

CHEMICALS



INDUSTRIES

INTEROFFICE / LAKE CHARLES

*Paul*  
*Mustafa*  
*Please take care of this*  
*Return to Mury*

TO Distribution

DATE

October 6, 1980

FROM K. A. Jimoh

SUBJECT

Analysis of Metals (Cu, Fe, Ni, Cr) in Plant B Effluent Streams

The EPA's recommendations for the treatability level of metals in the plant outfall are very low (0.4 ppm for Cu, 0.62 ppm for Fe, 0.05 ppm for Cr and 0.10 ppm for Ni). There have been efforts under project P-910 to establish the current level of metals in Plant B effluents and formulate a system to control it. A metal analysis was conducted in July covering Plant B lift stations and major process outfalls (018, 018A). Results of the analysis indicated metal concentration in most of the effluents are above the EPA's figures. However, investigation did not include the flowrates of the effluents and this makes it impossible to evaluate the metal contribution of each of these effluents to the outfalls and decide which of them should be treated prior going to the outfall.

Process Engineering suspects that the treatability levels of the metals might be too low to be accomplished by a single application of BAT on the total Plant B outfall. A better approach might be to selectively treat the effluents with high metal concentration. Because of this and to quantitatively determine the amount of metals in various Plant B unit effluents, a meeting was held on October 1, to discuss the need for additional samples to be collected along with the laboratory scheduled outfall sampling survey for NPDES. Attendees to the meeting were: K. Johnsen, J. Hart, E. Parsons, J. Elliott, H. Hoenes, G. Perry, M. Wood, W. Campbell, R. Jacobs and K. Jimoh.

The purpose of the meeting was clearly explained by Rick Jacobs and the sampling program that will include efforts from the operations, laboratory and Process Engineering was agreed upon to be as follows.

#### Operations

1. The operators to collect composite samples of listed effluents in their areas. (Samples should be collected at least twice in a shift). More important, flowrates should be monitored and recorded during sample collection. Samples should be properly labelled.

Have the T.A. write an abstract on the plant operation for each of the sample dates. Hopefully this abstract should reveal abnormalities in operation that might explain the inconsistency in metal levels or effluent flowrates.

#### Process Engineering

1. Bring samples from each area to the laboratory for analysis and collect the flowrates data.

SL 047931

2. Collect the T.A.'s abstracts on plant operation.
3. When lab analysis is completed, Process Engineering will make a report of metals in Plant 'B' effluents.

#### Laboratory

1. The laboratory will analyze the submitted samples for Cu, Fe, Ni and Cr. Results of the analysis will be combined and forwarded to Process Engineering.

The list of effluents to be sampled is attached and the sample dates have been arranged to coincide with the schedule for NPDES outfall sampling survey (see attachment for sample dates).

/ds

#### Distribution

G. K. Jordan  
J. A. Hart  
E. F. Parsons/J. Elliott  
K. Ezelle  
B. J. Young  
M. Juves  
W. E. Sonnier  
C. A. Muery  
R. J. Whitaker/R. A. Jacobs  
K. Johnsen  
H. Hoenes  
M. Wood/W. Campbell

ADDITIONAL PROCESS WATER COMPOSITE SAMPLES TO BE  
COLLECTED FOR MATERIAL BALANCE ON Cu, Cr, Ni, Fe

- ~~1. Plant C pH Sampler~~
- ~~2. Pigments Lift Station~~
3. WTU Effluent
4. Incinerator Primary Scrubbers (1 & 2)
5. Incinerator Secondary Scrubbers (1 & 2)
6. Formate Destruction Effluent
7. VDC Reactor Effluent
8. Lift Station #1 - VC
9. Lift Station #2 - OHC I
10. Lift Station #3 - EDC/VDCM
11. Lift Station #4 - Per/Tri (Shipping)
12. Lift Station #5 - EDC
13. Lift Station #6 - Per/Tri (Still Line)
14. Lift Station #7 - Tetra
15. Lift Station #8 - WTU-OHC
- 16. Lift Station #9 - TE II

SAMPLE DATES FOR NPDES OUTFALL SAMPLING SURVEY

OCTOBER

| S  | M  | T  | W  | TH | F  | S  |
|----|----|----|----|----|----|----|
|    |    |    | 1  | 2  | 3  | 4  |
| 5  | 6  | 7  | 8  | 9  | 10 | 11 |
| 12 | 13 | 14 | 15 | 16 | 17 | 18 |
| 19 | 20 | 21 | 22 | 23 | 24 | 25 |
| 26 | 27 | 28 | 29 | 30 | 31 |    |

NOVEMBER

|    |    |    |    |    |    |    |
|----|----|----|----|----|----|----|
|    |    |    |    |    |    | 1  |
| 2  | 3  | 4  | 5  | 6  | 7  | 8  |
| 9  | 10 | 11 | 12 | 13 | 14 | 15 |
| 16 | 17 | 18 | 19 | 20 | 21 | 22 |
| 23 | 24 | 25 | 26 | 27 | 28 | 29 |
| 30 |    |    |    |    |    |    |

December

|   |   |   |    |    |    |    |
|---|---|---|----|----|----|----|
|   | 1 | 2 | 3  | 4  | 5  | 6  |
| 7 | 8 | 9 | 10 | 11 | 12 | 13 |

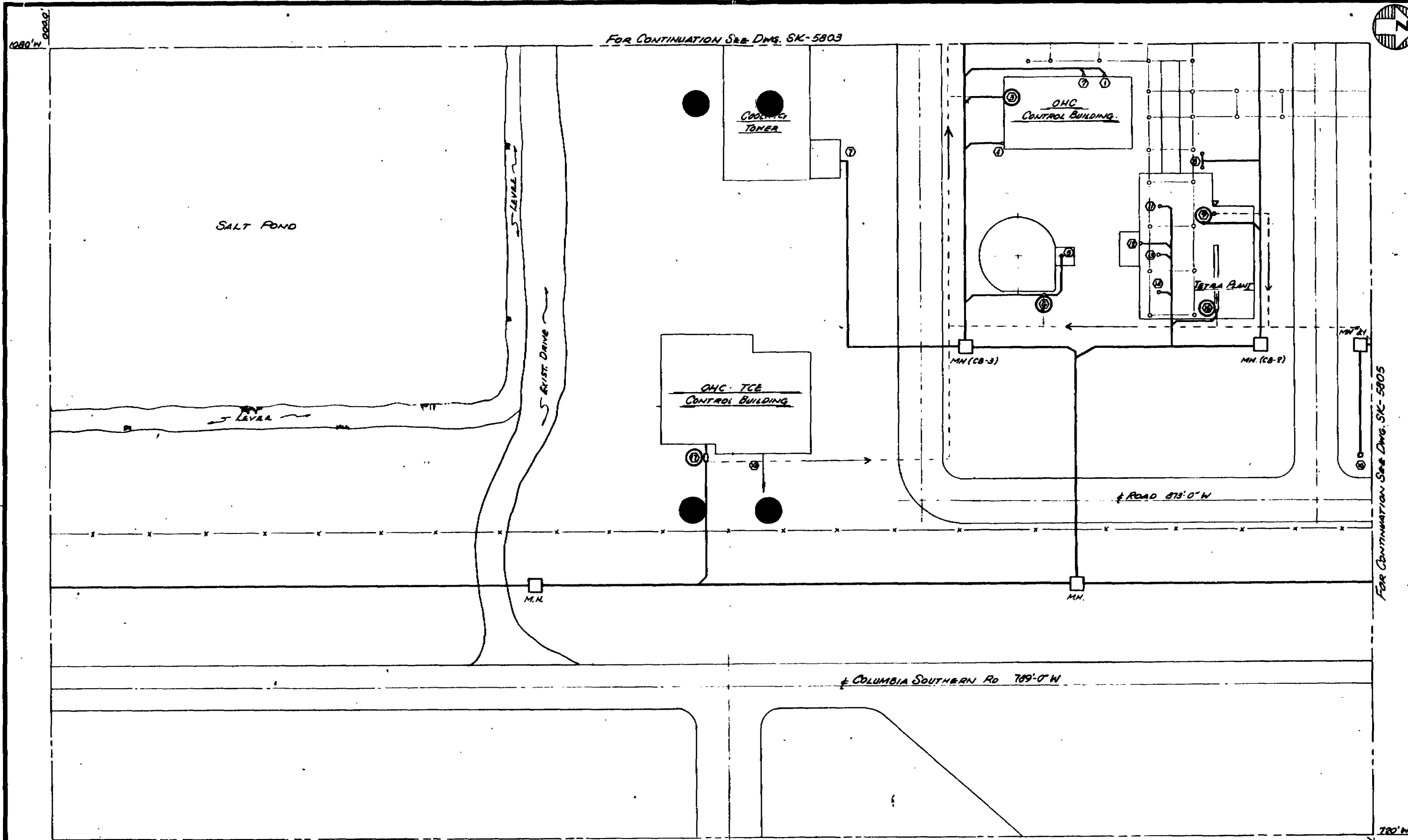
NOTE: According to the laboratory schedule, a 24 hours sampling period for 10-8-80 will run from Wednesday morning to Thursday morning. Other sample dates will run in the same manner.

FOR CONTINUATION SEE DWG. SK-5803



REVISIONS

- ① SUGGESTED SEGREGATED SYSTEM



- ① AIR CONDITIONER DRAIN
- ② ROOF DRAIN
- ③ LAB DRAIN
- ④ ROOF DRAIN
- ⑤ TCE FEED PAD DRAIN
- ⑥ TCE FEED TANK SCRUBBER
- ⑦ COOLING TOWER BASIN DRAIN
- ⑧ CH VAPORIZER CONDENSATE DRAIN
- ⑨ HCl SCRUBBER DRAIN
- ⑩ SURFACE DRAIN
- ⑪ PAD DRAIN
- ⑫ AIBN TANK DRAIN

- ⑬ PAD DRAIN
- ⑭ PAD DRAIN
- ⑮ TRENCH
- ⑯ ROOF DRAIN
- ⑰ LAB DRAIN

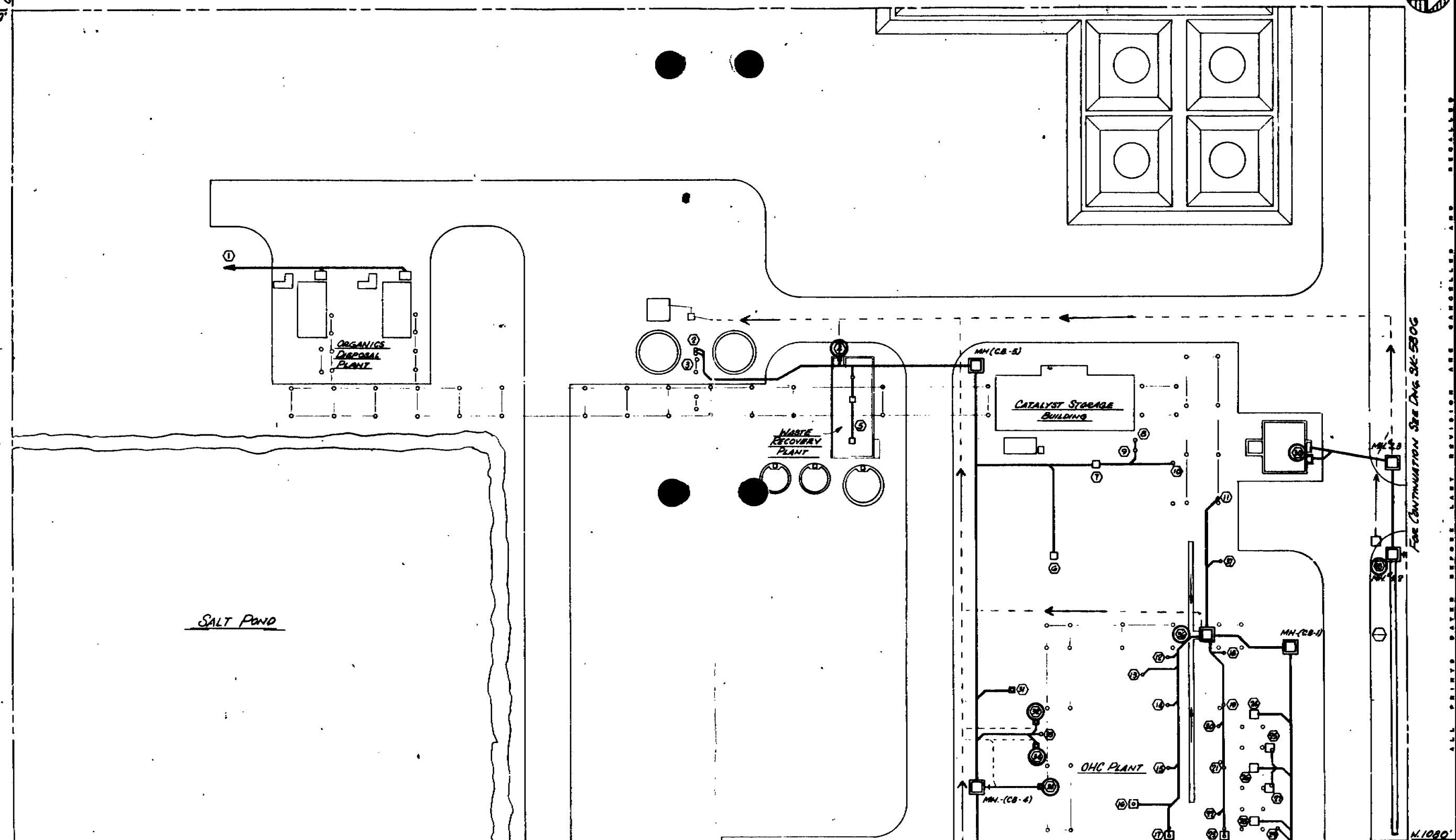
- SEWER CODING**
- DELTA FUSING SYSTEM
  - SUGGESTED SEGREGATED SYSTEM
  - ☑ CATCH BASIN (SCMP) ADDITIONS
  - ADDITIONAL PIPING
  - ▽ SMALLER SCRUBBER ADDITION
  - ☒ VENT SCRUBBER-LAB DRAIN ADDITIONS
  - ◇ TRENCH INCLUSION
  - DIRECTION OF FLOW

|                                                                |               |               |  |
|----------------------------------------------------------------|---------------|---------------|--|
| <b>INDUSTRIAL CHEMICAL DIVISION</b><br>LAKE CHARLES, LOUISIANA |               |               |  |
| EXISTING PROCESS SEWERS N.W. QUADRANT                          |               |               |  |
| DRAWN BY: R. ROBER                                             | DATE: 7-11-78 | SCALE: 1"=30' |  |
| CHECKED BY:                                                    | DATE:         | CHARGE:       |  |
| APPROVED BY:                                                   | DATE:         | SUB:          |  |
| DWG. SK-5804                                                   |               |               |  |

0000' N.S.  
WJ440



REVISIONS  
① SUGGESTED  
SEGREGATED  
SYSTEM



- ① INCINERATOR SCRUBBER EFFLUENT
- ② CONDENSATE BLOWDOWN
- ③ PUMP PAD DRAIN
- ④ SCRUBBER DRAIN
- ⑤ TRENCH DRAIN
- ⑥ PAD DRAIN
- ⑦ " " "
- ⑧ DONTHERM PUMP DRAIN
- ⑨ " " "
- ⑩ CONDENSATE BLOWDOWN
- ⑪ " " "
- ⑫ DM STILL REFLEX DRAIN
- ⑬ ACID BRICK PAD DRAIN
- ⑭ CHLORAL TREATMENT DRAIN
- ⑮ 2nd DECK ACID BRICK PAD DRAIN
- ⑯ 2nd " " " " "
- ⑰ CARRIER UNIT DRAIN
- ⑱ 2nd DECK ACID BRICK PAD DRAIN
- ⑲ LIGHT STILL SEAL POT DRAIN
- ⑳ 2nd DECK STEEL PAD DRAIN
- ㉑ DONTHERM PUMP DRAIN
- ㉒ 3rd DECK ACID BRICK PAD DRAIN
- ㉓ DONTHERM PUMP DRAIN
- ㉔ 2nd DECK STEEL PAD DRAIN
- ㉕ REACTOR PAD DRAIN

- ㉖ CATALYST BLOWDOWN POT DRAIN
- ㉗ REACTOR PAD DRAIN
- ㉘ CATALYST BLOWDOWN POT DRAIN
- ㉙ REACTOR PAD DRAIN
- ㉚ DONTHERM VENT HOR. OIL FLOW
- ㉛ ACID. NEUT. PIT OVERFLOW
- ㉜ CONDENSATE STORAGE TR. OVERFLOW
- ㉝ INTERMEDIATE CRUDE TR. SIGHTGLASS DRAIN
- ㉞ " " " PUMP PAD DRAIN
- ㉟ " " " SIGHTGLASS DRAIN
- ㊱ DM FEED TANK SIGHTGLASS DRAIN
- ㊲ TRENCH
- ㊳ CONDENSATE BLOWDOWN

FOR CONTINUATION SEE DWG. SK-5804  
② PIT R. SCRUBBER DRAIN

- SEWER CODING
- DELETE EXISTING SYSTEM  
SUGGESTED SEGREGATED SYSTEM
  - ☑ CATCH BASIN (SUMP) ADDITIONS
  - ① ADDITIONAL PIPING
  - ▽ SMALLER SCRUBBER ADDITION
  - ☒ VENT SCRUBBER - LAB DRAIN ADDITIONS
  - ⬡ TRENCH INCLUSION
  - DIRECTION OF FLOW

**INDUSTRIAL CHEMICAL DIVISION**  
LAKE CHARLES, LOUISIANA

EXISTING PROCESS SEWERS  
N.W. QUADRANT

DRAWN BY: R. KREMER DATE: 7-11-78 SCALE: 1"=80'

CHECKED BY: DATE: CHARGE:

APPROVED BY: DATE: CHARGE:

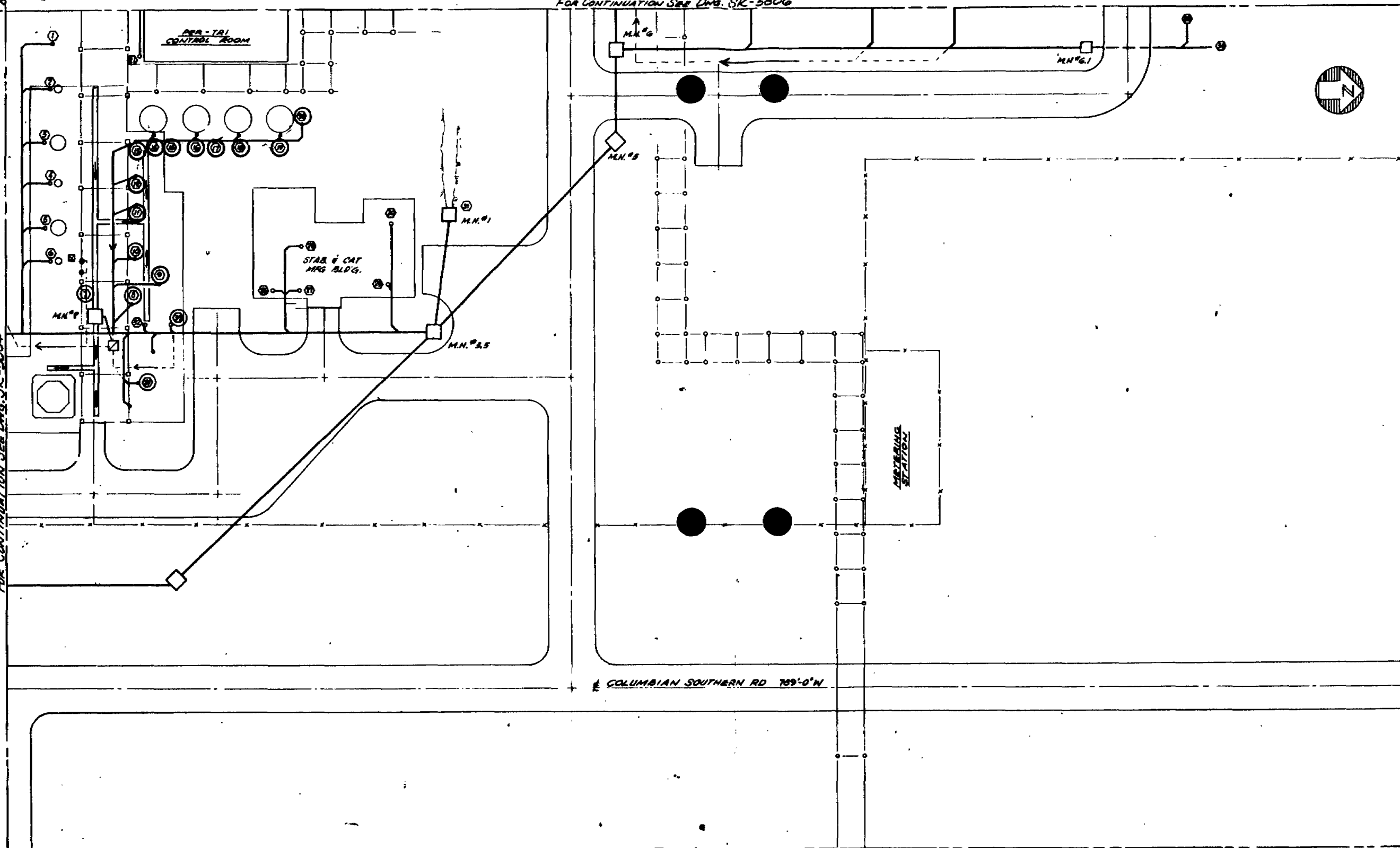
DWG. SK - 5808

N.1080  
N.1082

FOR CONTINUATION SEE DWG. SK-5806

FOR CONTINUATION SEE DWG. SK-5804

① SUGGESTED  
SEGREGATED  
SYSTEM



**SEWER CODING**

- — — — — DELETE EXISTING SYSTEM
- - - - - SUGGESTED SEGREGATED SYSTEM
- ☐ CATCH BASIN (SUMP) ADDITIONS
- ADDITIONAL PIPING
- ▽ SMALLER SCRUBBER ADDITION
- ☒ VENT SCRUBBER - LAB DRAIN ADDITIONS
- ⬢ TRENCH INCLUSION
- DIRECTION OF FLOW

- ① CONDENSATE TANK OVERFLOW
- ② NO. 1 PER STILL DRAIN
- ③ PER-TRI STILL DRAIN
- ④ NO. 2 PER STILL DRAIN
- ⑤ NO. 1 TRI STILL DRAIN
- ⑥ TOPPING STILL DRAIN
- ⑦ TRENCH
- ⑧ NO. 2 PER SEPARATOR OVERFLOW
- ⑨ NO. 1 PER DRYER DRAIN
- ⑩ NO. 1 PER DRYER DRAIN
- ⑪ NO. 1 PER WASH COLUMN OVERFLOW
- ⑫ NO. 2 PER WASH COLUMN OVERFLOW

- ⑬ NO. 1 PER PHASE SEPARATOR OVERFLOW
- ⑭ TANK DRAIN
- ⑮ PER-TRI STILL FEED FILTERS DRAIN
- ⑯ TANK DRAIN, STILL LINE FEED TK. SCRUBBER
- ⑰ HEAVIES STILL FEED FILTER DRAIN
- ⑱ TANK DRAIN
- ⑲ TANK DRAIN
- ⑳ BOTTOMS STORAGE TANK SCRUBBER
- ㉑ AIR CONDITIONER DRAIN
- ㉒ TRI-NEUTRALIZER BOTTOMS PUMP PAD DRAIN
- ㉓ TRI-NEUTRALIZER OVERFLOW SCRUBBER DRAIN
- AND BLOWER PAD DRAIN

- ㉔ CONDENSATE FROM STM. TRAPS
- ㉕ CONDENSATE FROM STM. TRAPS
- ㉖ " " " "
- ㉗ " " " "
- ㉘ " " " "
- ㉙ SURFACE DRAIN
- ㉚ COALSCRUBS (PUMP PAD DRAIN)
- ㉛ TRI-PRODUCT DRYERS
- ㉜ STORAGE AREA DRAIN
- ㉝ PUMP PAD DRAIN

|                                                                                                                                   |                                                            |                                                          |                                                          |
|-----------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------|----------------------------------------------------------|----------------------------------------------------------|
|                                                                                                                                   |                                                            |                                                          |                                                          |
| <b>INDUSTRIAL CHEMICAL DIVISION</b><br>LAKE CHARLES, LOUISIANA                                                                    |                                                            |                                                          |                                                          |
| <b>EXISTING PROCESS SEWERS</b><br>N.W. QUADRANT                                                                                   |                                                            |                                                          |                                                          |
| DRAWN BY: <b>R. KOOP</b><br>CHECKED BY: _____<br>APPROVED BY: _____<br>DATE: _____<br>SCALE: 1" = 20'<br>DWG. NO.: <b>SK-5805</b> | DATE: 7-11-78<br>DATE: _____<br>DATE: _____<br>DATE: _____ | DATE: _____<br>DATE: _____<br>DATE: _____<br>DATE: _____ | DATE: _____<br>DATE: _____<br>DATE: _____<br>DATE: _____ |

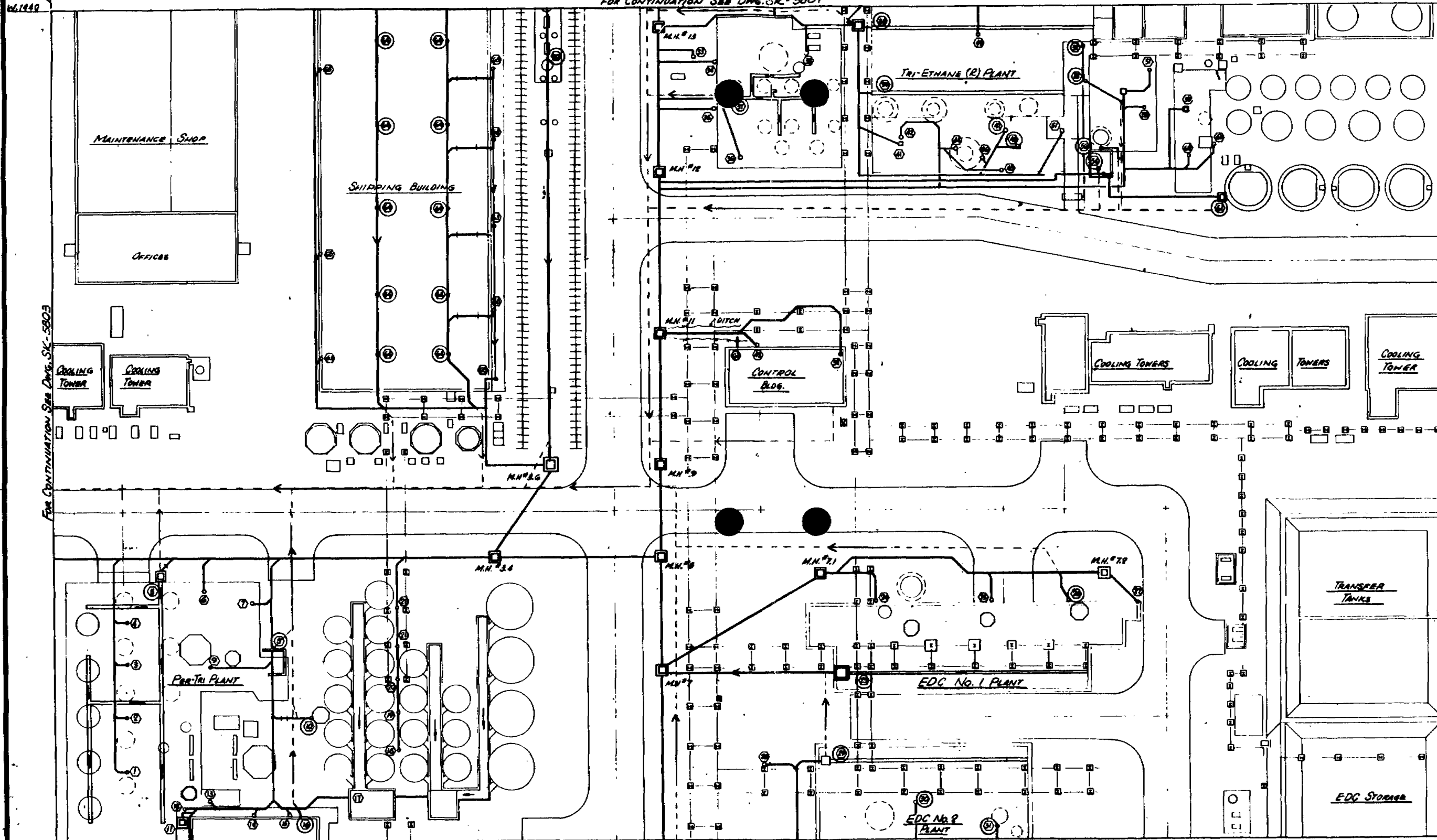
661849 H.1000

FOR CONTINUATION SEE DWG. SK-5803

FOR CONTINUATION SEE DWG. SK-5807



661849  
SUGGESTED  
SEGREGATED  
SYSTEM



- |                                          |                            |                                     |
|------------------------------------------|----------------------------|-------------------------------------|
| ① CONDENSATE                             | ② REFRIGERATION UNIT DRAIN | ③ REFRIGERATION UNIT DRAIN          |
| ④ DOWNTHEM STACK DRAIN                   | ⑤ ROOF DRAIN               | ⑥ ROOF DRAIN                        |
| ⑦ CONDENSATE                             | ⑧ ROOF DRAIN               | ⑨ LAB DRAIN                         |
| ⑩ CONDENSATE                             | ⑪ SUMP PUMP DISCHARGE      | ⑫ TANK FARM PAD DRAIN               |
| ⑬ TRENCH                                 | ⑭ TRENCH                   | ⑮ SEAL POT ON GAS CHROMATOGRAPH     |
| ⑯ DOWNTHEM STORAGE TANK DRAIN            | ⑰ TRENCH                   | ⑱ AIR CONDITIONER DRAIN             |
| ⑲ ON IMPOZIBLES CONDENSATE BLNDOWN       | ⑳ TRENCH                   | ㉑ WELL WATER RECOVERY TANK DRAIN    |
| ㉒ ON FEED TANK OVERFLOW PAD DRAIN/TRENCH | ㉓ TRENCH                   | ㉔ WELL WATER RECOVERY SYST. BY-PASS |
| ㉕ RECYCLE TANK PAD DRAIN                 | ㉖ TRENCH                   | ㉗ CONDENSATE DRAIN (BY-PASS)        |
| ㉘ AIR STILL LINE FEED TANK SCRUBBER      | ㉙ UNUSAL DRAIN             | ㉚ DOPP KETTLE PAD DRAIN             |
| ㉛ HOT WIRE                               |                            |                                     |
| ㉜ SURFACE DRAIN                          |                            |                                     |

FOR CONTINUATION SEE DWG. SK-5805

- |                                           |                              |                                  |
|-------------------------------------------|------------------------------|----------------------------------|
| ① TRENCH                                  | ② STEAM TRAP DRAIN           | ③ LOADING BACK DRAIN             |
| ④ CONDENSATE PUMP PAD DRAIN               | ⑤ VDCM HOLDING TANK          | ⑥ VDCM DRYERS REACTIVATION DRAIN |
| ⑦ TRENCH                                  | ⑧ VDCM PHASE SEPARATOR DRAIN | ⑨ TIE SCRUBBER                   |
| ⑩ VDCM REACTOR HEATER PAD DRAIN           | ⑪ TIE SCRUBBER               | ⑫ PAD DRAIN                      |
| ⑬ CONDENSATE DRAIN                        | ⑭ ROOF DRAIN                 | ⑮ HEAVY STILL CONDENSATE DRAIN   |
| ⑯ CONDENSATE DRAIN                        | ⑰ ROOF DRAIN                 | ⑱ VDC RETENTION TANK PUMP DRAIN  |
| ⑲ HEAVY STILL PAD DRAIN                   | ⑳ COOLING WATER DRAIN        | ㉑ PAD DRAIN                      |
| ㉒ VDCM STILL REFLUX DRAIN PHASE OFF DRAIN | ㉓ PAD DRAIN                  | ㉔ ASH LIQUOR TANK DRAIN          |
| ㉕ VDC PAD DRAIN                           |                              |                                  |

SEWER CODING

- DELETE EXISTING SYSTEM
- - - SUGGESTED SEGREGATED SYSTEM
- CATCH BASIN (SUMP) ADDITION
- ADDITIONAL PIPING
- △ SMALLER SCRUBBER ADDITION
- ⊗ TIE SCRUBBER - LNO DRAIN ADDN
- ⬢ TRENCH INCLUSION
- DIRECTION OF FLOW

**INDUSTRIAL CHEMICAL DIVISION**  
LAKE CHARLES, LOUISIANA

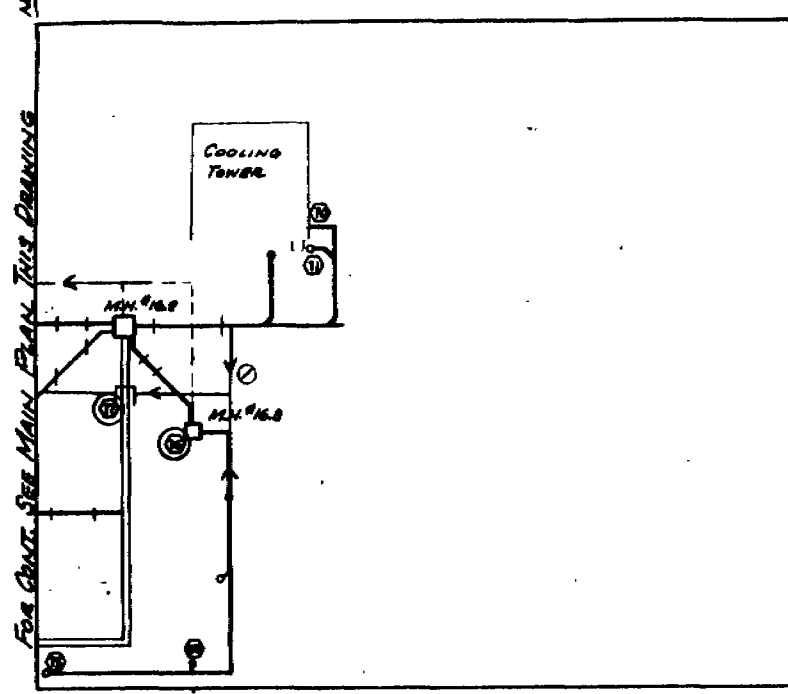
EXISTING PROCESS SEWERS  
N.W. QUADRANT

DRAWN BY: R. KROGER DATE: 7-11-78 SCALE: 1" = 30'

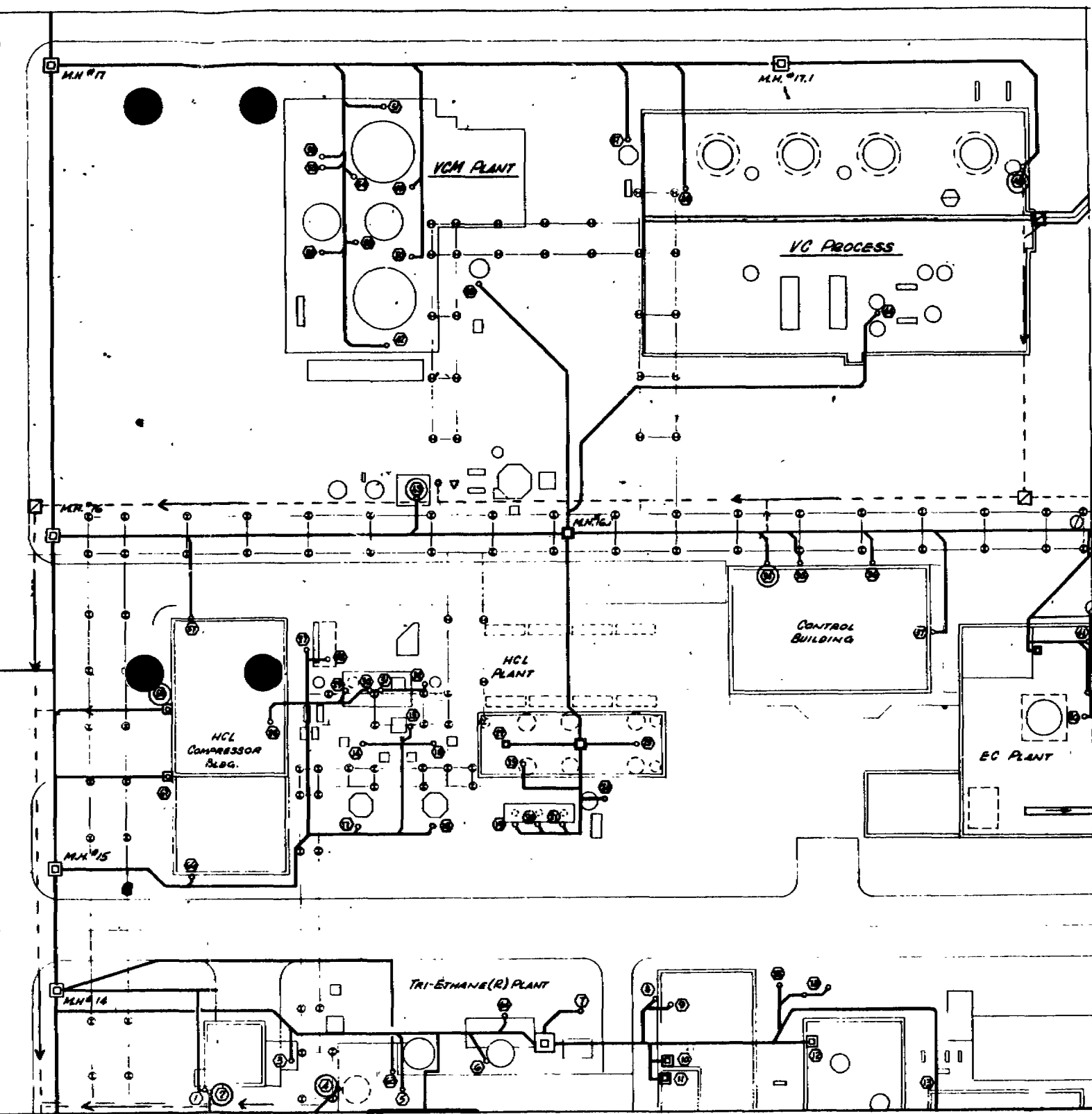
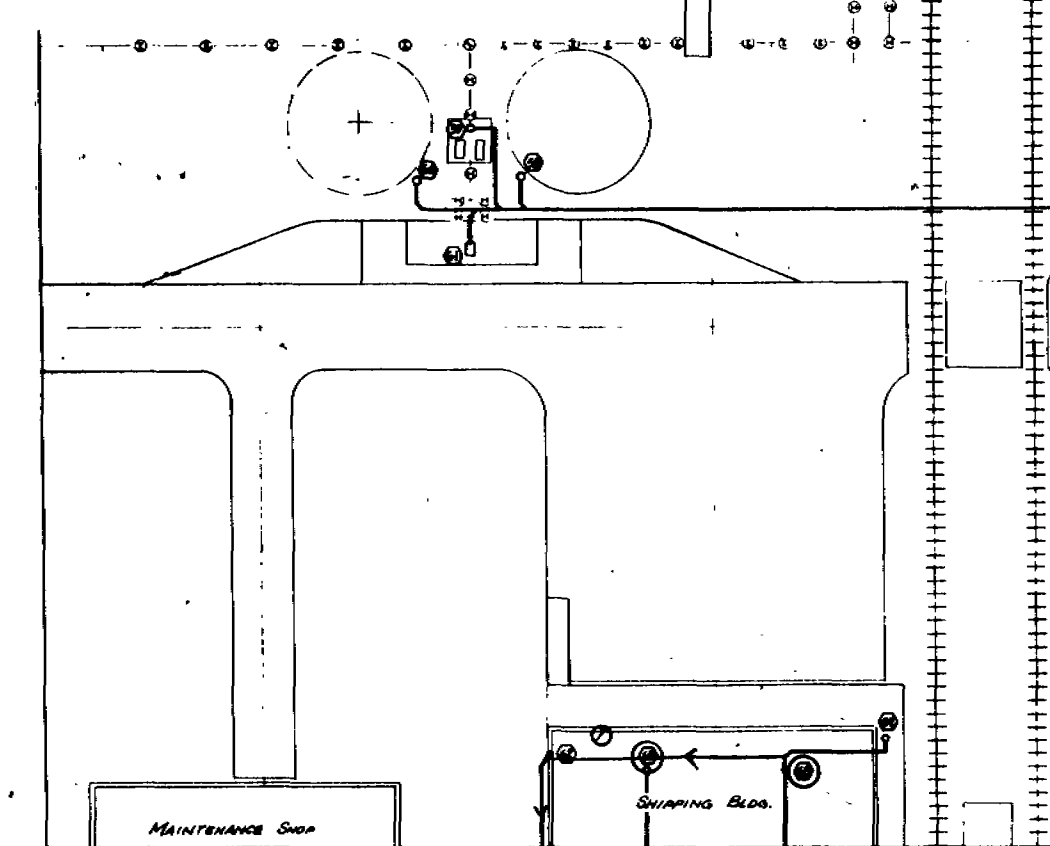
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APPROVED BY: DATE: DUE: DWG. SK-5806 A

FOR CONT. SEE MAIN PLAN THIS DRAWING



AUXILLARY PLAN "A"



FOR CONTINUATION SEE AUX. PLAN "A" THIS DWG.

FOR CONT. SEE DWG. SK-5806

- |                               |                                    |                                     |                             |
|-------------------------------|------------------------------------|-------------------------------------|-----------------------------|
| 1 CATALYST SCOOP WASH BASIN   | 10 SEAL POT DRAIN                  | 19 REFRIGERATION MACHINE DRAIN      | 28 CONDENSATE DRAIN         |
| 2 CATALYST POT DRAIN          | 11 HCL SCRUBBER DRAIN              | 20 " " " "                          | 29 " " " "                  |
| 3 PAD DRAIN                   | 12 SEAL POT DRAIN                  | 21 H <sub>2</sub> O DRIER DRAIN     | 30 DECKING SAMPLE POINT     |
| 4 HCL SURGE DRAIN DRAIN       | 13 NO. 1 BURNER DRAIN              | 22 " " " "                          | 31 HCL SCRUBBER DRAIN       |
| 5 PAD DRAIN                   | 14 NO. 2 " " "                     | 23 " " " "                          | 32 NEUTRALIZER DRAIN        |
| 6 HEAVY STILL FEED TANK DRAIN | 15 NO. 3 " " "                     | 24 TAIL TOWER SCRUBBER DRAIN        | 33 HEAVY STILL STACK SEAL   |
| 7 AIR IN PAD DRAIN            | 16 NO. 4 " " "                     | 25 PUMP PAD DRAIN                   | 34 STEAM STACK CONDENSATE   |
| 8 VCM DAY TANK PUMP PAD DRAIN | 17 NO. 5 " " "                     | 26 LAB DRAIN                        | 35 CONDENSATE TANK OVERFLOW |
| 9 DIKE DRAIN                  | 18 PAD DRAIN                       | 27 ROOF DRAIN                       | 36 DECKING K.O. POT DRAIN   |
| 10 DIKE DRAIN                 | 19 PAD DRAIN                       | 28 " " " "                          | 37 DECKING SAMPLE POINT     |
| 11 DIKE DRAIN                 | 20 CONDENSATE DRAIN                | 29 AIR CONDITIONER DRAIN            | 38 " " " "                  |
| 12 BRAB. TANKS DIKE DRAIN     | 21 SAMPLE POINT DRAIN              | 30 SECONDARY STEPPER CONDENSATE DR. | 39 " " " "                  |
| 13 RAIN WATER                 | 22 N <sub>2</sub> COMPRESSOR DRAIN | 31 CONDENSATE DRAIN                 | 40 STACK GAS ANALYZER       |

- |                                                  |                                                  |                                                            |
|--------------------------------------------------|--------------------------------------------------|------------------------------------------------------------|
| 41 STACK GAS ANALYZER                            | 50 HCL COMPRESSOR COOLING H <sub>2</sub> O DRAIN | 59 HCL COMPRESSOR COOLING H <sub>2</sub> O DRAIN           |
| 42 DECKING SAMPLE POINT                          | 51 ROOF DRAIN                                    | 60 FLASHER DOPP CONDENSATE DRAIN                           |
| 43 " " " "                                       | 52 " " AND HCL HEADER DRAIN                      | 61 COOLING TOWER OVERFLOW                                  |
| 44 STACK GAS ANALYZER                            | 53 FLASHER DOPP CONDENSATE DRAIN                 | 62 EXCESS AIR COMPRESSOR COOLING H <sub>2</sub> O, PRIMARY |
| 45 HCL COMPRESSOR COOLING H <sub>2</sub> O DRAIN | 54 COOLING TOWER OVERFLOW                        | 63 PAD DRAIN                                               |
| 46 NORTH HCL RUBBER LINED TANK SCRUBBER          | 55 PAD DRAIN                                     | 64 HEAVY STILL CONDENSATE DRAIN                            |
| 47 HCL COMPRESSOR COOLING H <sub>2</sub> O DRAIN | 56 HEAVY STILL CONDENSATE DRAIN                  | 65 PRIMARY STRIPPER CONDENSATE DRAIN                       |
| 48 SOUTH HCL RUBBER LINED TANK SCRUBBER          | 57 PRIMARY STRIPPER CONDENSATE DRAIN             | 66 BOTTOMS DOPP CONDENSATE DRAIN                           |
| 49 HCL LOADING RACK SUMP                         | 58 BOTTOMS DOPP CONDENSATE DRAIN                 | 67 VENT KNOCKOUT POT DRAIN                                 |
| 50 ROOF DRAIN                                    | 59 VENT KNOCKOUT POT DRAIN                       | 68 TRENCH                                                  |
| 51 COOLERS, UTILITY DRAIN                        | 60 TRENCH                                        | 69 DIKE DRAIN                                              |
| 52 REBOILER DRAIN                                | 61 DIKE DRAIN                                    |                                                            |
| 53 FLOOR DRAIN                                   |                                                  |                                                            |

- SEWER CODING
- |       |                                   |
|-------|-----------------------------------|
| —     | DELETE EXISTING SYSTEM            |
| - - - | SUGGESTED SEWERED SYSTEM          |
| □     | DATA BASIN (SUMP) ADDITIONS       |
| ○     | ADDITIONAL PIPING                 |
| △     | CONDENSER H <sub>2</sub> O BYPASS |
| ▽     | SMALLER SCRUBBER ADDITION         |
| ⊗     | VENT SCRUBBER - LAB DRAWINGS      |
| ⊕     | TRENCH INCLUSION                  |
| →     | DIRECTION OF FLOW                 |

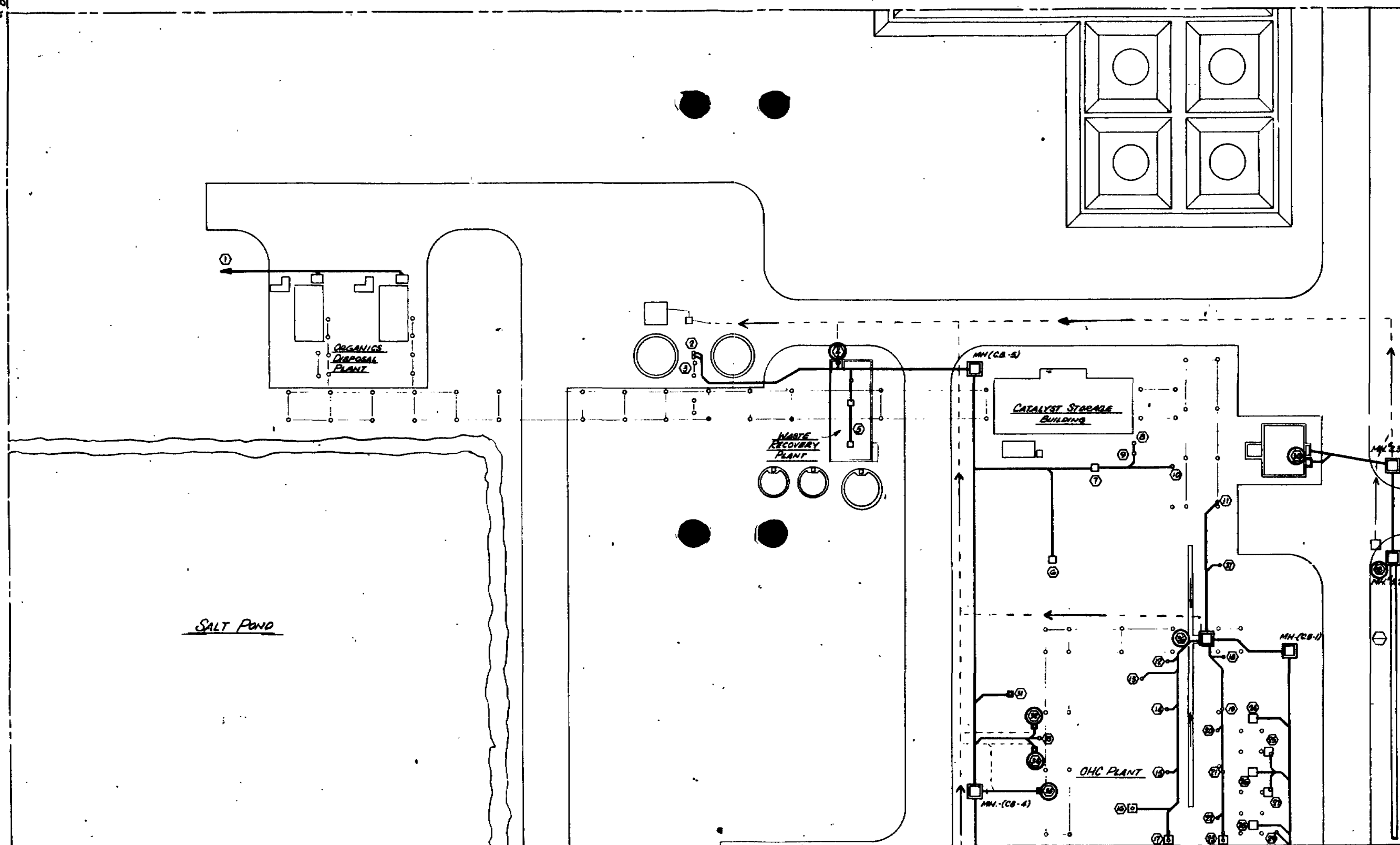
**INDUSTRIAL CHEMICAL DIVISION**  
LAKE CHARLES, LOUISIANA

**ORGANICS UNDERGROUND FACILITIES**  
N.W. QUADRANT

DRAWN BY: R. KOBER DATE: 2-11-78 SCALE: 1"=20'-0"  
CHECKED BY: DATE: CHANGE  
APPROVED BY: DATE: SUB: DWG. NO.: 5807 A

0000  
HJ440

RECEIVED  
SEGREGATED  
5478A



For Continuation See Dwg SK-5806

- ① INCINERATOR SCRUBBER EFFLUENT
- ② CONDENSATE BLOWDOWN
- ③ PUMP PAD DRAIN
- ④ SCRUBBER DRAIN
- ⑤ TRENCH DRAIN
- ⑥ PAD DRAIN
- ⑦ " "
- ⑧ DOWNTHERM PUMP DRAIN
- ⑨ " "
- ⑩ CONDENSATE BLOWDOWN
- ⑪ " "
- ⑫ DN STILL REFLUX DRAIN
- ⑬ ACID BRICK PAD DRAIN
- ⑭ CHLORAL TREATMENT DRAIN
- ⑮ 2ND DECK ACID BRICK PAD DRAIN
- ⑯ 2ND " " " " " "
- ⑰ CARRIER UNIT DRAIN
- ⑱ 2ND DECK ACID BRICK PAD DRAIN
- ⑲ LIGHT STILL SEAL POT DRAIN
- ⑳ 2ND DECK STEEL PAD DRAIN
- ㉑ DOWNTHERM PUMP DRAIN
- ㉒ DOWNTHERM PUMP DRAIN
- ㉓ 3RD DECK ACID BRICK PAD DRAIN
- ㉔ DOWNTHERM PUMP DRAIN
- ㉕ 2ND DECK STEEL PAD DRAIN
- ㉖ REACTOR PAD DRAIN

- ㉗ CATALYST BLOWDOWN POT DRAIN
- ㉘ REACTOR PAD DRAIN
- ㉙ CATALYST BLOWDOWN POT DRAIN
- ㉚ REACTOR PAD DRAIN
- ㉛ DOWNTHERM VENT HDR. OVERFLOW
- ㉜ ACID. NEUT. PIT OVERFLOW
- ㉝ CONDENSATE STORAGE TK. OVERFLOW
- ㉞ INTERMEDIATE CRUDE TK. SIGHTGLASS DRAIN
- ㉟ " " " " " " " " " " " "
- ㊱ " " " " " " " " " " " "
- ㊲ DN FEED TANK SIGHTGLASS DRAIN
- ㊳ TRENCH
- ㊴ CONDENSATE BLOWDOWN

For Continuation See Dwg. SK-5804  
⑤ PIT RE SCRUBBER DRAIN

- SEWER CODING
- DELETE EXISTING SYSTEM
  - - - SUGGESTED SEGREGATED SYSTEM
  - ☑ CATCH BASIN (PUMP) ADDITIONS
  - ① ADDITIONAL PIPING
  - ▽ SMALLER SCRUBBER ADDITION
  - ☒ VENT SLINGER - LAB DRAIN ADDITIONS
  - ⊕ TRENCH INCLUSION
  - DIRECTION OF FLOW

**INDUSTRIAL CHEMICAL DIVISION**  
LAKE CHARLES, LOUISIANA

**EXISTING PROCESS SEWERS**  
N.W. QUADRANT

DRAWN BY: R. K. BEE DATE: 7-11-78 SCALE: 1"=50'

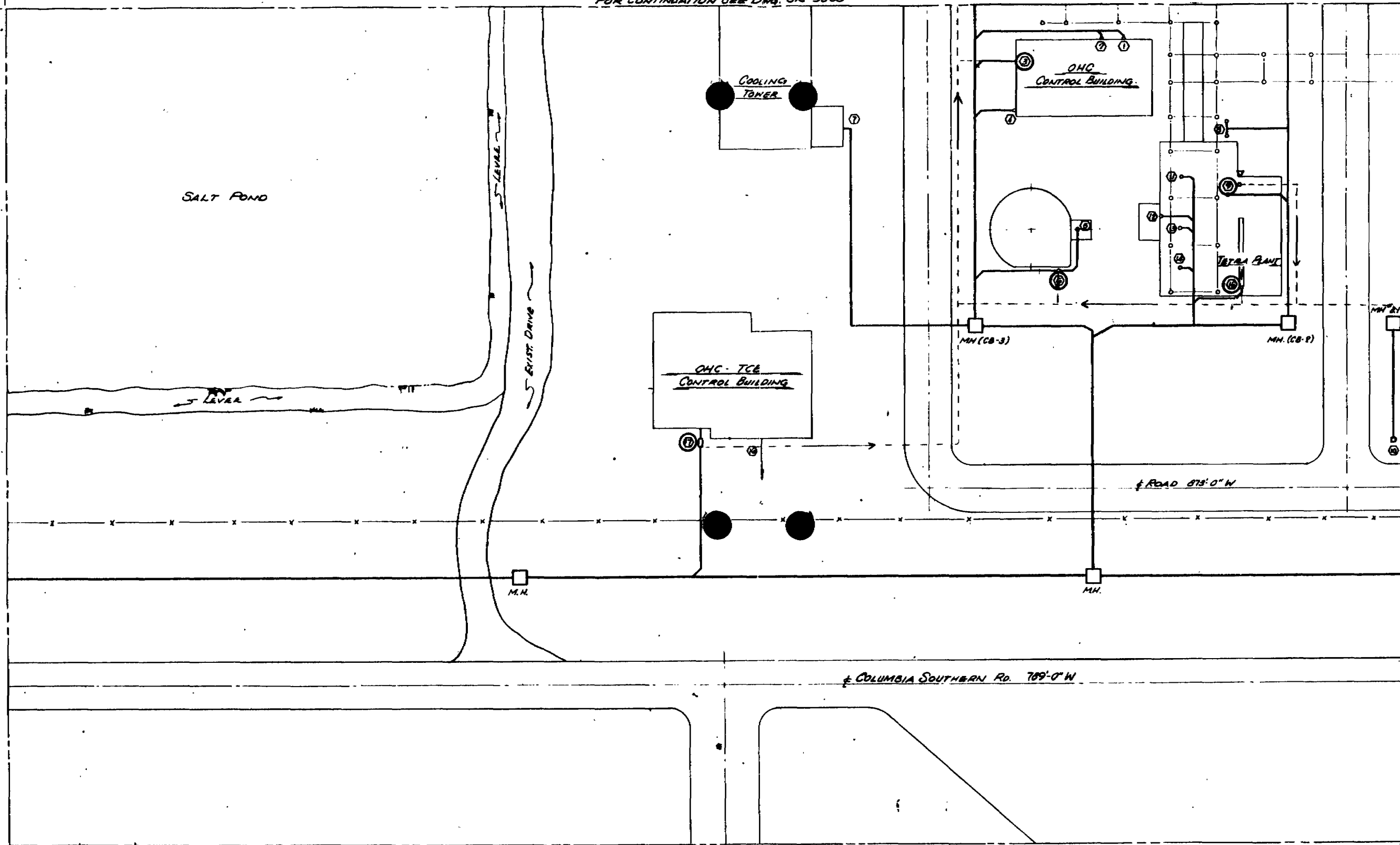
CHECKED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

APPROVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

DWG. SK - 5806A

FOR CONTINUATION SEE DWG. SK-5803

① SUGGESTED  
SEGREGATED  
SYSTEM



FOR CONTINUATION SEE DWG. SK-5805

- ① AIR CONDITIONER DRAIN
- ② ROOF DRAIN
- ③ LAB DRAIN
- ④ ROOF DRAIN
- ⑤ TCE FEED PUMP PAD DRAIN
- ⑥ COOLING TOWER TANK SCRUBBER
- ⑦ COOLING TOWER DRAIN
- ⑧ CONDENSATE DRAIN
- ⑨ HCl SCRUBBER DRAIN
- ⑩ SURFACE DRAIN
- ⑪ PAD DRAIN
- ⑫ AIBN TANK DRAIN

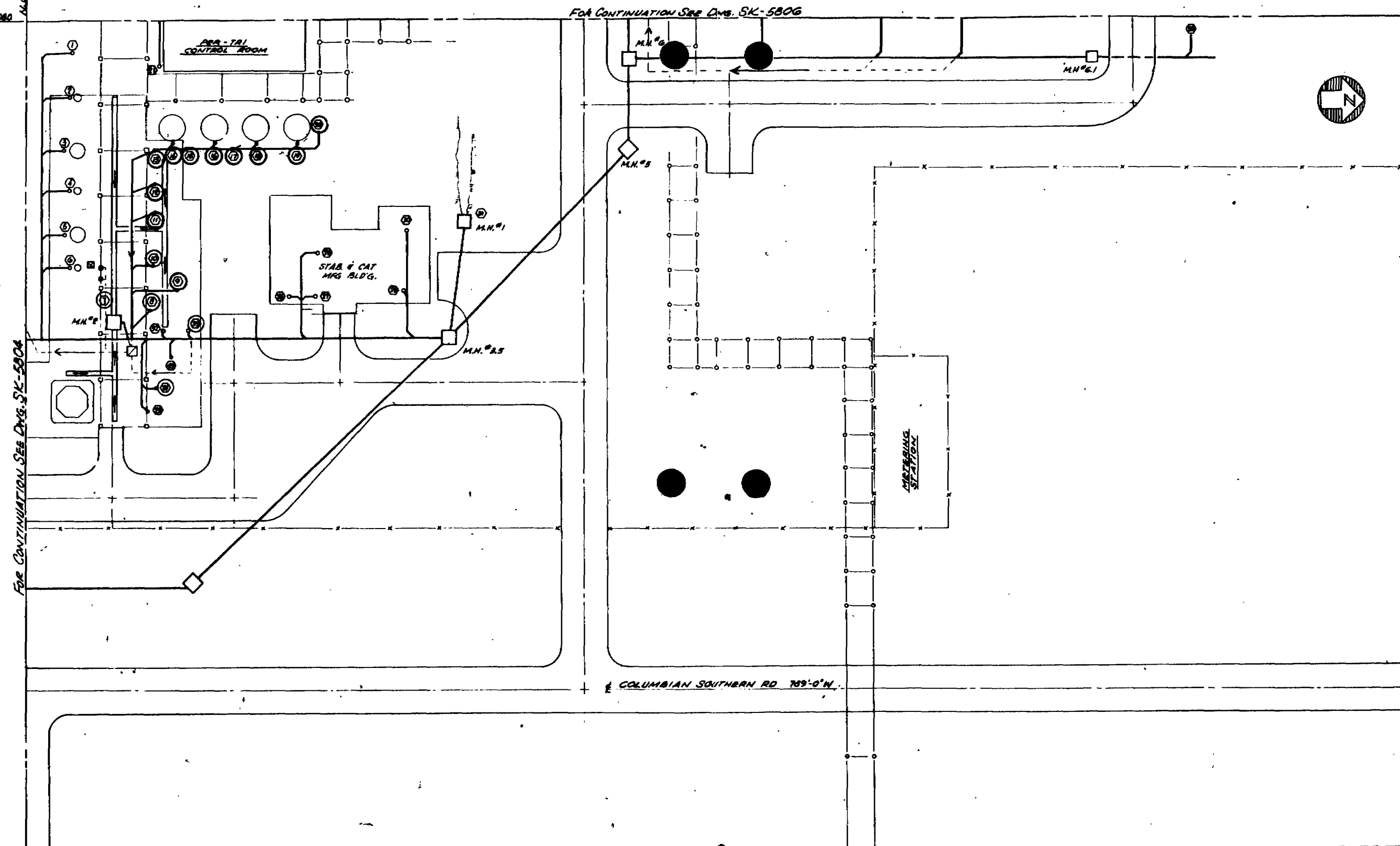
- ⑬ PAD DRAIN
- ⑭ PAD DRAIN
- ⑮ TRENCH
- ⑯ ROOF DRAIN
- ⑰ LAB DRAIN

SEWER CODING

- DELTA EXISTING SYSTEM
- - - SUGGESTED SEGREGATED SYSTEM
- ☑ CATCH BASIN (SUMPS) ADDITIONS
- ADDITIONAL PIPING
- ▽ SMALLER SCRUBBER ADDITION
- ☒ VENT SCRUBBER-LAB DRAIN ADDITIONS
- ⬡ TRENCH INCLUSION
- DIRECTION OF FLOW

|                                          |                      |
|------------------------------------------|----------------------|
| <b>INDUSTRIAL<br/>CHEMICAL DIVISION</b>  |                      |
| LAKE CHARLES, LOUISIANA                  |                      |
| EXISTING PROCESS SEWERS<br>N.W. QUADRANT |                      |
| DRAWN BY: <b>B. KOBER</b>                | DATE: <b>7-11-78</b> |
| CHECKED BY: _____                        | DATE: _____          |
| APPROVED BY: _____                       | DATE: _____          |
| DW <b>SK-5804.1</b>                      |                      |

① SUGGESTED  
SEGREGATED  
SYSTEM



SENER CODING

~~-----~~ DELETE EXISTING SYSTEM

- - - - - SUBCISTED SECUREMATED SYSTEM

☒ CATERING (SIMP. ADDITIONS)

⑦ ADDITIONAL PIPING

SMALLER SCRAAPER ADDITION

VENT SCABBER - LAB DRAIN ADDITIONS

TRENCH INCLUSION

► DIRECTION OF FLOW

→ DIRECTION OF FLOW

- ① CONDENSATE TANK OVERFLOW
- ② NO.1 PER STILL DRAIN
- ③ PER-TOL STILL DRAIN
- ④ NO.1 PER STILL DRAIN
- ⑤ NO.1 PER STILL DRAIN
- ⑥ TOPPING STILL DRAIN
- ⑦ TRENCN
- ⑧ NO.2 PER PHASE SEPARATOR OVERFLOW
- ⑨ NO.2 PER DRYER DRAIN
- ⑩ NO.1 PER DRYER DRAIN
- ⑪ NO.1 PER WASH COLUMN OVERFLOW
- ⑫ NO.2 PER WASH COLUMN OVERFLOW

- (5) NO.1 DIE PHASE SEPARATOR OVERFLOW
- (6) TANK DRAIN
- (7) PRE-TRT STILL FEED FILTERS DRAIN
- (8) TANK DRAIN, STILL LINE FEED TR. SCRUBBER
- (11) HEAVIES STILL FEED FILTER DRAIN
- (16) TANK DRAIN
- (17) TANK DRAIN
- (20) BOTTOMS STORAGE TANK SCRUBBER
- (21) AIR CONDITIONER DRAIN
- (22) TRI-NEUTRALIZER BOTTOMS PUMP PAD DRAIN
- (23) TRI-NEUTRALIZER OVERFLOW SCRUBBER DRAIN
- (24) AIR BLOWER PAD DRAIN

- (2) CONDENSATE FROM STM. TRAPS  
 (1) CONDENSATE FROM STM. TRAPS  
 (2) 22 22 22 22  
 (2) 22 22 22 22  
 22 22 22 22  
 (2) SURGE DRAIN  
 (2) COALESCE (PUMP PAD DRAIN,  
 TRI. PRODUCT DEVEYS  
 STORAGE AREA DRAIN  
 (2) PUMP PAD DRAIN

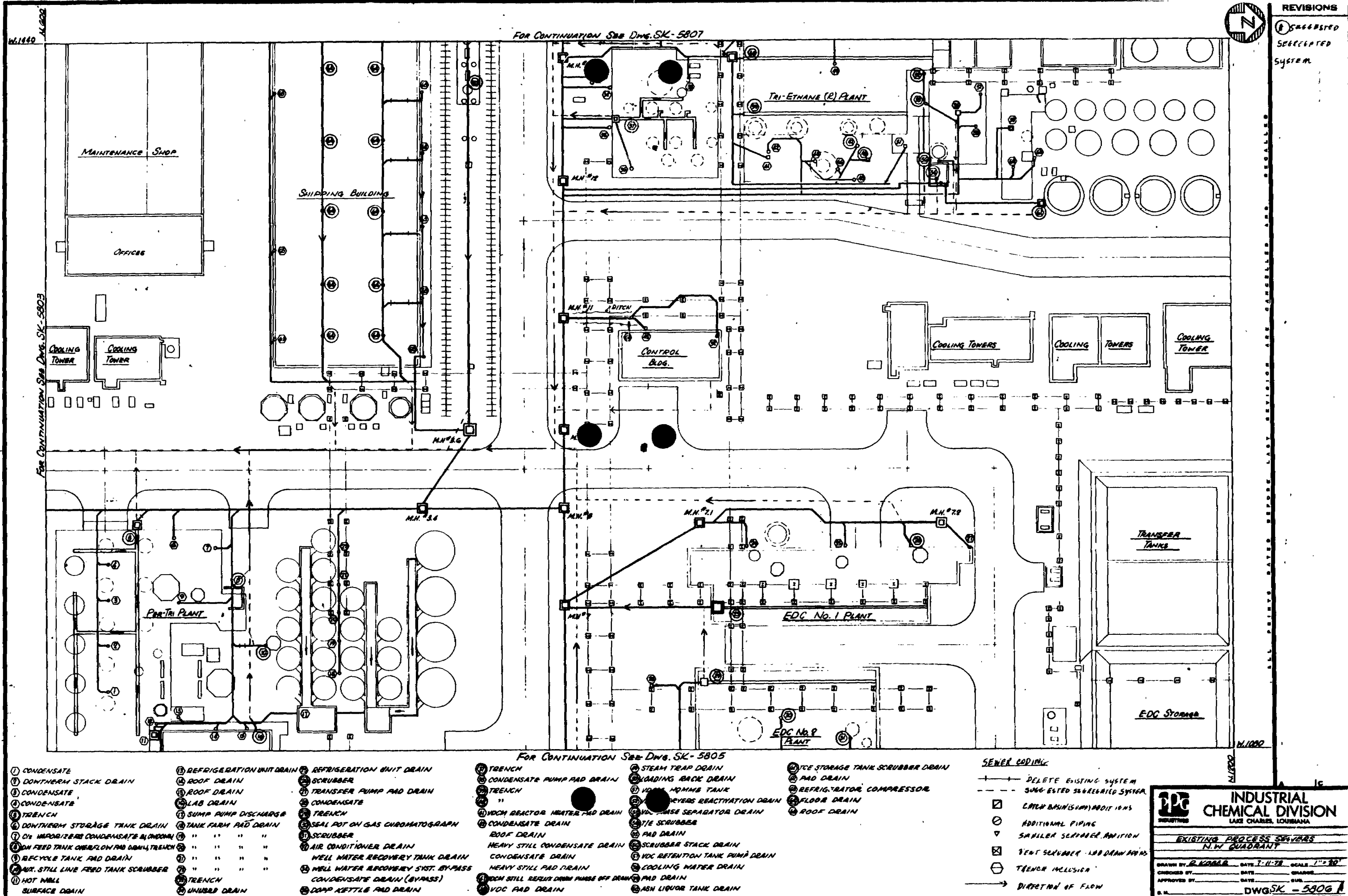


**INDUSTRIAL  
CHEMICAL DIVISION**  
LAKE CHARLES, LOUISIANA

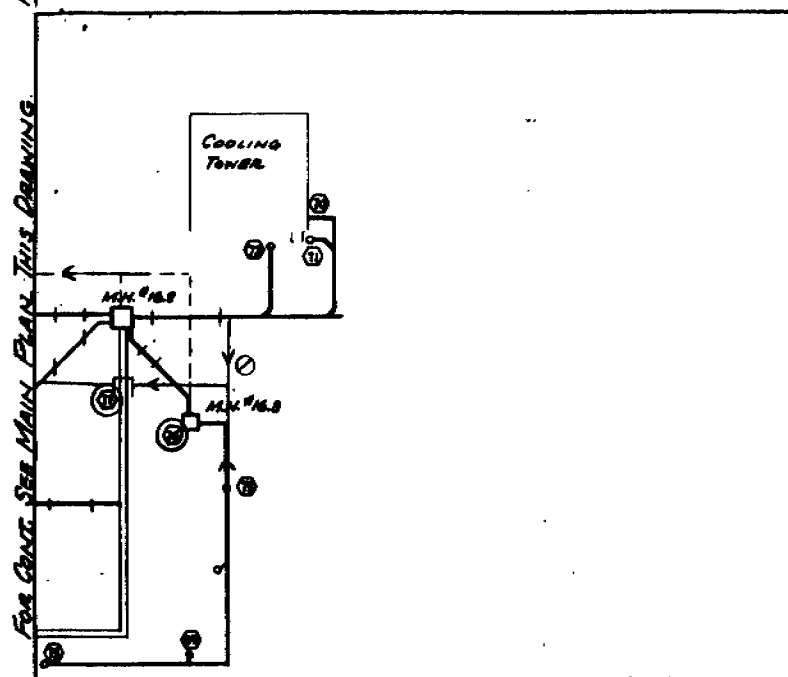
**EXISTING PROCESS SEWERS**  
**N.W. QUADRANT**

DRAWN BY R. ROUSE DATE 7-11-78 SCALE 1" = 10'  
CHECKED BY \_\_\_\_\_ DATE \_\_\_\_\_ CHANGE \_\_\_\_\_  
APPROVED BY \_\_\_\_\_ DATE \_\_\_\_\_ DES. \_\_\_\_\_  
DWG. NO. DWG 5K - 5806

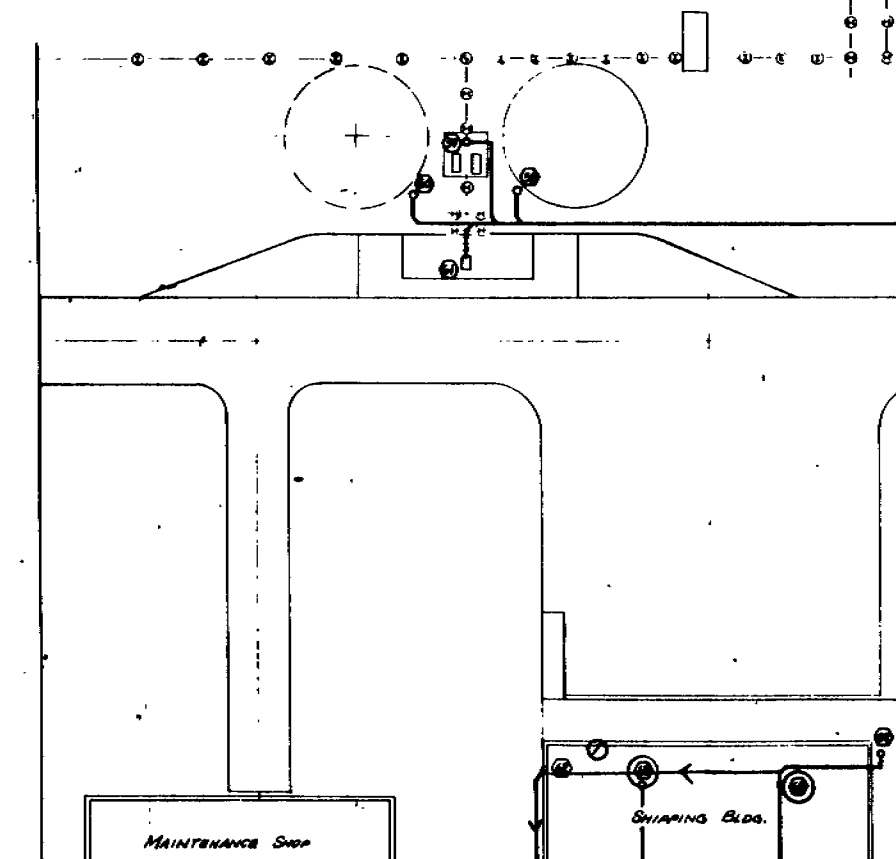
DWSK - 5805



FOR CONT. SEE MAIN PLAN THIS DRAWING



AUXILLARY PLAN "A"



- 1 CATALYST SCOOP WASH BASIN
- 2 CATALYST POT DRAIN
- 3 PAD DRAIN
- 4 HCL RUBBER DRAIN DRAIN
- 5 PAD DRAIN
- 6 HEAVY STILL FEED TANK DRAIN
- 7 AIBN PAD DRAIN
- 8 VDCM DAY TANK PUMP PAD DRAIN
- 9 DICE DRAIN
- 10 DICE DRAIN
- 11 STAB. TANKS DICE DRAIN
- 12 DRAIN WASTE

- 13 SEAL POT DRAIN
- 14 HCL SCRUBBER DRAIN
- 15 SEAL POT DRAIN
- 16 NO. 1 BURNER DRAIN
- 17 NO. 2 " " "
- 18 NO. 3 " " "
- 19 NO. 4 " " "
- 20 NO. 5 " " "
- 21 PAD DRAIN
- 22 PAD DRAIN
- 23 CONDENSATE DRAIN
- 24 SAMPLE POINT DRAIN
- 25 H<sub>2</sub> COMPRESSOR DRAIN

- 26 REFRIGERATION MACHINE DRAIN
- 27 " " "
- 28 " " "
- 29 " " "
- 30 TAIL TOWER SCRUBBER DRAIN
- 31 PUMP PAD DRAIN
- 32 LAB WASH
- 33 BOGE DRAIN
- 34 " " "
- 35 AIR CONDITIONER DRAIN
- 36 SECONDARY STRIPPER CONDENSATE DRAIN
- 37 CONDENSATE DRAIN

- 38 CONDENSATE DRAIN
- 39 " " "
- 40 DECKING SAMPLE POINT
- 41 HCL SCRUBBER DRAIN
- 42 NEUTRALIZER DRAIN
- 43 HEAVY STILL STACK SEAL
- 44 STEAM STACK CONDENSATE
- 45 CONDENSATE TANK OVERFLOW
- 46 DECKING K.O. POT DRAIN
- 47 DECKING SAMPLE POINT
- 48 " " "
- 49 STACK GAS ANALYZER

FOR CONT. SEE DWG. SK-580G

- 50 STACK GAS ANALYZER
- 51 DECKING SAMPLE POINT
- 52 " " "
- 53 STACK GAS ANALYZER
- 54 HCL COMPRESSOR COOLING H<sub>2</sub>O DRAIN
- 55 NORTH HCL RUBBER LINED TANK SCRUBBER
- 56 HCL PUMP PAD DRAIN
- 57 SOUTH HCL RUBBER LINED TANK SCRUBBER
- 58 HCL LOAD TANK SUMP
- 59 ROOF DRAIN
- 60 COOLERS, UTILITY DRAIN
- 61 REBOILER DRAIN
- 62 FLOOR DRAIN

- 63 HCL COMPRESSOR COOLING H<sub>2</sub>O DRAIN
- 64 ROOF DRAIN
- 65 " " AND HCL HEADER DRAIN
- 66 FLASHER DOPP CONDENSATE DRAIN
- 67 COOLING TOWER OVERFLOW
- 68 EXCESS AIR COMPRESSOR COOLING H<sub>2</sub>O, PRIMARY
- 69 PAD DRAIN
- 70 HEAVY STILL CONDENSATE DRAIN
- 71 PRIMARY STRIPPER CONDENSATE DRAIN
- 72 BOTTOMS DOPP CONDENSATE DRAIN
- 73 VENT BUCKOUT POT DRAIN
- 74 TRENCH
- 75 DICE DRAIN

SEWER CODING

- SOLID LINE: EXISTING SYSTEM
- DASHED LINE: SUGGESTED SEWERED SYSTEM
- SQUARE WITH X: LARVA BASIN(SUMP) ADDITIONS
- CIRCLE WITH X: ADDITIONAL PIPING
- DIAMOND: CONDENSER H.M. BYPASS
- INVERTED TRIANGLE: SMALLER SCRUBBER ADDITION
- CIRCLE WITH X: VENT SCRUBBER-LAB DRAWING'S
- CIRCLE WITH DOT: TRENCH INCLUSION
- ARROW: DIRECTION OF FLOW



INDUSTRIAL  
CHEMICAL DIVISION  
LAKE CHARLES, LOUISIANA

ORGANIC UNDERGROUND FACILITIES  
N.W. QUADRANT

DRAWN BY: R. KOSER DATE: 7-11-78 SCALE: 1"=30'-0"  
CHECKED BY: DATE: CHANGE  
APPROVED BY: DATE: CUB.  
DWG. SK-5807

FOR CONTINUATION SEE AUX. PLAN "A" THIS DWG.