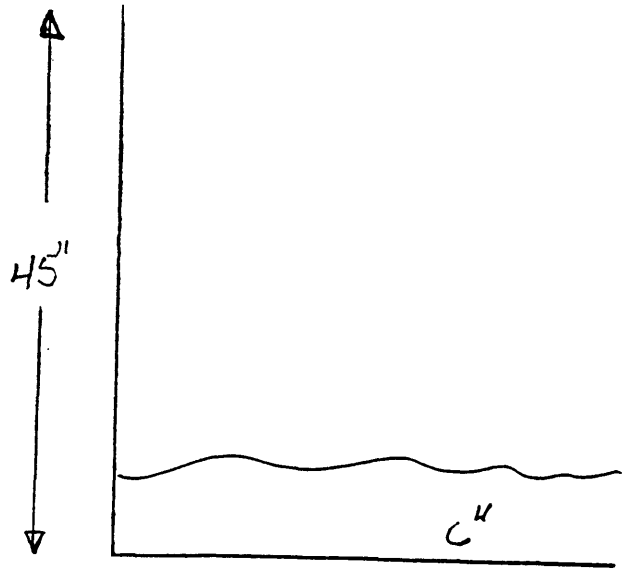
Flow: North on 12" Line

N

Notes: LC 4/27/00
- Concrete Construction
- Clean
- Clay Pipe
- Steel Plate Cover

Structure # MH-57





Rim Elevation: 585.57

Depth to Bottom: 45"

Constructed of:
Concrete

Sediment: 4"

Product: None

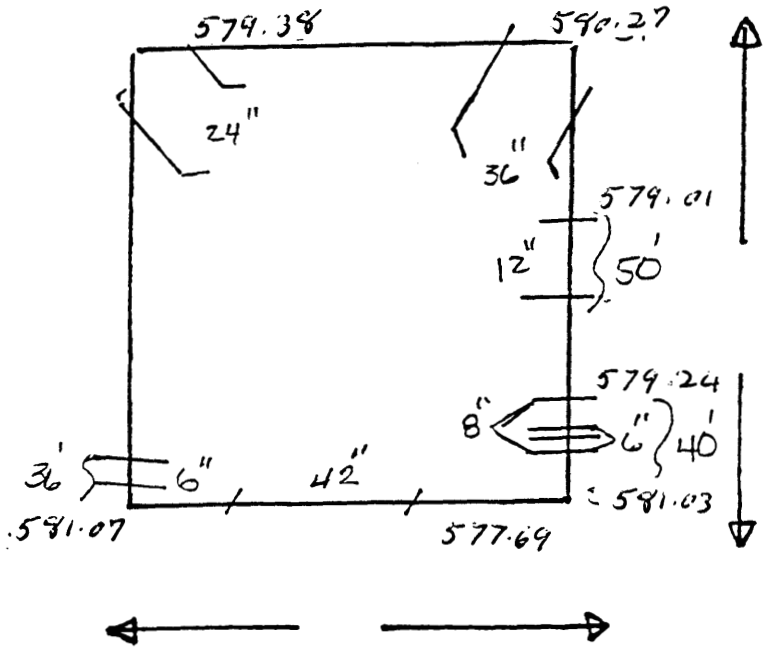
Surrounding Area:
Gravel / Dirt

Flow:
- South to line at MH-56

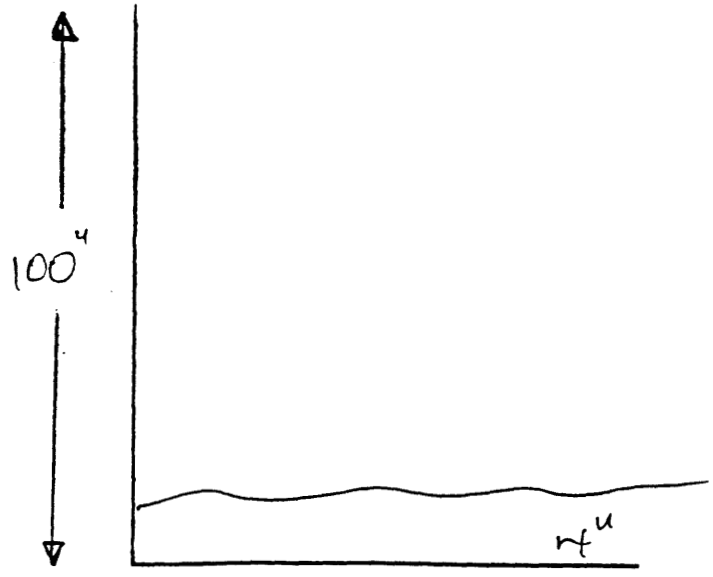
(1)

ROAD

Structure # MH-58



ROAD



Notes: BC 10/2/00
formed concrete const.
riser w/ brick const.
- STEEL PLATE COVER
- 36" LINE CONNECTS EAST LINES
- 24" LINE FROM MH-79
- 42" TO MH-1

Rim Elevation:
585.59

Depth to Bottom:
100"

Constructed of:
CONCRETE

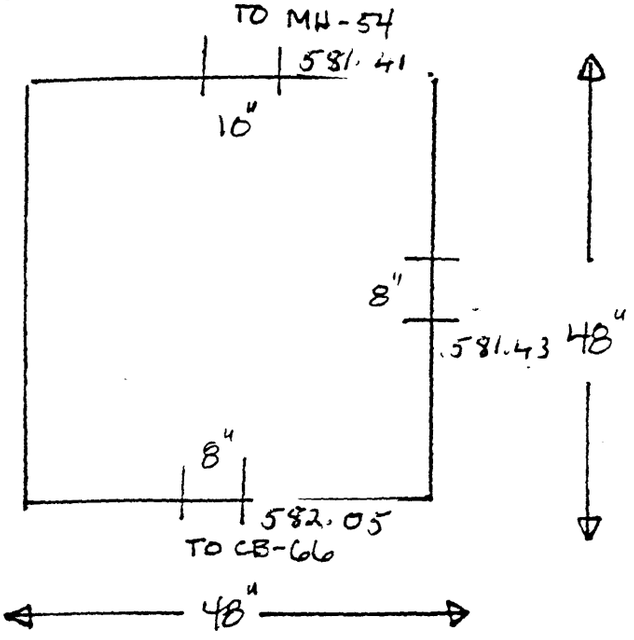
Sediment: 4" SAND

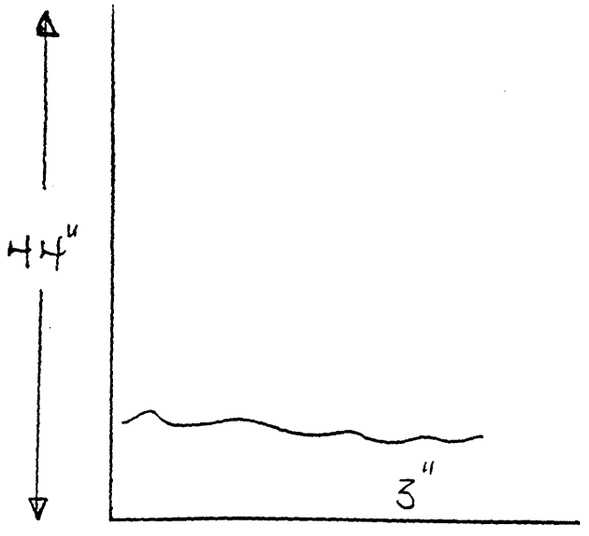
Product:
SHEEN

Surrounding Area:
STONE

Flow:
TO MH-1

Structure # MH-59





Notes: CC 11/27/20
- CONCRETE CONSTRUCTION
- CAST LINES
- CLEAN
- 8" EAST LINE 90° TO PAD PER
- 8" SOUTH LINE TO CB-66
- STEEL COVER
- ON CONCRETE PAD

Rim Elevation. 585.02

Depth to Bottom: 44"

Constructed of:
CONCRETE

Sediment: 3" SAND

Product: NONE

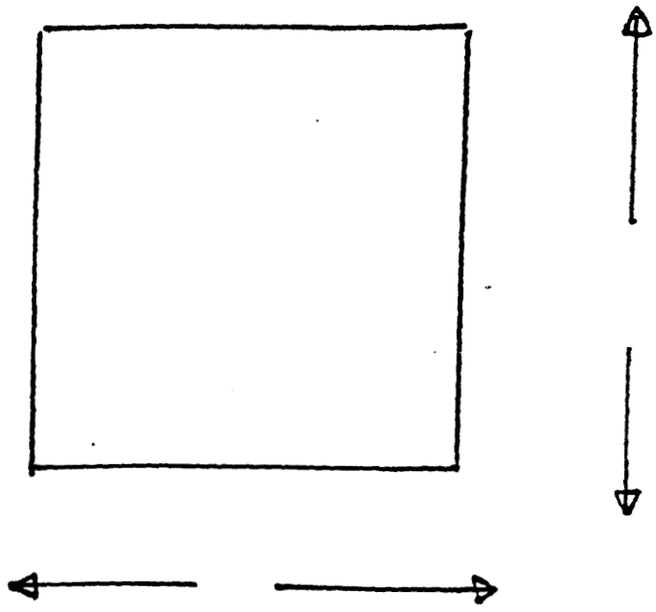
Surrounding Area:
CONCRETE PAD

Flow:
SOUTH LINE TO CB-66

N

Notes: BC 4/19/01
- STRUCTURE INSTALLED BY CES FOR WESTERN WELL POINT SYSTEM.

Structure # MH 60



Rim Elevation: 582.61

Depth to Bottom:

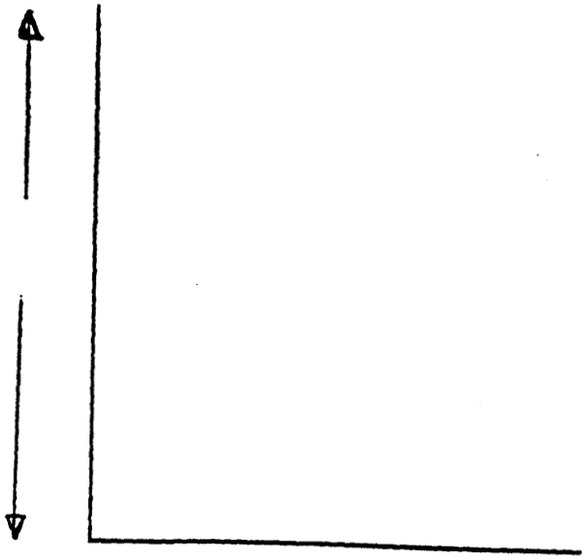
Constructed of:

Sediment:

Product:

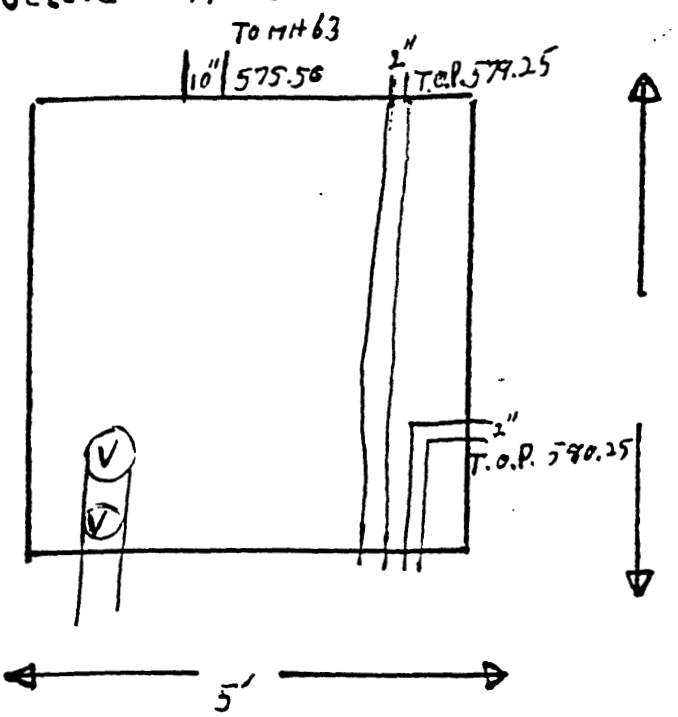
Surrounding Area:

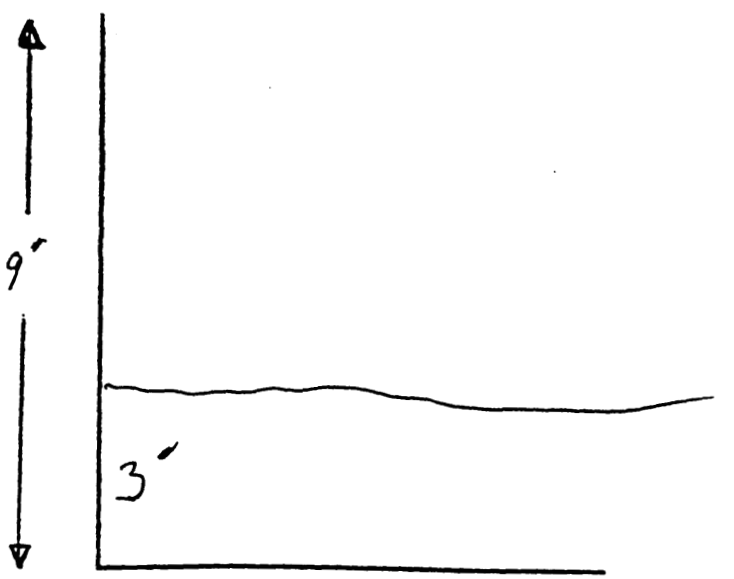
Flow:



(←N)

Structure # MH 62





Notes: BC 4/19/01

- WEST SIDE OF STRUCTURE APPEARS TO BE OPEN.
- 2 PIG BOOMS REMOVED
- VALVES ON WEST SIDE COULD BE CHECK VALVES.

Rim Elevation: 583.39

Depth to Bottom: 9'

Constructed of: CONCRETE

Sediment: 3' SAND

Product: SHEEN

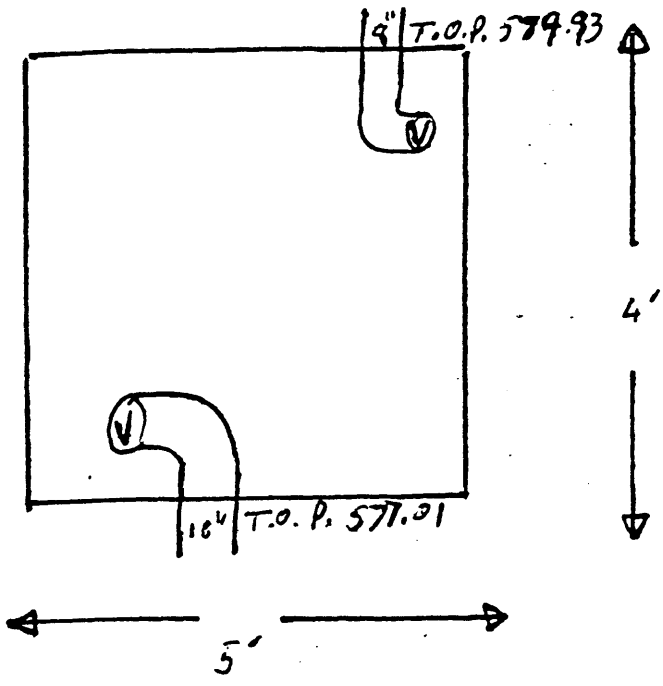
Surrounding Area: PAVED

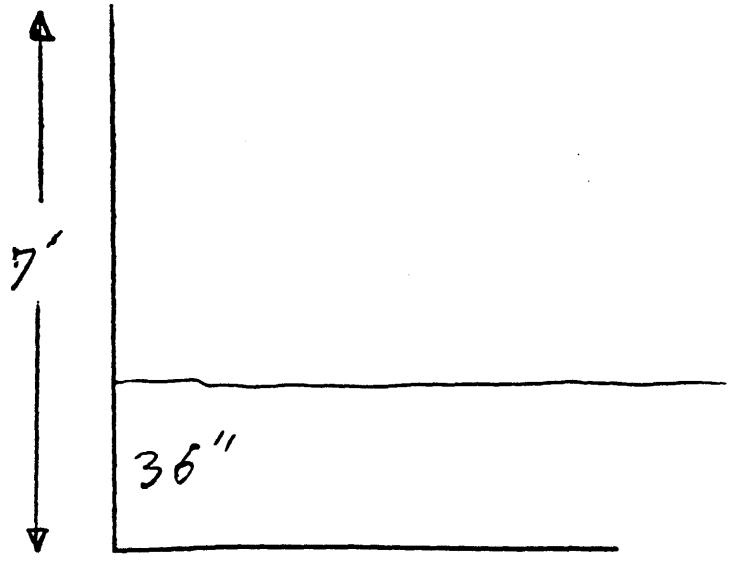
Flow: N/A

N

Notes: B@ 4/18/01
- COVER MARKED SANITARY
- 2 PIG BOOMS REMOVED

Structure # MH-63





Rim Elevation: 583.33

Depth to Bottom:

Constructed of: Cement

Sediment: 36"

Product: 1/4" PRODUCT

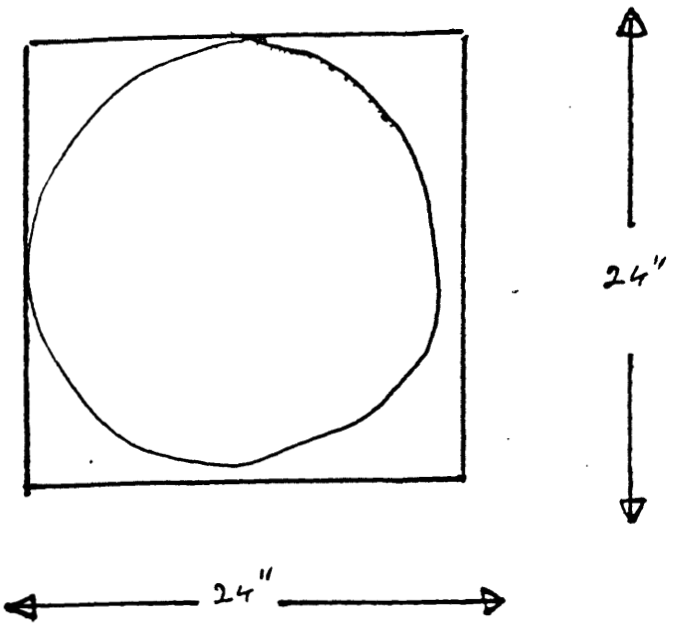
Surrounding Area: PAVED

Flow: N/A

N

Notes: BC 4/19/01
- DROPS INTO 6" STORM WATER DRAIN

Structure # MH 64



Rim Elevation: 583.93

Depth to Bottom: N/A

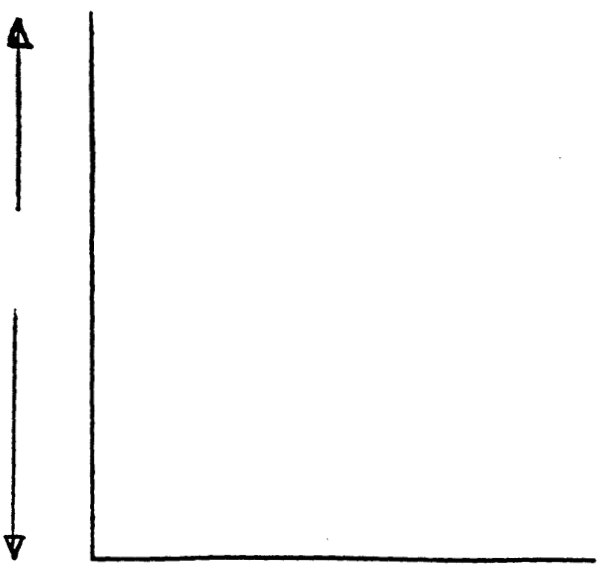
Constructed of: cement

Sediment: N/A

Product: N/A

Surrounding Area: paved

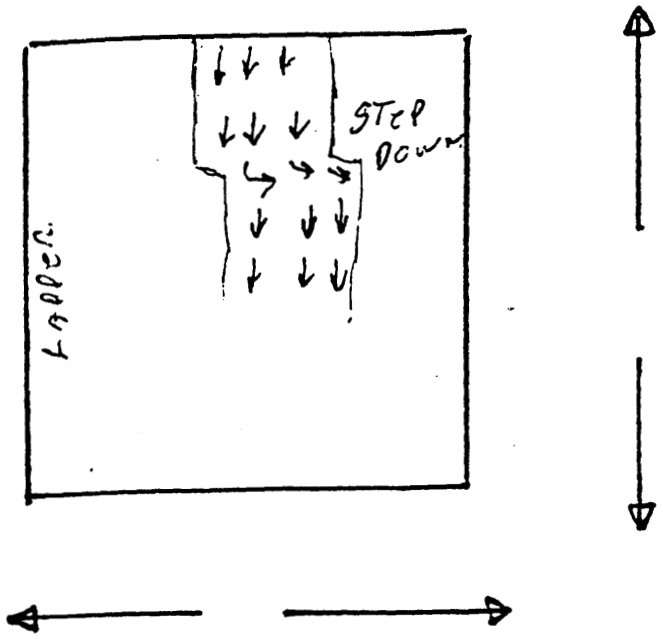
Flow: NORTH TO SOUTH

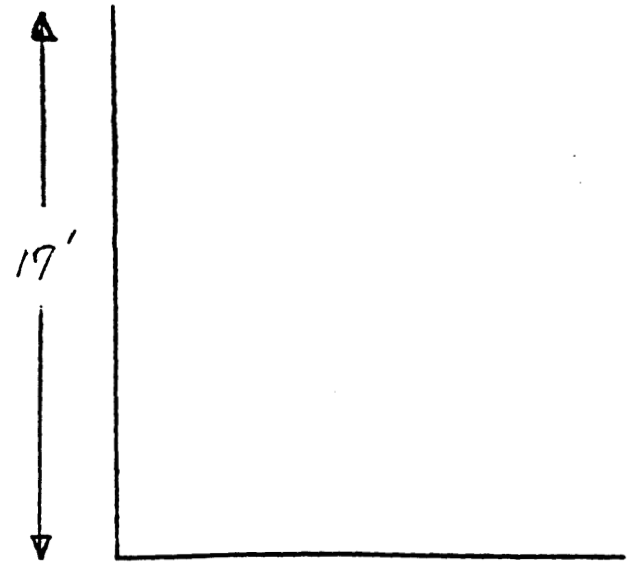


(←N)

Notes: BC 4/19/01
- Does not make sense water flowing away from tunnel.
- Could not locate. 6" pipe from CB 74

Structure # MH 65





Rim Elevation: 583.79

Depth to Bottom: 17'

Constructed of: Cement

Sediment:

Product:

Surrounding Area: Paved

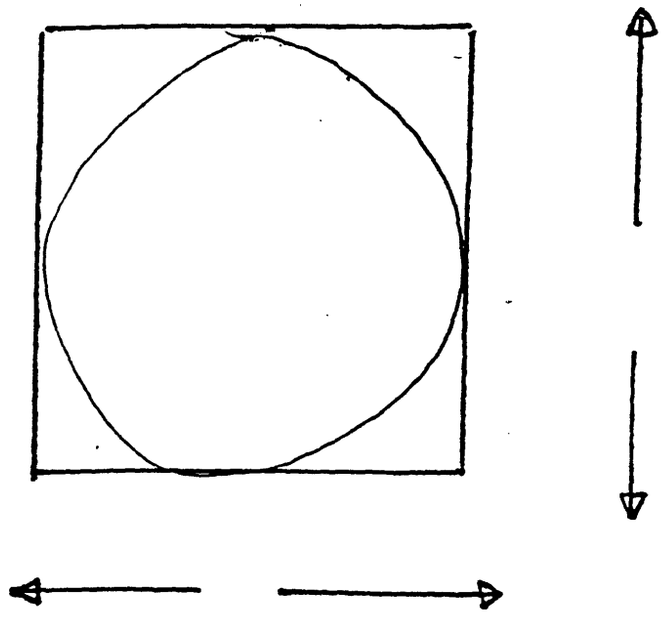
Flow: Appears to be ~~West to East~~ East to West

N

(BSA-MH-4)

Notes: BC 4/19/01
- DROPS INTO 6" DRAINAGE SYSTEM

Structure # MH 66



Rim Elevation: 533.21

Depth to Bottom:

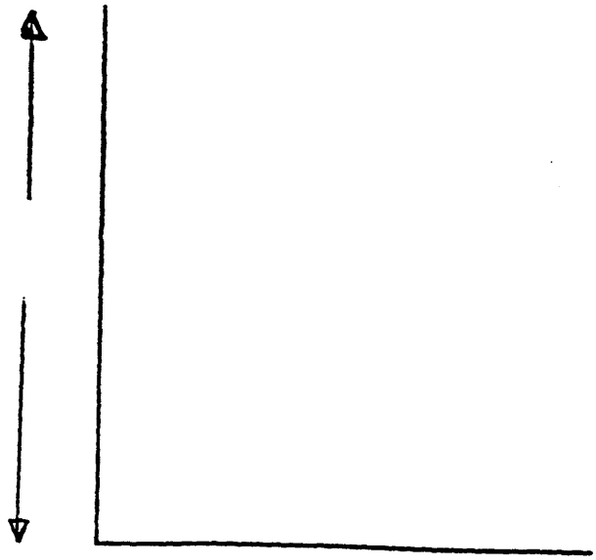
Constructed of: CEMENT

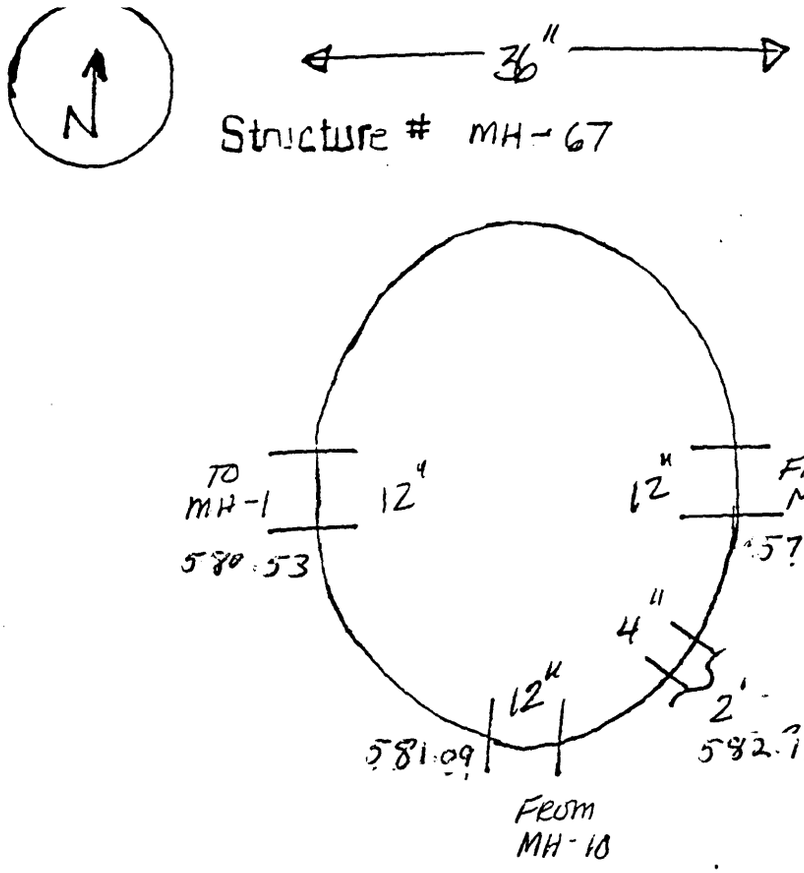
Sediment:

Product: NONE

Surrounding Area: PAVED

Flow: NORTH TO SOUTH





Structure # MH-67

Notes: BC 4/2/100
- CONCRETE CONSTRUCTION
- FLOW EAST TO WEST FROM MH-11 TO MH-1
- 48" CONCRETE RISER
- STEEL COVER
- STEEL LINES
- 4" OUT 2' STOPPED

Rim Elevation: 585.88

Depth to Bottom: 8'

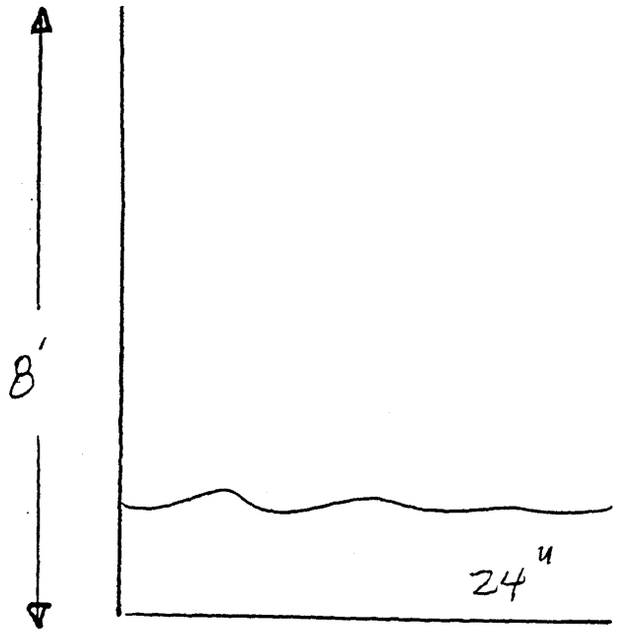
Constructed of: CONCRETE

Sediment: 24" ROCK/SLUG

Product: SHEEN

Surrounding Area: ASPHALT ROADWAY

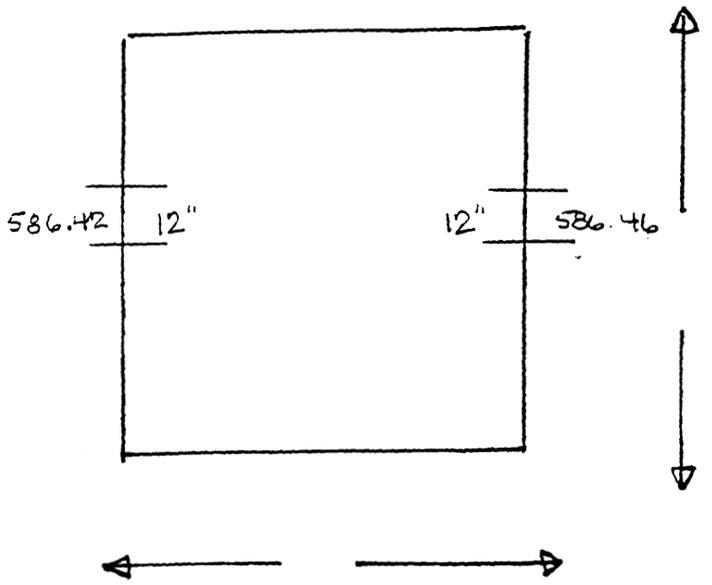
Flow: EAST TO WEST

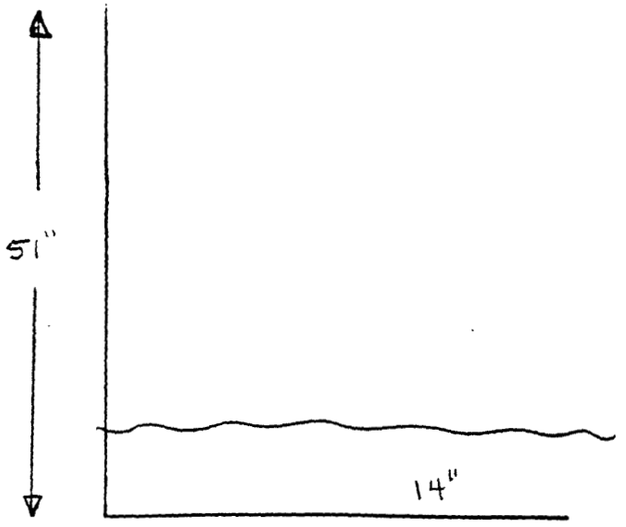


N

Notes: BC 9/7/00
- 4' ROUND COVER ON SQUARE TANK
- FENCE 5' NORTH OF MH-68

Structure # MH-68 (NEW NUMBER)





Rim Elevation. 585.61

Depth to Bottom: 51"

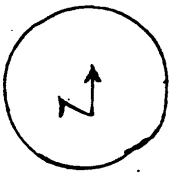
Constructed of: CONCRETE

Sediment: 14"

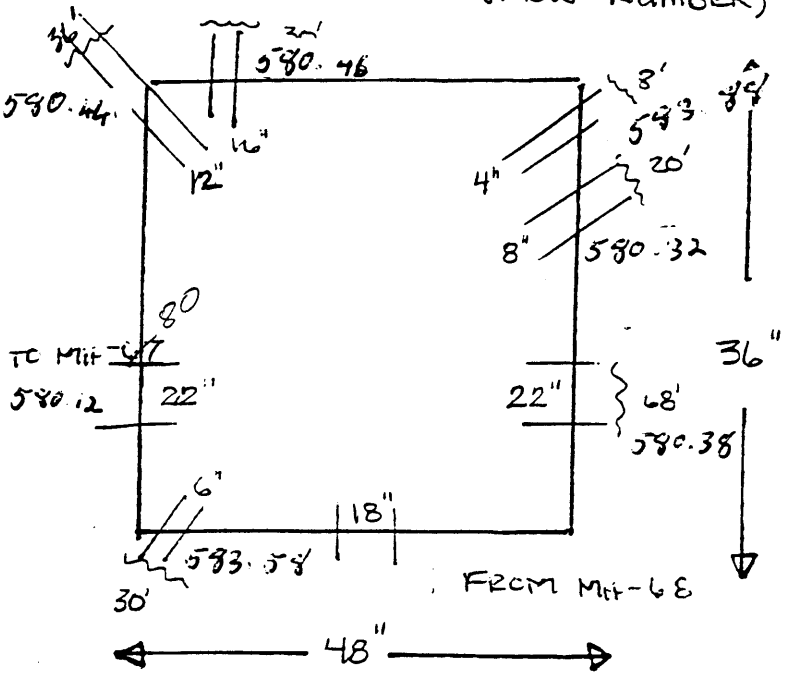
Product: NONE

Surrounding Area:
DIRT / ROCK GROUND

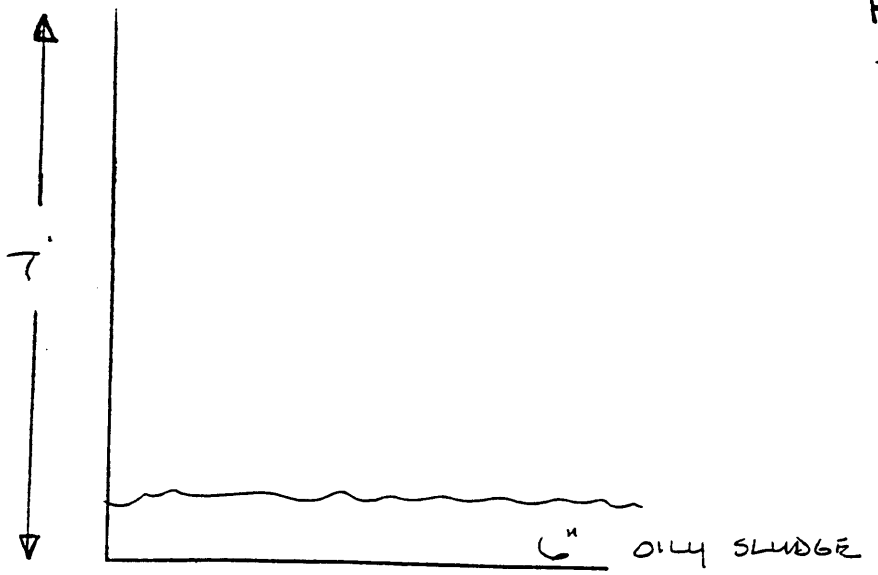
Flow:
FLOW RUNS EAST TO WEST TOWARDS MH-67



Structure # MH-69 (NEW NUMBER)



(~ => ALL LINES STOPPED)



Notes: BC 9/7/00
- BRICK CONSTRUCTION
- 6" SLUDGE REMAING
- 2' SLUDGE REMOVED
- COMBINATION OF CLAY AND CAST LINES
- BOTTOM OF STEPS AT REAR OF POLICE STATION

Rim Elevation. 586.14

Depth to Bottom: 7'

Constructed of:
- BRICK / CONCRETE

Sediment: 6" OILY SLUDGE

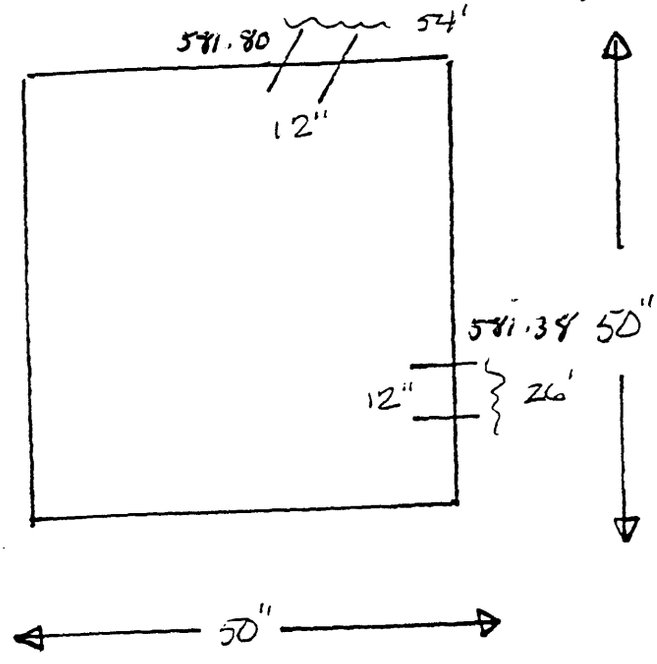
Product: 1" REMOVED

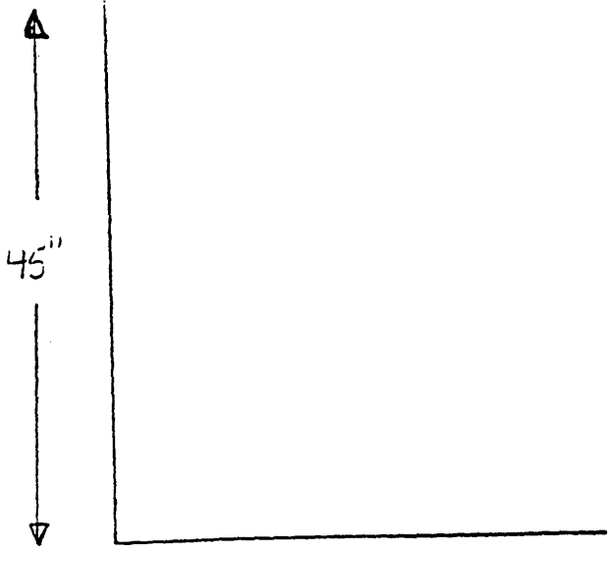
Surrounding Area:
ASPHALT WALK WAY

Flow:
TOWARDS MH-67

N →

Structure # MH-70 (NEW NUMBER)





Notes: BC 9/12/00
- FORMED CONCRETE CONSTRUCTION
- CLEAR WATER
- STONE / DIRT COVER NE
- 12" THICK WALLS
- CLAY LINES

Rim Elevation. 585.42

Depth to Bottom: 45"

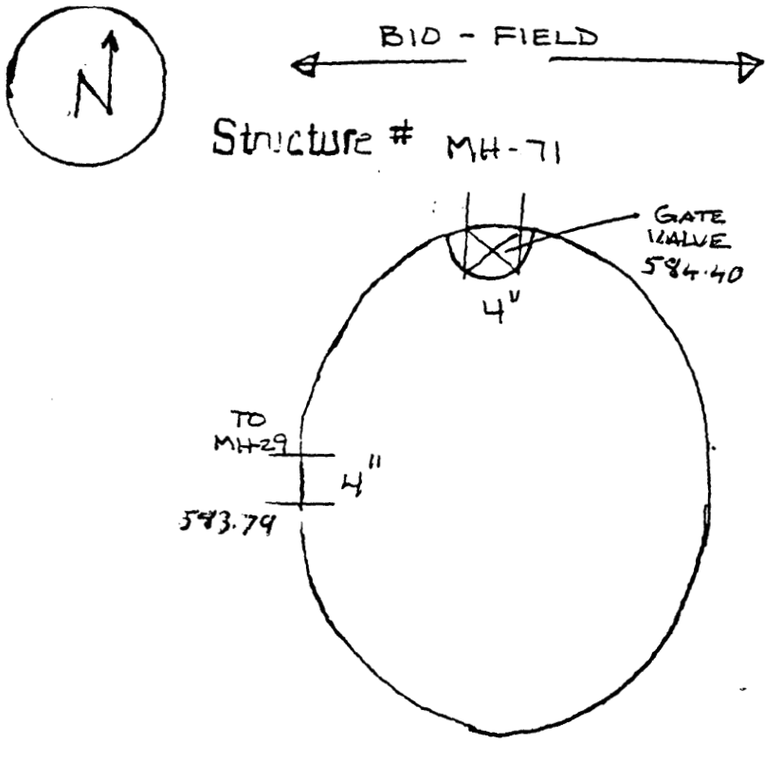
Constructed of:
FORMED CONCRETE

Sediment: NONE

Product: NONE

Surrounding Area:
STONE / DIRT

Flow:



Structure # MH-71

Notes: BC 7/12/00
- 4" LINE PVC TO MH-29
- CONCRETE CONSTRUCTION
- 4" LINE STEEL GATE VALV
- 48" DIA. TANK
- INCOMING WATER FROM GAT VALVE IS WATER RUN OFF IN BIO-FIELD

Rim Elevation: 595.68

Depth to Bottom: 5'

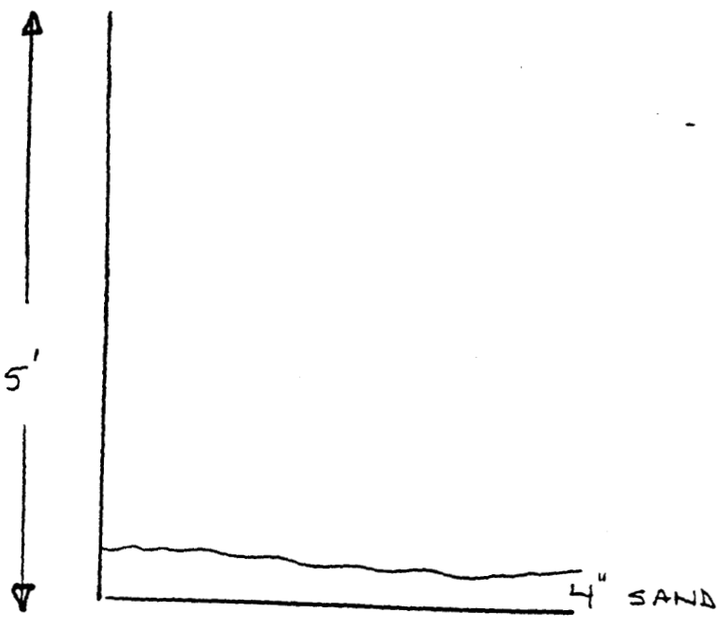
Constructed of:
FORMED CONCRETE

Sediment: 4" SAND

Product NONE

Surrounding Area:
SAND / STONE

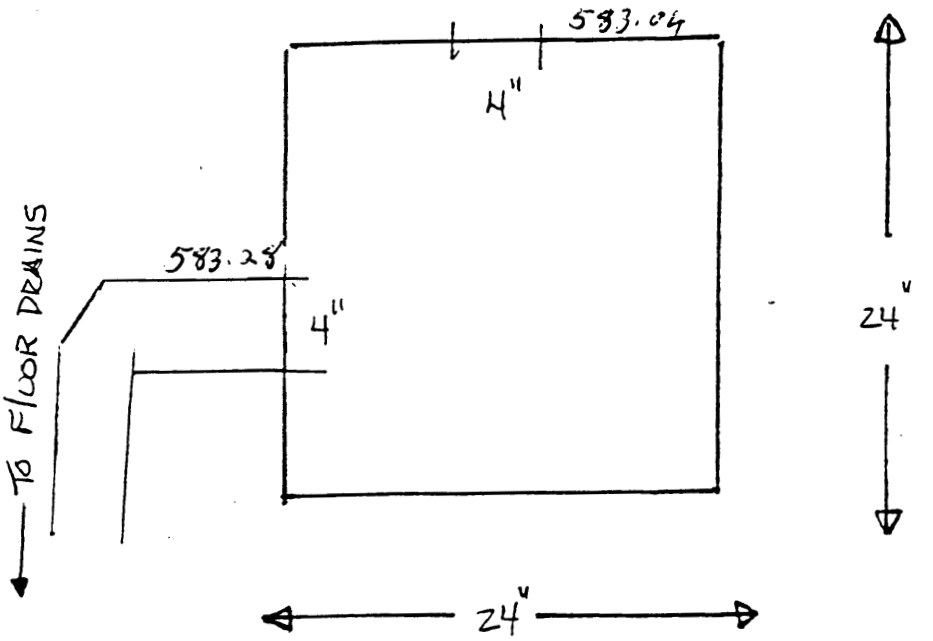
Flow:
N/ FROM BIO-FIELD
W/ TO MH-29

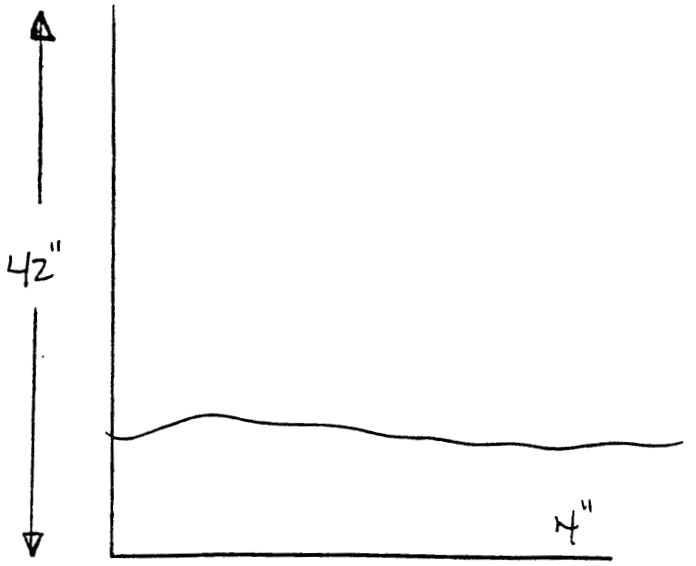


N

(MH-72B - surveyor)

Structure # MH-72 (NEW NUMBER)





Notes: CC 11/21/00
- CONCRETE CONSTRUCTION
- ON PAD, NEAR BOILER ROOMS.
- STEEL PLATE COVER
- 4" NORTH LINE OUT 5' DROPS INTO STRUCTURE 21' DC
- 4" WEST LINE OUT 8' 6. SOUTH PICKS UP FLOOR DR

Rim Elevation: 585.52

Depth to Bottom: 42"

Constructed of: CONCRETE

Sediment: 4"

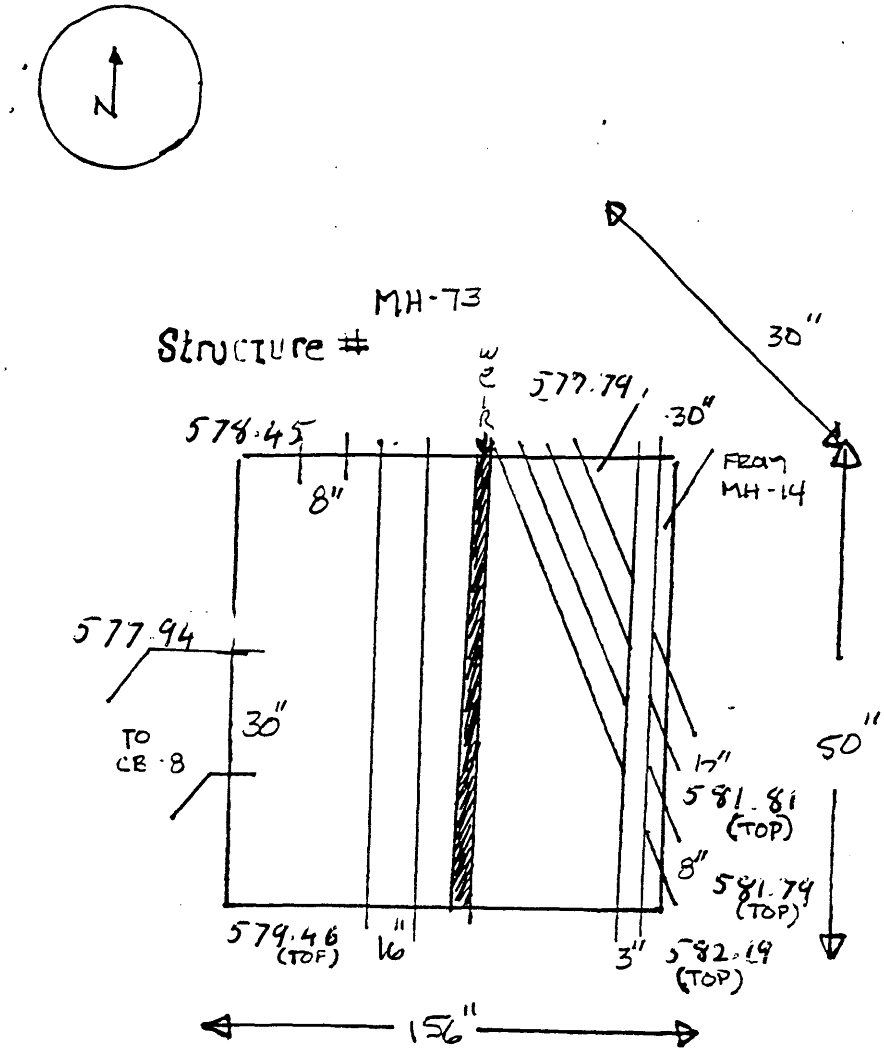
Product: NONE

Surrounding Area: CONCRETE PAD

Flow: NONE

* CONCRETE PAD HAS FLOOR DRAINS IN SIDES ~~PAD~~ ON BOTH SIDES. (NORTH AREA PUMP PAD)

* SIE SIDE 6'x6' CONCRET PIT W/ STEAM CELLS HAD PLUZE PRODUCT & 600 gallo



Notes:
- CONCRETE CONSTRUCTION
- STEEL PLATE COVER
- LOCATED UNDER PIPE RACK
- STEEL PIPES
- MH SEPERATED BY A WARE
- HEAVY OILY PRODUCT
- PRODUCT / WATER 1500 GALLON REMOVED

Rim Elevation. 582.92

Depth to Bottom: 72"

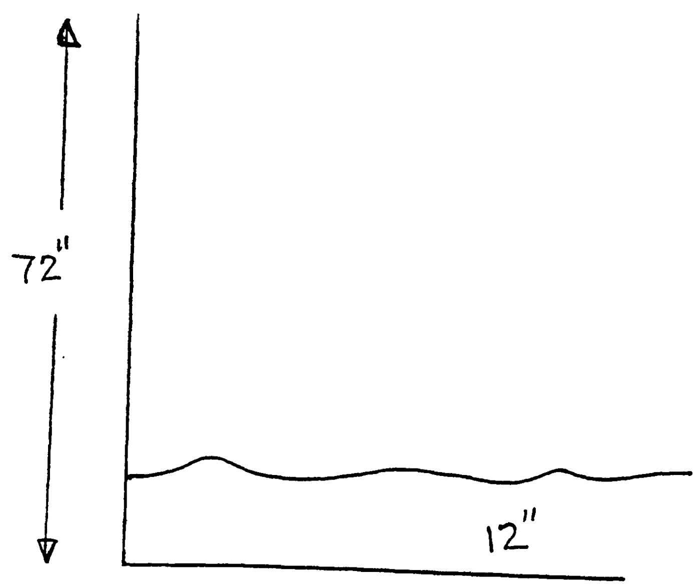
Constructed of: CONCRETE

Sediment: 12" OILY SLUDGE

Product: 1"-2" PRODUCT

Surrounding Area:
- GRAVEL
- PIPE RACK

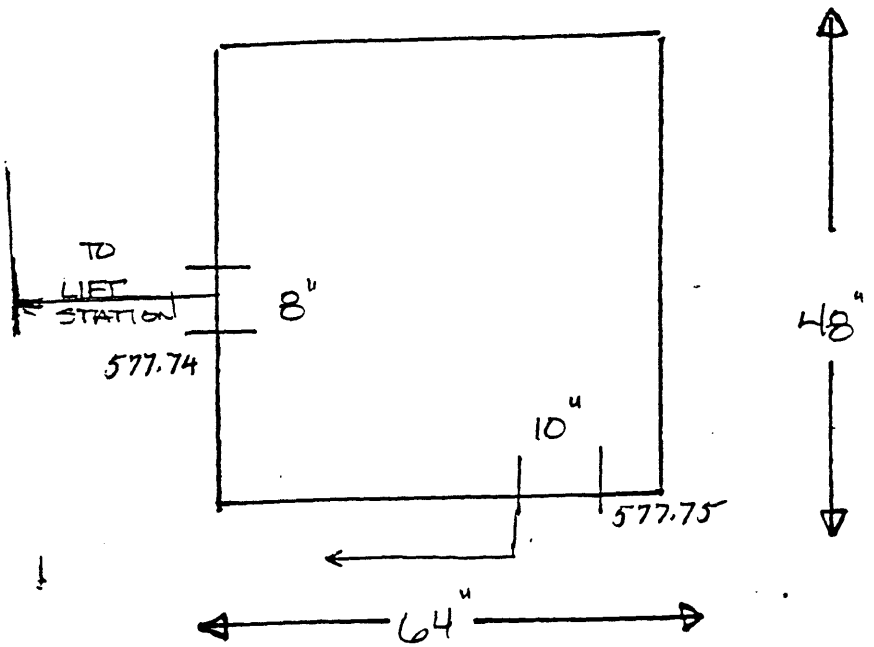
Flow:
- 30" WEST LINE FLOWS TO CB-8
- 30" N/E LINE FLOWS FROM MH-14

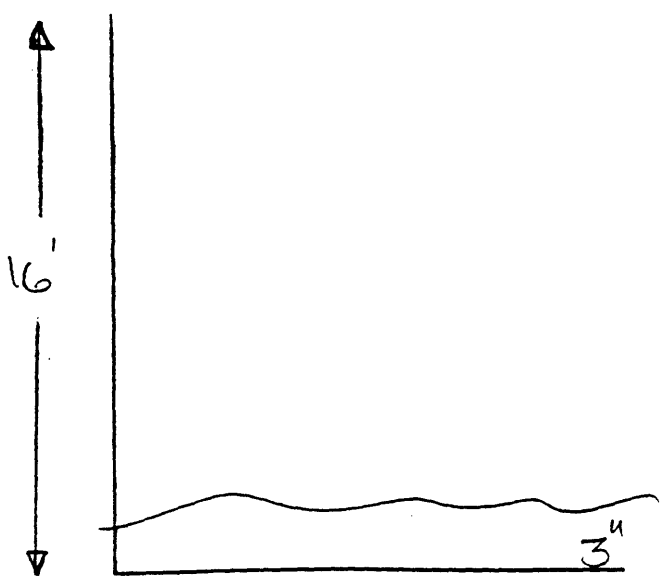


N

now MH-74OWS

Structure # MH-74





Notes: BC 7/30/00
formed concrete
~~heavy product~~
STEEL ROUND COVE
8" WEST LINE TO LIFTSTA
10" SOUTH LINE TO LIN
IN ROADWAY TO SEPAR

Rim Elevation:
583.78

Depth to Bottom: 16'

Constructed of:
Concrete

Sediment: 3" SAND / ~~OIL~~

Product:
HEAVY

Surrounding Area:
STONE

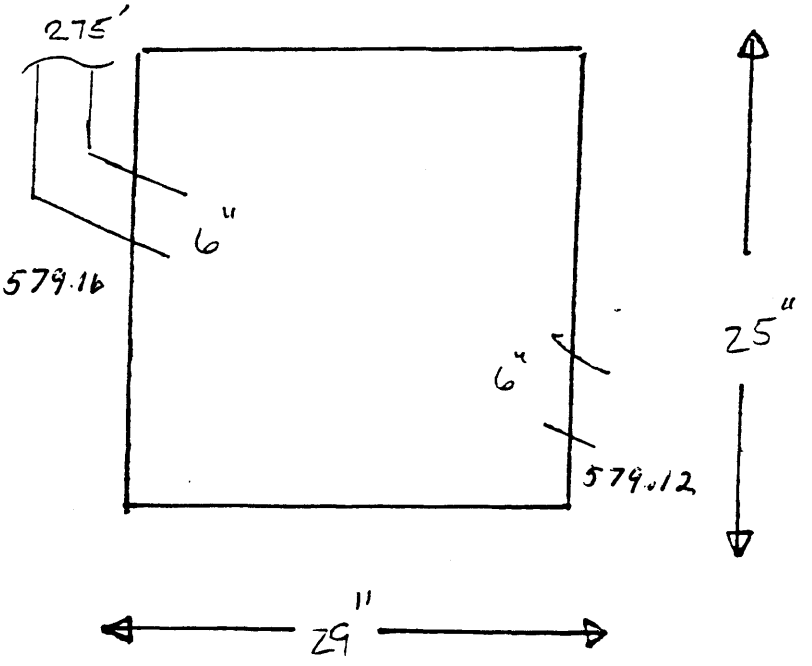
Flow:
8" Flows N/W TO LIFT-STATION
10" -

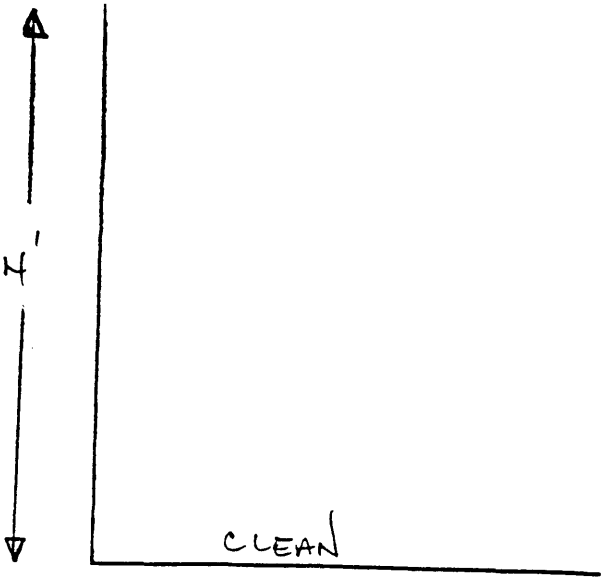
SOUTH THEN WEST TOWARDS INGERSOLL SEPARATOR, DEAD ENDS

* SLIMMED 5" PRODUCT FROM MH (DIESEL LIKE)

N

Structure # MH-75





Notes: BC 101100
formed concrete Conc
poor condition
Stone/dirt cover
clean no debris
liquid only

Rim Elevation:
582.92

Depth to Bottom: 4'

Constructed of:
Concrete

Sediment: CLEAN

Product: CLEAN

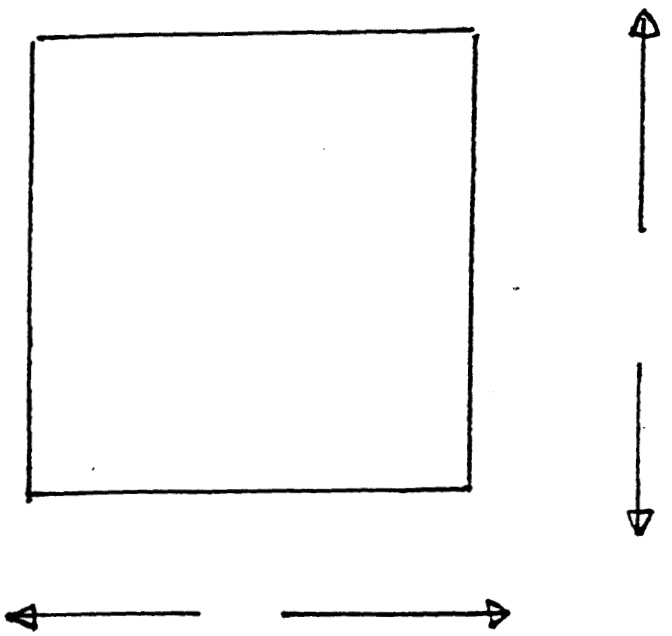
Surrounding Area:
STONE

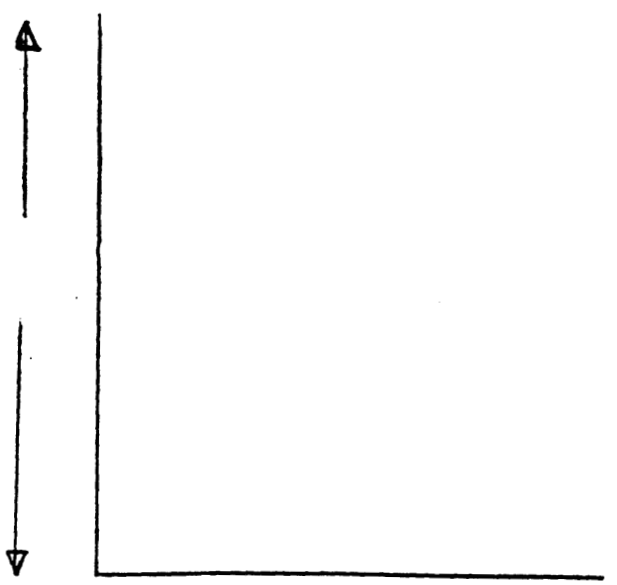
Flow:
6" S/E LINE TO CB-10
6" N/W LINE TO OLD TANK PAD

(N)

(MH-76B - surveyor)

Structure # MH-76





Notes: BC 10/2/00
- not accessable due to pi
rock 6" from cover
(4'x10' x ½") notable t
get equipment close to re
- stained on top

Rim Elevation:

Depth to Bottom:

Constructed of:
Brick Concrete

Sediment:

Product:
1 to 2 inches

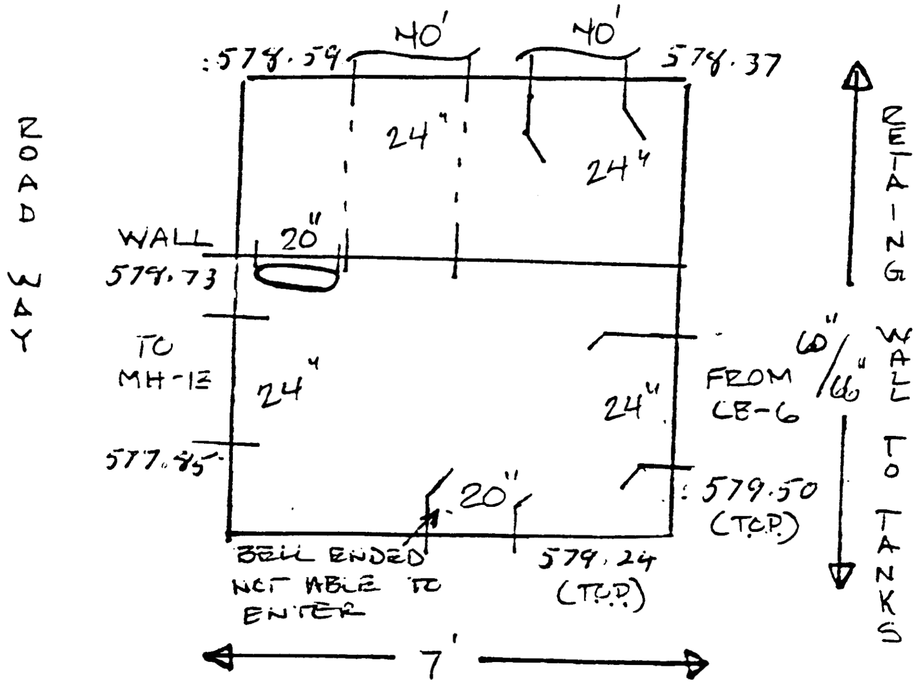
Surrounding Area:
set in dirt

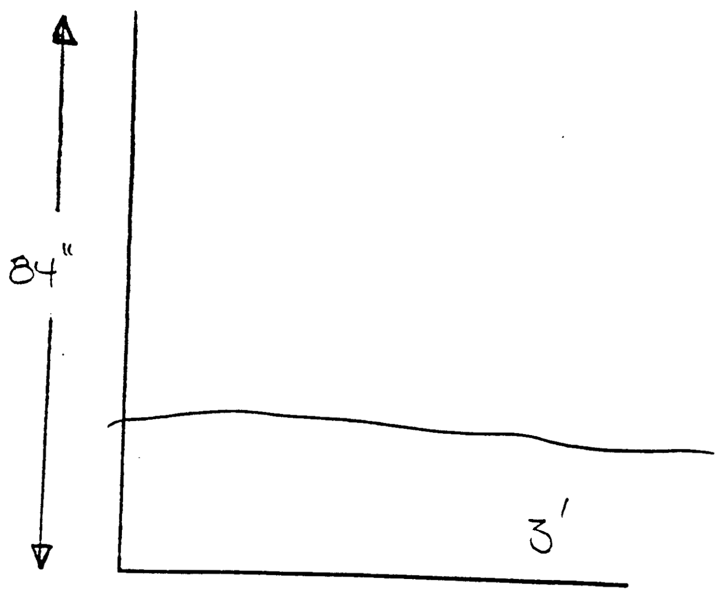
Flow: 18" E line from CB-15 enters MH-76 from west side

8' North line from CB-21 enters MH-76 from east side

(MH-76A - Surveyor)

Structure # Oil pit (MH-77)





Notes: BC 10/1/..
Brick construction
Heavy product stai..

- Possible transite piping.
- Cast pipes
- Product recovered w/water 1500 gallons

Rim Elevation:
582.75

Depth to Bottom: 84"

Constructed of:
Brick

Sediment: 3' oily slud

Product:
Heavy product

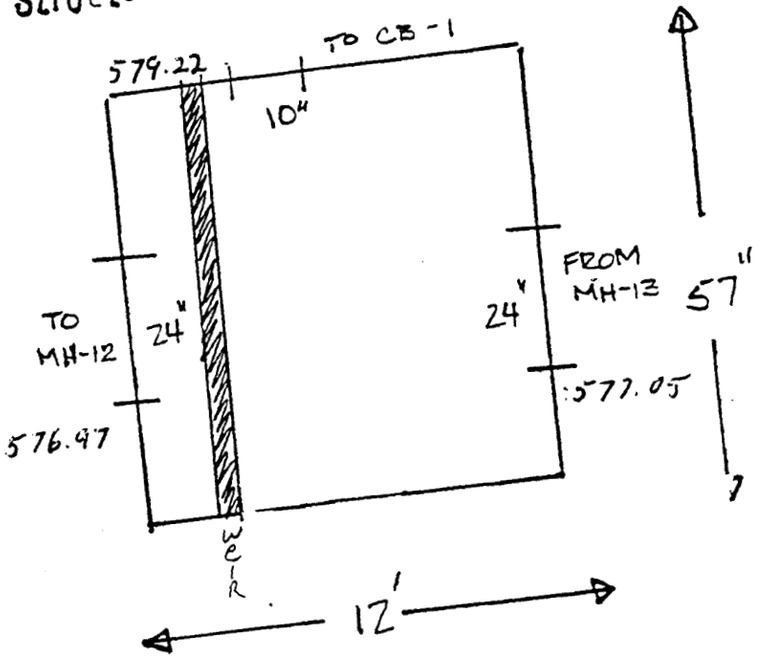
Surrounding Area:
- Asphalt roadway edge
- Stone

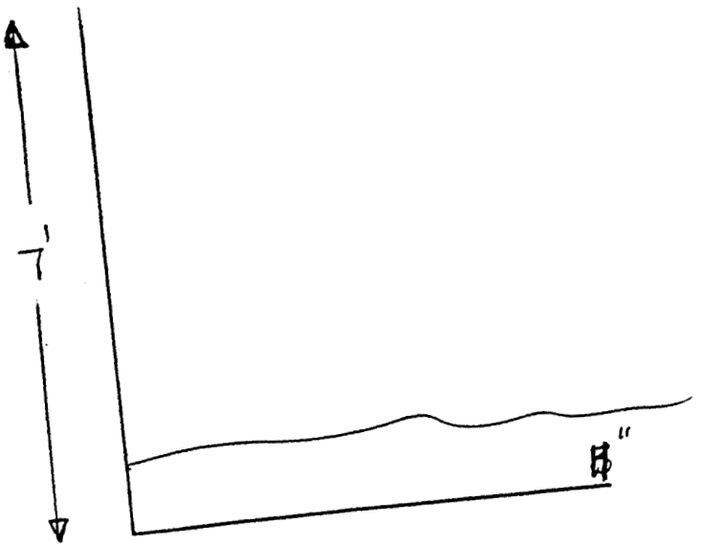
Flow:

24" West to MH-13
24" East from CB-6

Notes: Be 9/20/00
formed concrete
light product w/ sludge
surrounded by stone

Structure # OWS (MH-78)





Rim Elevation:
583.31

Depth to Bottom: 7'

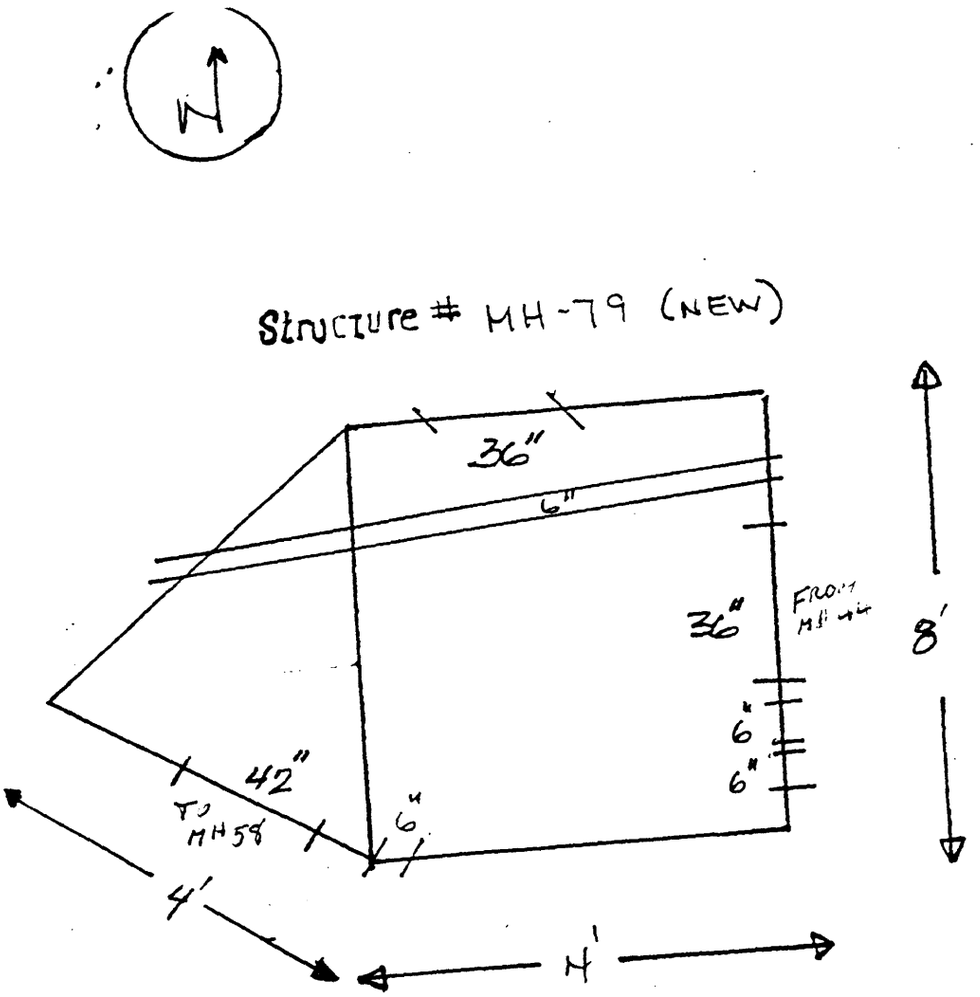
Constructed of:
Concrete

Sediment: 4" SLUDGE

Product: LIGHT w/ SLUDGE

Surrounding Area:
STONE

Flow:
WEST FROM MH-13
WEST TO MH-12
NORTH TO CB-1



Notes: 10/11/00 BC

- BURIED STRUCTURE
- COMPLETLY COLAPSED
- REBUILT W/ BRICK AND CINDER BLOCKS
- NO INFOMATION

Rim Elevation: 586.61

Depth to Bottom: 7'

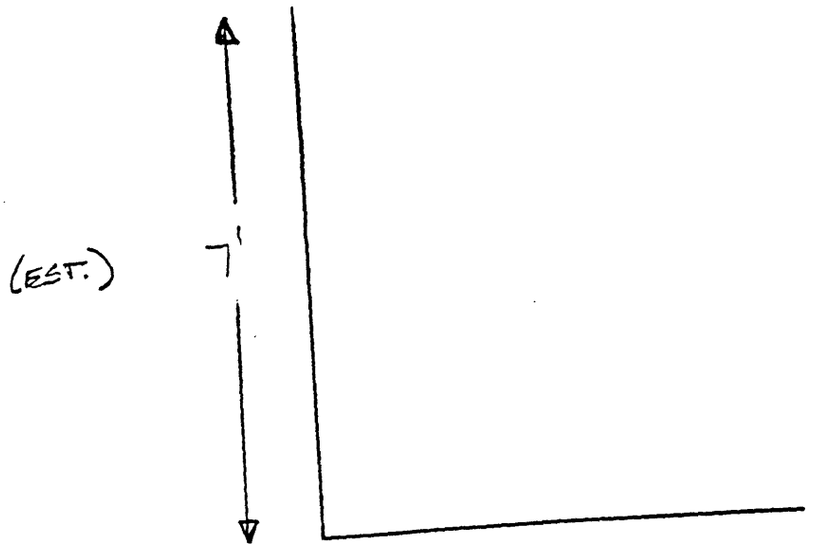
Constructed of:
BRICK / CONCRETE

Sediment:
BURIED

Product:
SHEEN

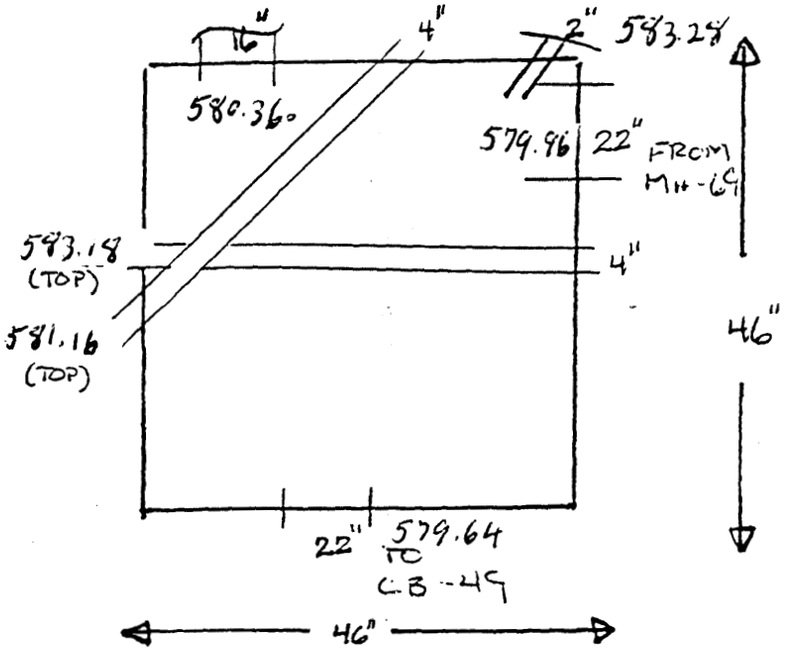
Surrounding Area:
GRAVEL

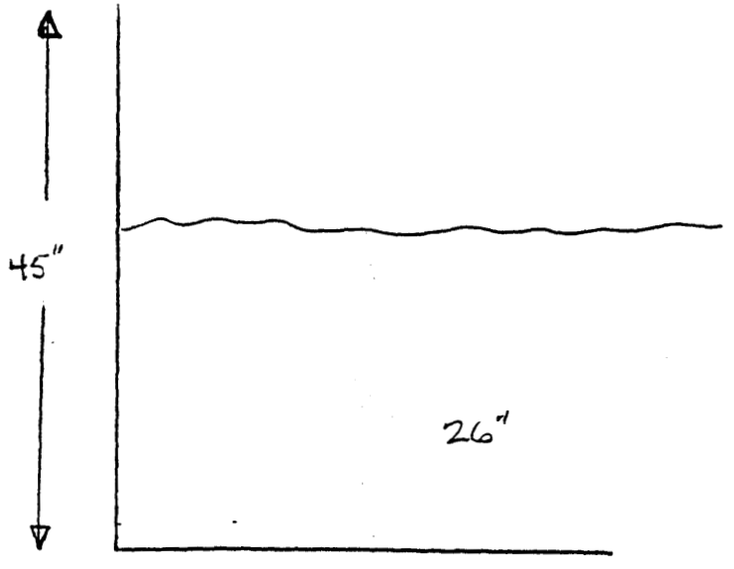
Flow:
TO MH-58



(originally called MH-67 by Safety Kleen and surveyor)

Structure # MH-80 (NEW NUMBER)





Notes: BC 9/6/00
- POOR CONDITION
- N/E LINE TO MH-69 BROKEN
- 4" LINE RUNS E TO W (UNKNOWN)
- 4" LINE RUNS N TO S/W (UNKNOWN)

Rim Elevation: 585.48

Depth to Bottom: 45"

Constructed of: BRICK

Sediment: 26" REMOVED

Product: 1" REMOVED

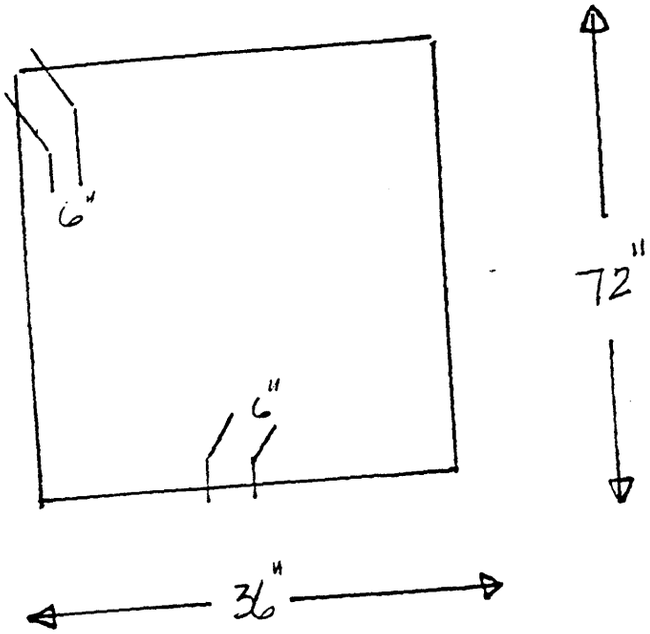
Surrounding Area: ROADWAY

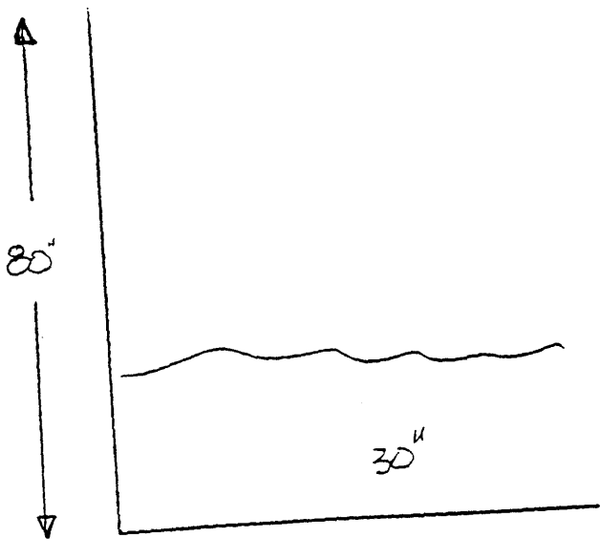
Flow: SOUTH TO CB-49

(MH-72A- surveyor)

Now MH-81

Structure # MH-72





Notes: BC 7/21/00
- CONCRETE CONSTRUCTION
- HEAVY OIL SLUDGE
- NOT ABLE TO JET
- LINES NOT ACCESSABL TO DO READINGS
- STEEL PLATE COVER

Rim Elevation. 584.95

Depth to Bottom: 80"

Constructed of:
CONCRETE

Sediment: 30" SLUDGE

Product: SHEEN

Surrounding Area:
CONCRETE PAD

Flow: N/A

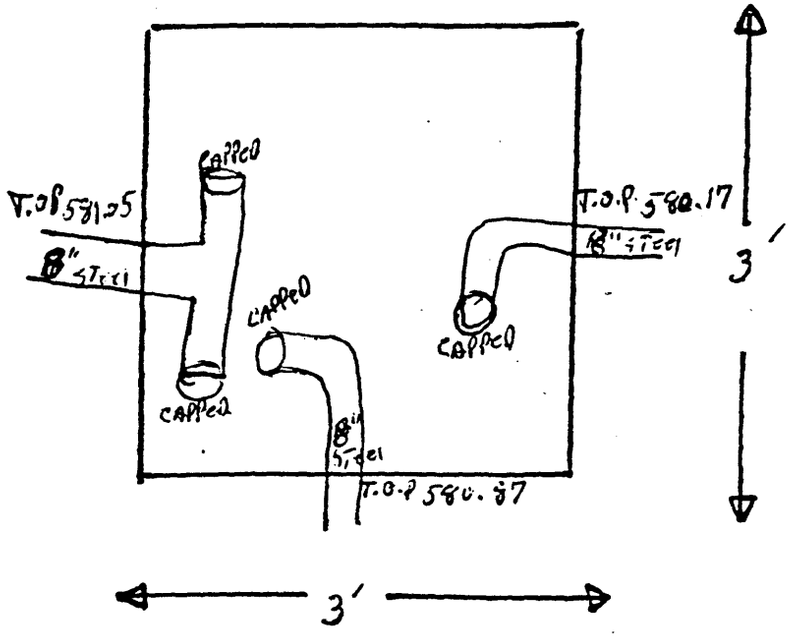
N

Notes: BE 4/25/01

All 8" steel pipes capped
Good shape.

Located 120' NW from MH 6
Located 100' NE from MH 3.

Structure # MH No # 85



Rim Elevation: 581.87

Depth to Bottom:

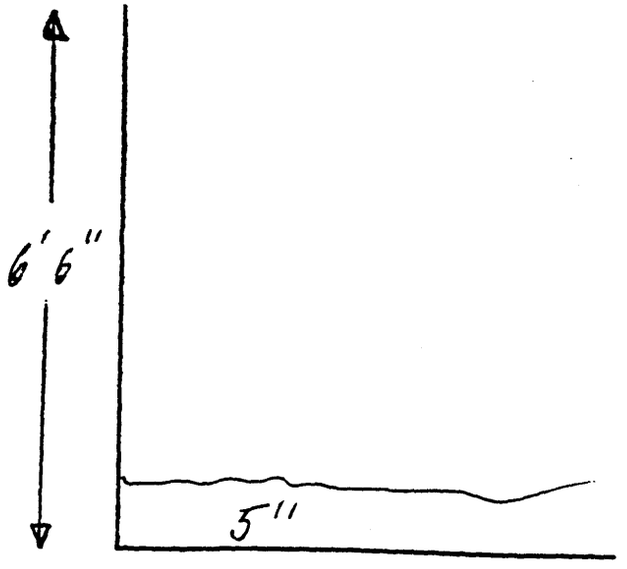
Constructed of: Cement

Sediment: 5"

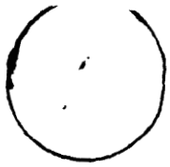
Product: none

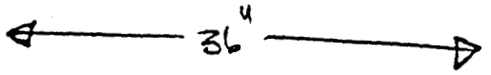
Surrounding Area: Gravel

Flow: none

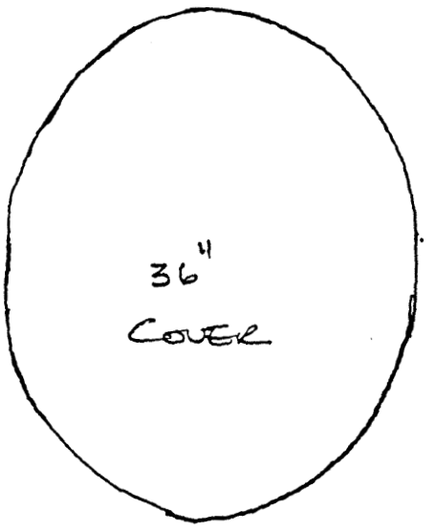


Electrical Manhole Field Notes





Structure # EMH -1



Notes: BC 10/3/00
- ELECTRICAL TUNNEL
- STEEL COVER
- NO LINES

Rim Elevation: 585.38

Depth to Bottom: 19'

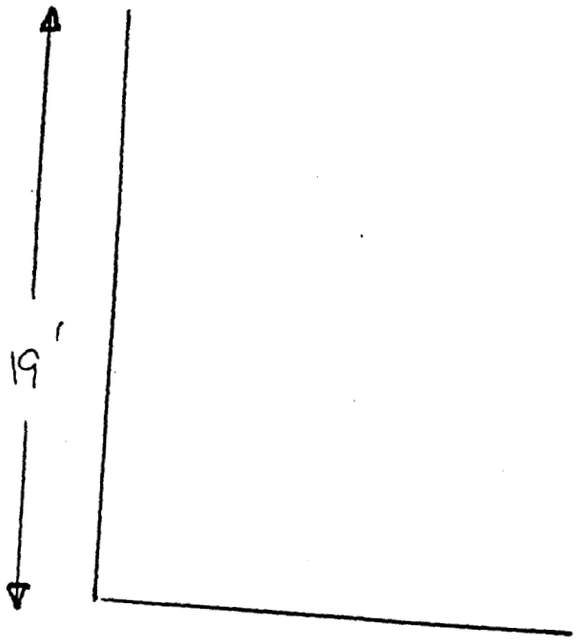
Constructed of:
CONCRETE

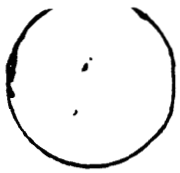
Sediment:
NONE

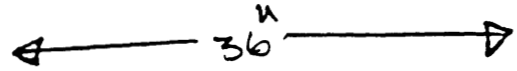
Product:
NONE

Surrounding Area:
ASPHALT ROADWAY

Flow:
UNKNOWN

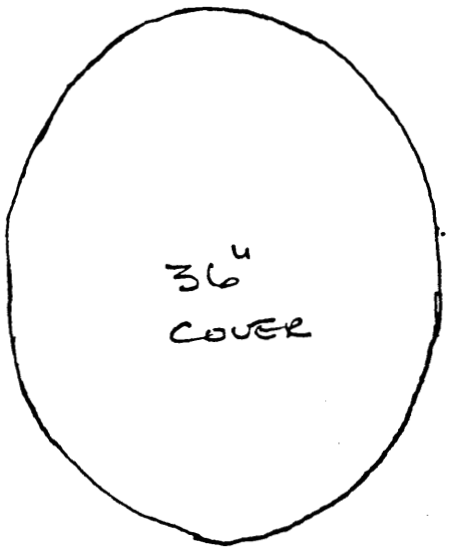






Structure # EMH-2

Notes: BE 10/3/00
- ELECTRICAL TUNNEL
- STEEL COVER
- NO LINES



Rim Elevation: 585.74

Depth to Bottom: 13'

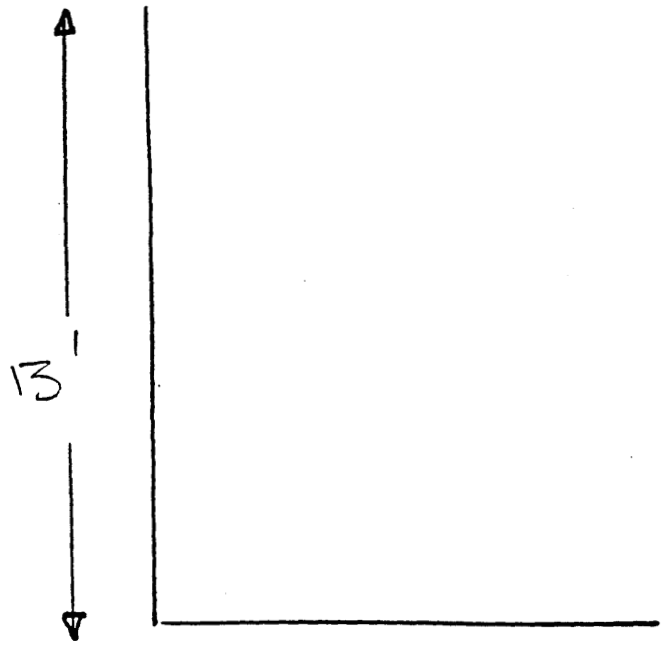
Constructed of:
CONCRETE

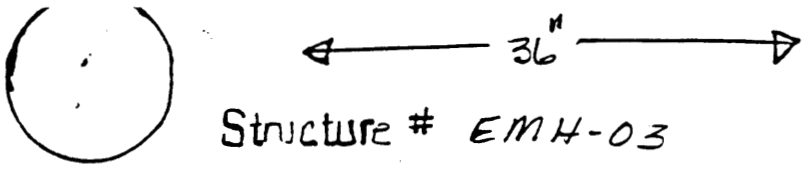
Sediment: NONE

Product: NONE

Surrounding Area:
ASPHALT ROADWAY

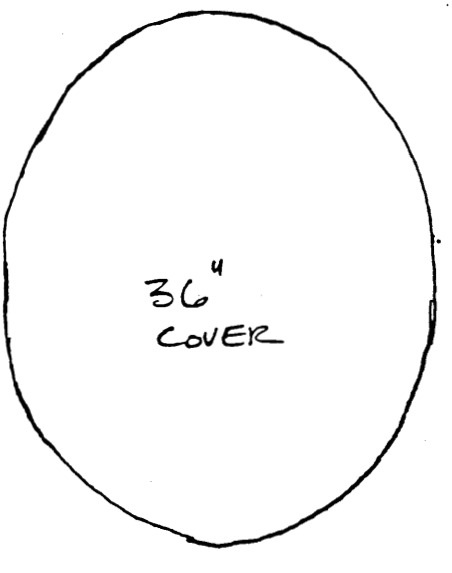
Flow:
UNKNOWN





Structure # EMH-03

Notes: BC 10/3/00
- ELECTRICAL TUNNEL
- STEEL COVER
- NO LINES



Rim Elevation: 586.13

Depth to Bottom: 18'

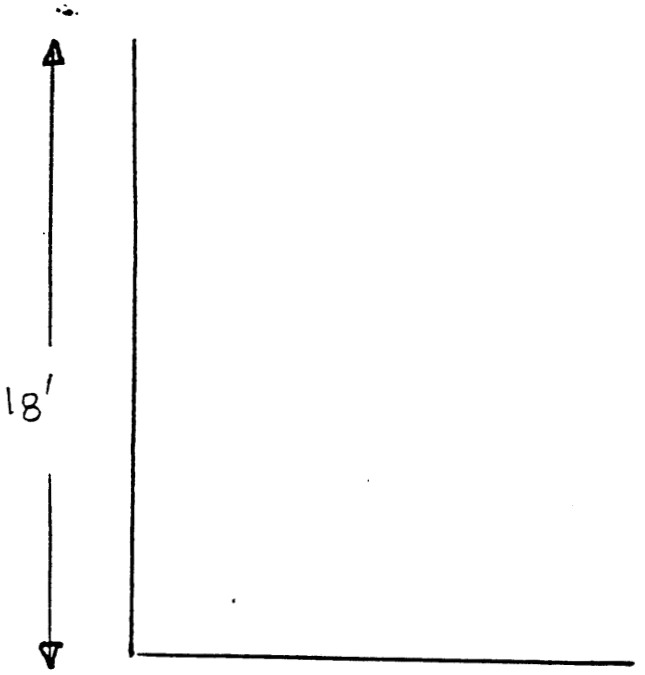
Constructed of:
CONCRETE

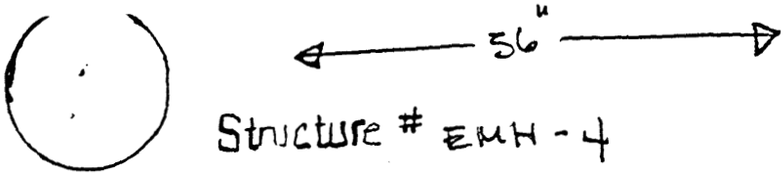
Sediment: NONE

Product NONE

Surrounding Area:
ASPHALT ROADWAY

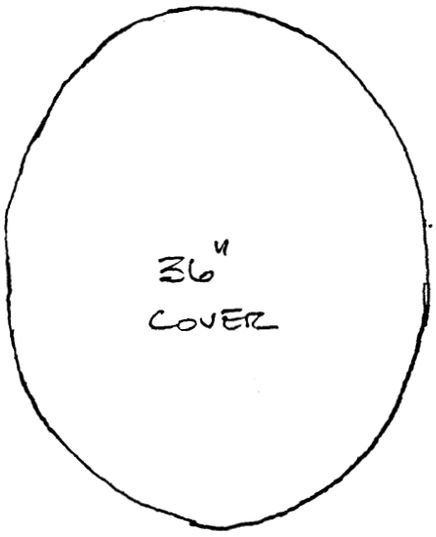
Flow:
UNKNOWN





Structure # EMH - 4

Notes: Be 10/3/00
- ELECTRICAL TUNNEL
- STEEL COVER
- NO LINES



Rim Elevation: 585.51

Depth to Bottom: 15'

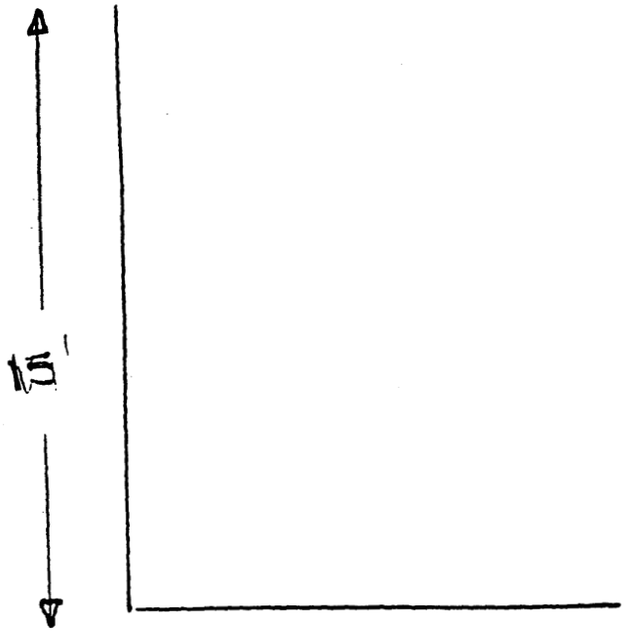
Constructed of:
CONCRETE

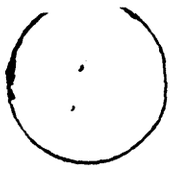
Sediment: NONE

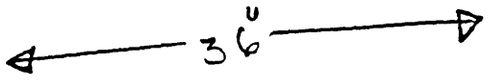
Product: NONE

Surrounding Area:
ASPHALT ROADWAY

Flow:
UNKNOWN

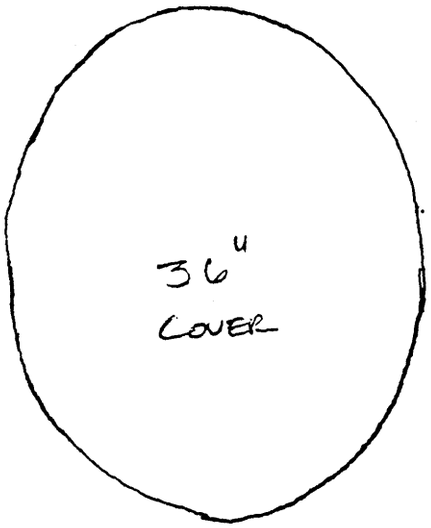






Stricture # EMH - 25

Notes: BE 10/3/00
- ELECTRICAL TUNNEL
- STEEL COVER
- NO LINES



Rim Elevation: 585.70

Depth to Bottom: 16'

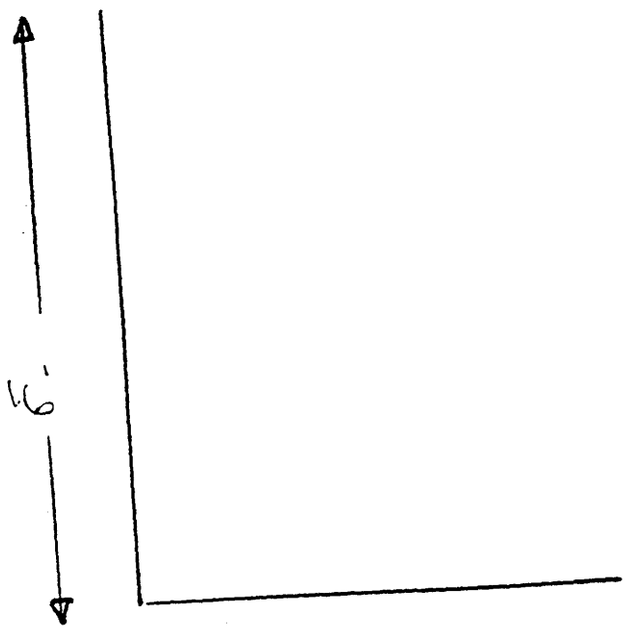
Constructed of:
CONCRETE

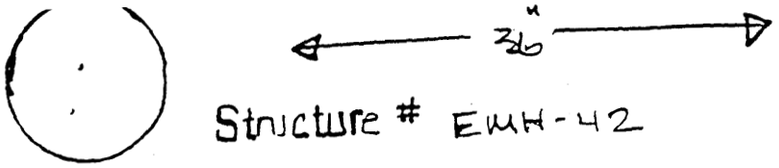
Sediment: NONE

Product: NONE

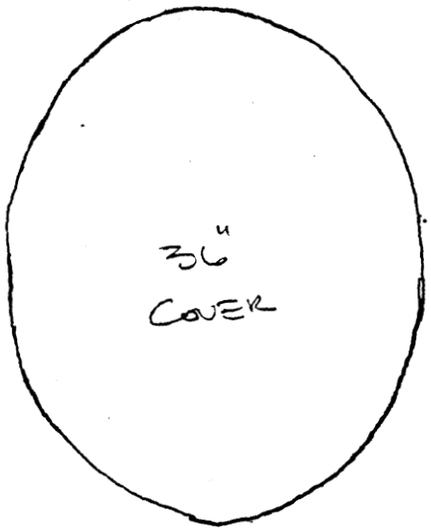
Surrounding Area:
ASPHALT ROADWAY

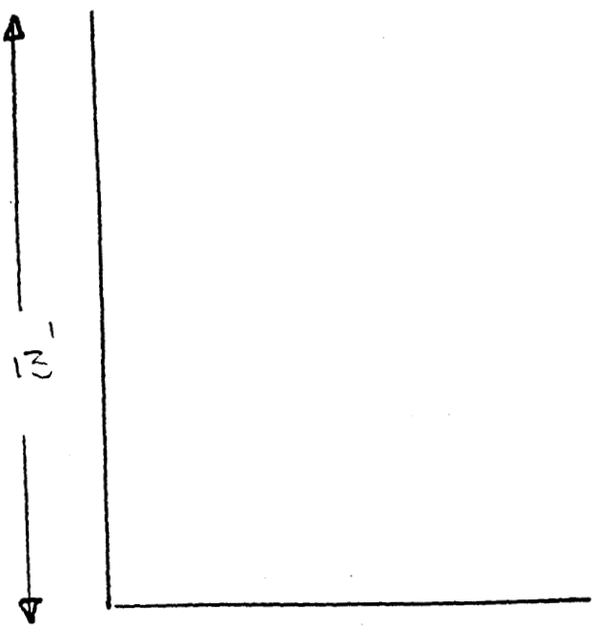
Flow:
UNKNOWN





Structure # EMH-42





Notes: BC 10/3/00
- ELECTRICAL TUNNEL
- STEEL COVER
- NO LINES CONNECTI
- MULTIPLE CONDUIT LI

Rim Elevation: 586.05

Depth to Bottom: 13'

Constructed of:
CONCRETE

Sediment:
NONE

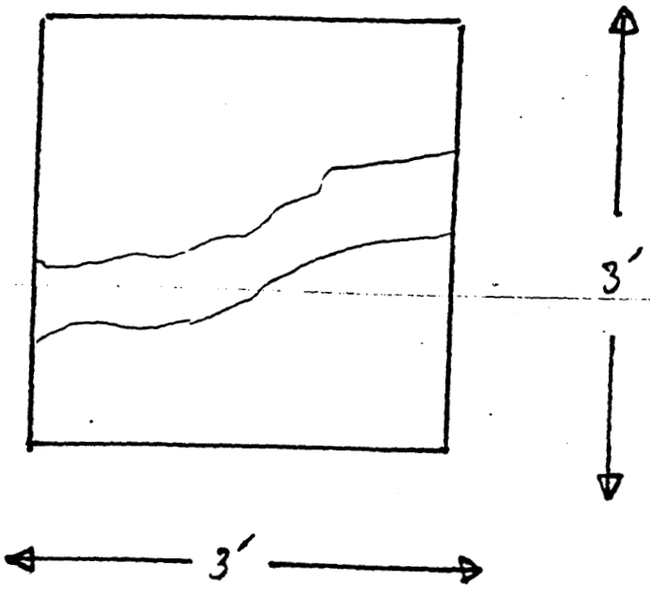
Product:
NONE

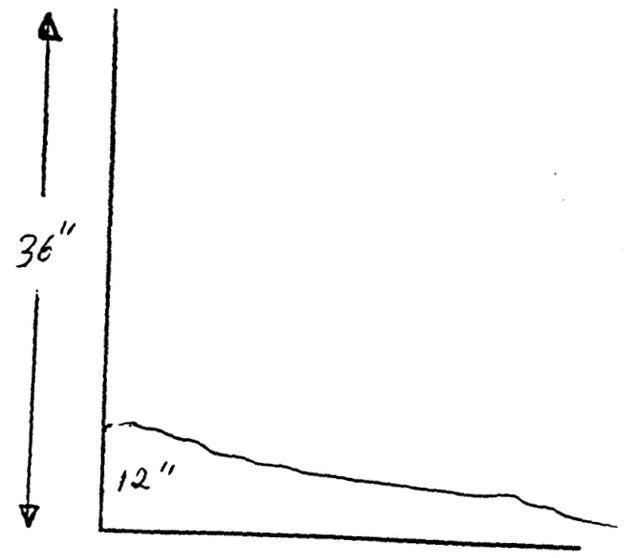
Surrounding Area:
STONE

Flow:
UNKNOWN

PUMPING FROM EMH-1 EMH-42, EMH-2, EMH-EMH-4 ALL ELECT. TUNNELS DROPED DOWN W/IN 12" OF BOTTOM

Structure # EMH 61





Notes: BC 4/29/21

- Concrete Construction
- 2 wires pass thru structure north to south.
- wires located approx. 20" below rim.

Rim Elevation: 583.41

Depth to Bottom: 36"

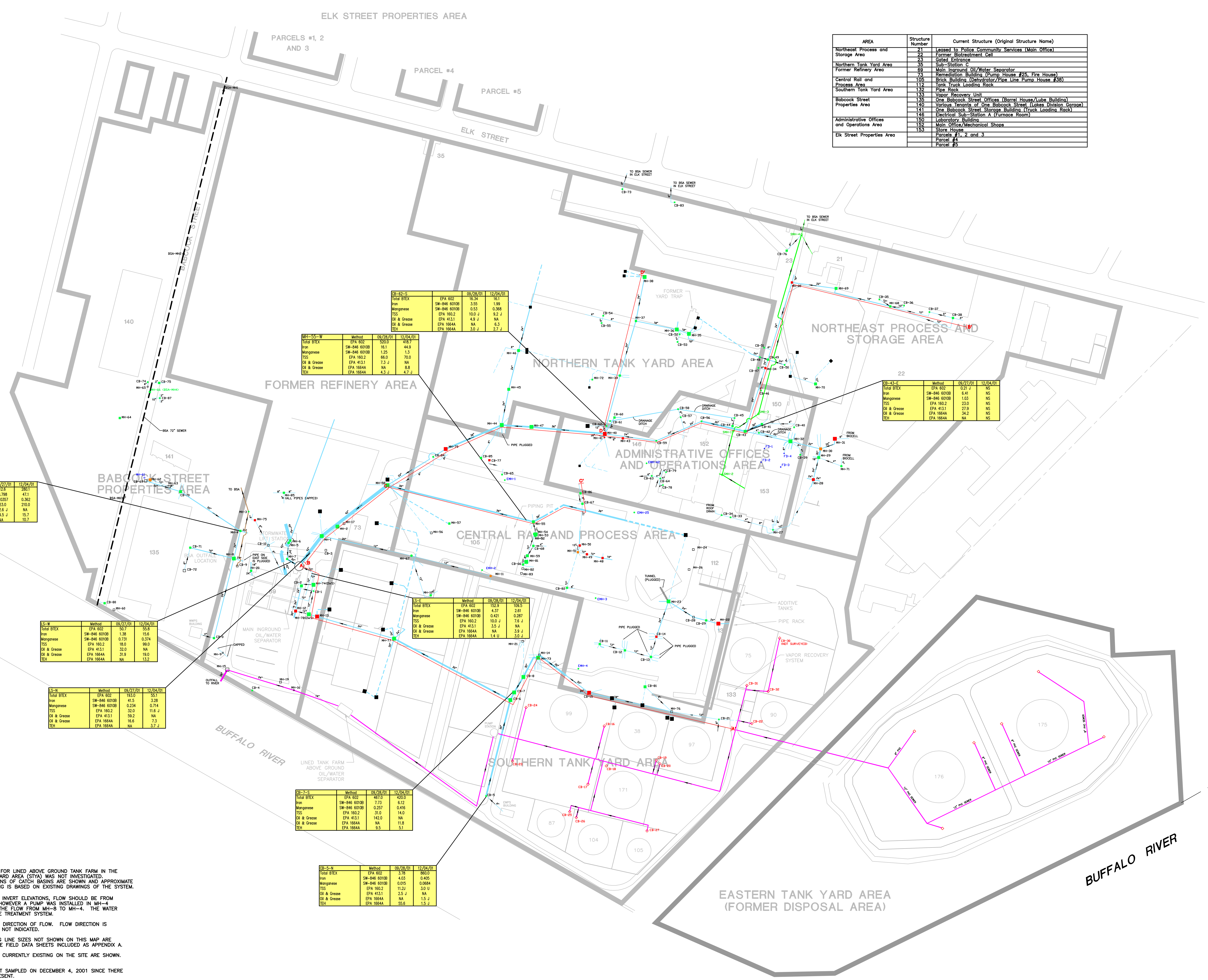
Constructed of: Concrete

Sediment: 12" sand

Product: n/a

Surrounding Area: paved

Flow: n/a



AREA	Structure Number	Current Structure (Original Structure Name)
Northeast Process and Storage Area	21	Leased to Police Community Services (Main Office)
	22	Former Biotreatment Cell
	23	Gated Entrance
Northern Tank Yard Area	35	Sub–Station C
Former Refinery Area	69	Main Inground Oil/Water Separator
	73	Remediation Building (Pump House #25, Fire House)
Central Rail and Process Area	105	Brick Building (Dehydrator/Pipe Line Pump House #38)
	112	Tank Truck Loading Rack
Southern Tank Yard Area	132	Pipe Rack
	133	Vapor Recovery Unit
Babcock Street Properties Area	135	One Babcock Street Offices (Barrel House/Lube Building)
	140	Various Tenants of One Babcock Street (Lakes Division Garage)
	141	One Babcock Street Storage Building (Truck Loading Rack)
	146	Electrical Sub–Station A (Furnace Room)
Administrative Offices and Operations Area	150	Laboratory Building
	152	Main Office/Mechanical Shops
	153	Store House
Elk Street Properties Area		Parcels #1, 2 and 3
		Parcel #4
		Parcel #5

CB–62–S		09/28/01	12/04/01
Total BTEX	EPA 602	16.34	16.1
Iron	SW–846 6010B	3.55	1.99
Manganese	SW–846 6010B	0.53	0.368
TSS	EPA 160.2	10.0 J	9.2 J
Oil & Grease	EPA 413.1	4.9 J	NA
Oil & Grease	EPA 1664A	NA	6.3
TEH	EPA 1664A	3.0 J	2.7 J

MH–55–W	Method	09/28/01	12/04/01
Total BTEX	EPA 602	520.0	418.7
Iron	SW–846 6010B	16.1	44.9
Manganese	SW–846 6010B	1.25	1.3
TSS	EPA 160.2	66.0	70.0
Oil & Grease	EPA 413.1	7.3 J	NA
Oil & Grease	EPA 1664A	NA	8.8
TEH	EPA 1664A	4.3 J	4.7 J

CB–43–E	Method	09/27/01	12/04/01
Total BTEX	EPA 602	0.21 J	NS
Iron	SW–846 6010B	6.41	NS
Manganese	SW–846 6010B	1.03	NS
TSS	EPA 160.2	23.0	NS
Oil & Grease	EPA 413.1	27.9	NS
Oil & Grease	EPA 1664A	34.2	NS
TEH	EPA 1664A	NA	NS

MH–4	Method	09/27/01	12/04/01
Total BTEX	EPA 602	12.6	280.1
Iron	SW–846 6010B	0.798	47.1
Manganese	SW–846 6010B	0.0357	0.362
TSS	EPA 160.2	23.0	210.0
Oil & Grease	EPA 413.1	2.6 J	NA
Oil & Grease	EPA 1664A	4.5 J	15.7
TEH	EPA 1664A	NA	10.7

LS–W	Method	09/27/01	12/04/01
Total BTEX	EPA 602	50.7	55.8
Iron	SW–846 6010B	1.38	15.6
Manganese	SW–846 6010B	0.731	0.374
TSS	EPA 160.2	18.0	99.0
Oil & Grease	EPA 413.1	32.0	NA
Oil & Grease	EPA 1664A	31.9	19.0
TEH	EPA 1664A	NA	13.2

LS–E	Method	09/28/01	12/04/01
Total BTEX	EPA 602	152.9	109.5
Iron	SW–846 6010B	4.37	2.61
Manganese	SW–846 6010B	0.421	0.287
TSS	EPA 160.2	10.0 J	7.6 J
Oil & Grease	EPA 413.1	3.5 J	NA
Oil & Grease	EPA 1664A	NA	3.9 J
TEH	EPA 1664A	1.4 U	3.0 J

LS–N	Method	09/27/01	12/04/01
Total BTEX	EPA 602	193.0	55.1
Iron	SW–846 6010B	41.5	3.28
Manganese	SW–846 6010B	0.234	0.714
TSS	EPA 160.2	32.0	11.6 J
Oil & Grease	EPA 413.1	59.2	NA
Oil & Grease	EPA 1664A	16.6	7.3
TEH	EPA 1664A	NA	3.7 J

CB–7–S	Method	09/28/01	12/04/01
Total BTEX	EPA 602	467.0	420.0
Iron	SW–846 6010B	7.73	6.12
Manganese	SW–846 6010B	0.257	0.416
TSS	EPA 160.2	31.0	14.0
Oil & Grease	EPA 413.1	142.0	NA
Oil & Grease	EPA 1664A	NA	11.8
TEH	EPA 1664A	9.5	5.1

CB–5–N	Method	09/28/01	12/04/01
Total BTEX	EPA 602	3.78	860.0
Iron	SW–846 6010B	4.03	0.405
Manganese	SW–846 6010B	0.015	0.0684
TSS	EPA 160.2	11.2J	3.0 U
Oil & Grease	EPA 413.1	2.5 J	NA
Oil & Grease	EPA 1664A	NA	1.5 J
TEH	EPA 1664A	55.6	1.5 J

NOTES:

1. DRAINAGE SYSTEM FOR LINED ABOVE GROUND TANK FARM IN THE SOUTHERN TANK YARD AREA (STYA) WAS NOT INVESTIGATED. SURVEYED LOCATIONS OF CATCH BASINS ARE SHOWN AND APPROXIMATE LOCATION OF PIPING IS BASED ON EXISTING DRAWINGS OF THE SYSTEM.
2. BASED UPON PIPE INVERT ELEVATIONS, FLOW SHOULD BE FROM MH–4 TO MH–8, HOWEVER A PUMP WAS INSTALLED IN MH–4 WHICH REVERSES THE FLOW FROM MH–8 TO MH–4. THE WATER IS PUMPED TO THE TREATMENT SYSTEM.
3. ARROWS INDICATED DIRECTION OF FLOW. FLOW DIRECTION IS UNCERTAIN WHERE NOT INDICATED.
4. DETAILS REGARDING LINE SIZES NOT SHOWN ON THIS MAP ARE PRESENTED ON THE FIELD DATA SHEETS INCLUDED AS APPENDIX A.
5. ONLY STRUCTURES CURRENTLY EXISTING ON THE SITE ARE SHOWN.
6. CB–43–E WAS NOT SAMPLED ON DECEMBER 4, 2001 SINCE THERE WAS NO FLOW PRESENT.
7. WET WEATHER SAMPLES WERE COLLECTED ON SEPTEMBER 27 AND 28, 2001. DRY WEATHER SAMPLES WERE COLLECTED ON DECEMBER 4, 2001.

LEGEND

CURRENT PROPERTY LINE (BASED ON DENLUCK–O'NEILL ENGINEERING AND SURVEYING, DEC. 15, 1988; AND NUSSBAUMER & CLARKE, INC. FEBRUARY 6, 1995)

GEOGRAPHIC AREA BOUNDARY AND/OR FORMER PROPERTY LINES

1" to 12" PIPE (DASHED WHERE INFERRED FROM HISTORICAL MAPS)

13" to 24" PIPE (DASHED WHERE INFERRED FROM HISTORICAL MAPS)

25" to 36" PIPE (DASHED WHERE INFERRED FROM HISTORICAL MAPS)

37" to 48" PIPE (DASHED WHERE INFERRED FROM HISTORICAL MAPS)

SANITARY SEWER PIPE

WATER TREATMENT SYSTEM DISCHARGE PIPE TO BSA SEWER SYSTEM

DRAINAGE SYSTEM FOR LINED ABOVE GROUND TANK FARMS

72" BSA SEWER

FLOW DIRECTION

A — A' LOCATION OF PIPE PROFILE

90 EXISTING TANK

153 EXISTING STRUCTURE

ROUND CB/MH TO 24"

ROUND CB/MH 25" TO 48"

SQUARE CB/MH TO 24"

SQUARE CB/MH 25" TO 48"

SQUARE CB/MH 49" TO 60"

SQUARE CB/MH GREATER THAN 60"

COLOR CODING FOR CB/MH CONDITION
- CONDITION NOT NOTED OR NOT CHECKED
- GOOD CONDITION – NO SIGNIFICANT STRUCTURAL DEFECTS NOTED
- FAIR CONDITION – RELATIVELY MINOR STRUCTURAL DEFECTS NOTED
- POOR CONDITION – SIGNIFICANT STRUCTURAL DEFECTS NOTED

MH/CB LOCATION BASED ON HISTORICAL MAPS

FLOOR DRAIN (FD)

SANITARY MANHOLE (SMH)

LINED TANK FARM CATCH BASIN

ELECTRICAL MANHOLE (EMH)

CB	CATCH BASIN
MH	MANHOLE
BSA	BUFFALO SEWER AUTHORITY
EWPS	EASTERN LEG OF WELL POINT SYSTEM
WWPS	WESTERN LEG OF WELL POINT SYSTEM
NA	NOT ANALYAZED
NS	NOT SAMPLED
J	THE ANALYTE WAS POSITIVELY IDENTIFIED, THE ASSOCIATED NUMERICAL VALUE IS THE APPROXIMATE CONCENTRATION OF THE ANALYTE IN THE SAMPLE
U	THE ANALYTE WAS NOT DETECTED ABOVE THE REPORTED QUANTITATION LIMIT. HOWEVER, THE REPORTED QUANTITATION LIMIT MAY BE BIASED
ug/L	MICROGRAMS PER LITER
mg/L	MILLIGRAMS PER LITER
BTEX	BENZENE, TOLUENE, ETHYLBENZENE AND XYLENES

SAMPLE LOCATION — ANALYTICAL METHOD — SAMPLE DATE

CB–43–E	Method	09/27/01	12/04/01	
Total BTEX	EPA 602	0.21 J	NS	Total BTEX Concentration in ug/L
Iron	SW–846 6010B	6.41	NS	Iron Concentration in mg/L
Manganese	SW–846 6010B	1.03	NS	Manganese Concentration in mg/l
TSS	EPA 160.2	23.0	NS	Total Suspended Solids Concentration in mg/L
Oil & Grease	EPA 413.1	27.9	NS	Oil and Grease Concentration by EPA 413.1 in mg/l
Oil & Grease	EPA 1664A	34.2	NS	Oil and Grease Concentration by EPA 1664A in mg/l
TEH	EPA 1664A	NA	NS	Total Extractable Hydrocarbons Concentration by EPA 1664A in mg/l

80' 0 80'

Title:

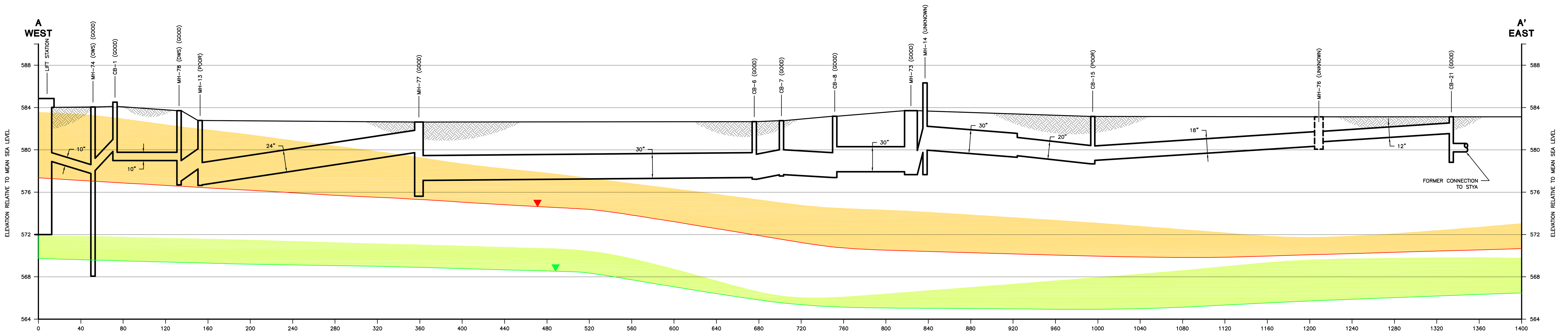
SEWER SYSTEM MAP WITH WATER QUALITY DATA

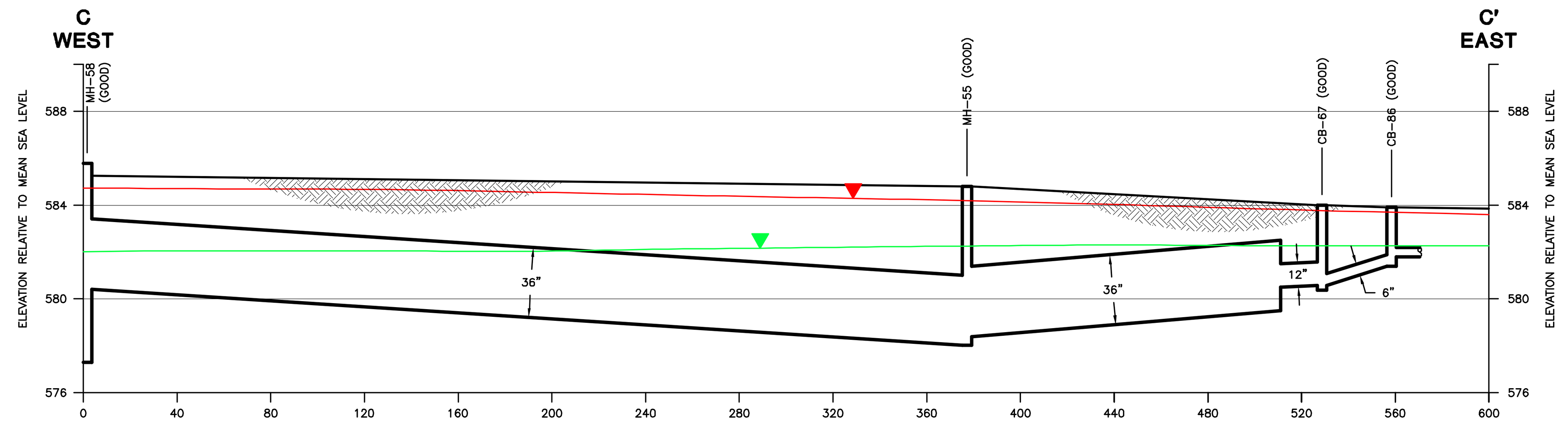
BUFFALO TERMINAL, BUFFALO, NEW YORK

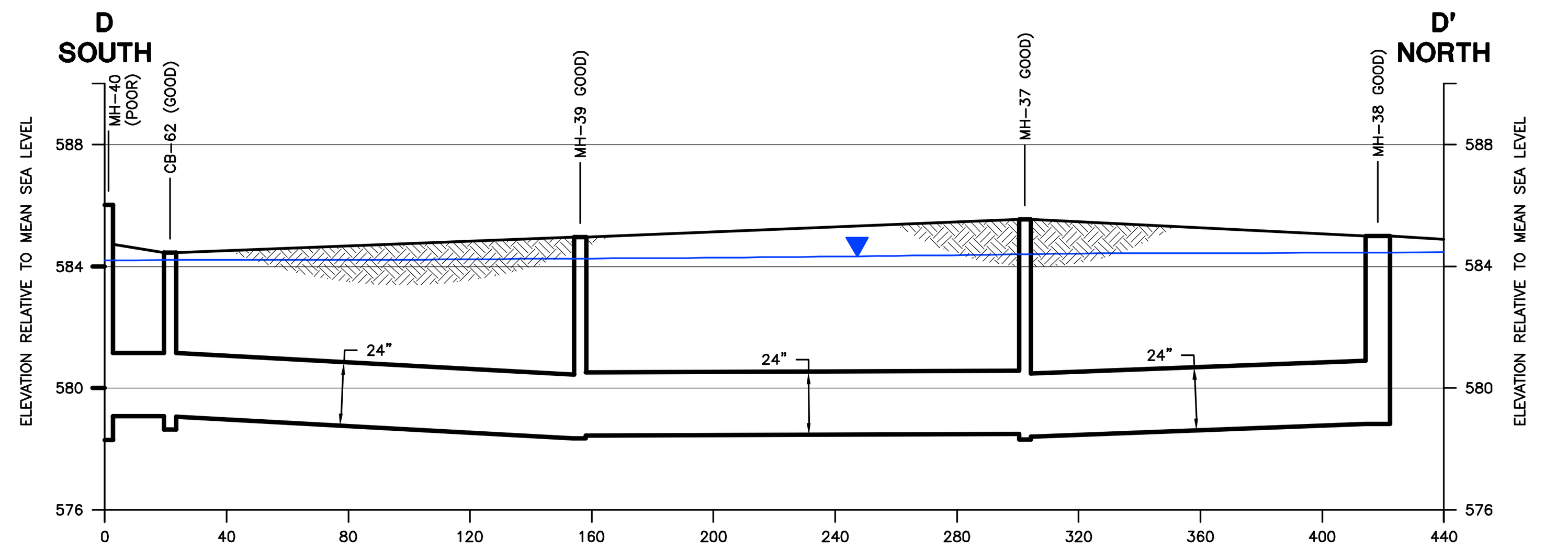
Prepared For:

EXXONMOBIL OIL CORPORATION

ROUX ASSOCIATES, INC. Environmental Consulting & Management	Compiled by: N.C.	Date: 26MAR01	PLATE
	Prepared by: B.H.C.	Scale: AS SHOWN	1
	Project Mgr: N.C.	Office: NY	
	File No: MC5215302	Project: 17252Y03	







LEGEND

(grade line symbol)	APPROXIMATE GRADE ELEVATION (IN FEET ABOVE MEAN SEA LEVEL)
(green line)	INFERRED HISTORICAL LOW GROUNDWATER TABLE ELEVATION (IN FEET ABOVE MEAN SEA LEVEL)
(red line)	INFERRED HISTORICAL HIGH GROUNDWATER TABLE ELEVATION (IN FEET ABOVE MEAN SEA LEVEL)
(blue line)	INFERRED GROUNDWATER TABLE ELEVATION BASED ON JANUARY 2002 DATA FROM MW–35 (IN FEET ABOVE MEAN SEA LEVEL)
(orange box)	THICKNESS OF SEPARATE–PHASE PRODUCT OBSERVED AT HISTORICAL HIGH GROUNDWATER TABLE ELEVATION
(green box)	THICKNESS OF SEPARATE–PHASE PRODUCT OBSERVED AT HISTORICAL LOW GROUNDWATER TABLE ELEVATIONS

CB CATCH BASIN

MH MANHOLE

DESCRIPTION IN PARANTHESES FOLLOWING MH/CB NUMBER INDICATE CONDITION ON MH/CB

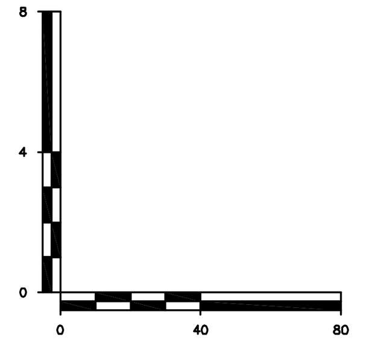
(GOOD) NO SIGNIFICANT STRUCTURAL DEFECTS NOTED

(FAIR) RELATIVELY MINOR STRUCTURAL DEFECTS NOTED

(POOR) SIGNIFICANT STRUCTURAL DEFECTS NOTED

NOTES

1. SEE PLATE 1 FOR LOCATION OF PIPE PROFILES.
2. WATER–TABLE ELEVATIONS AND PRODUCT THICKNESS SHOWN ARE INFERRED FROM HISTORICAL AND CURRENT DATA FROM MONITORING WELLS LOCATED CLOSEST TO THE SEWER SEGMENTS SHOWN.



Title:

PIPE PROFILES

BUFFALO TERMINAL, BUFFALO, NEW YORK

Prepared For:

EXXONMOBIL OIL COMPANY

ROUX ASSOCIATES, INC. *Environmental Consulting & Management*	Compiled by: N.C.	Date: 18MAR02	PLATE 2
	Prepared by: G.M.	Scale: AS SHOWN	
	Project Mgr: N.C.	Office: NY	
	File No: MC5215303	Project: 17252Y04	