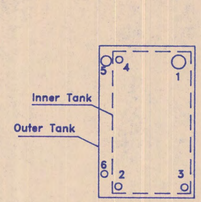
NEW FUELING STATION COMPLEX FOR

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT

AS BUILT
AUG. 92

1039 – 1 of 12



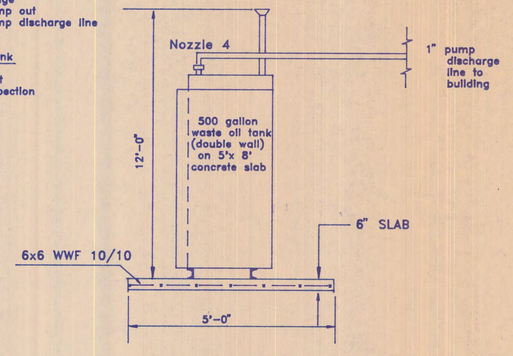
Plan View
concrete not shown

Inner Tank

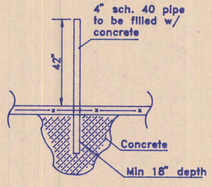
1 – vent
2 – gauge
3 – pump out
4 – pump discharge line

Outer Tank

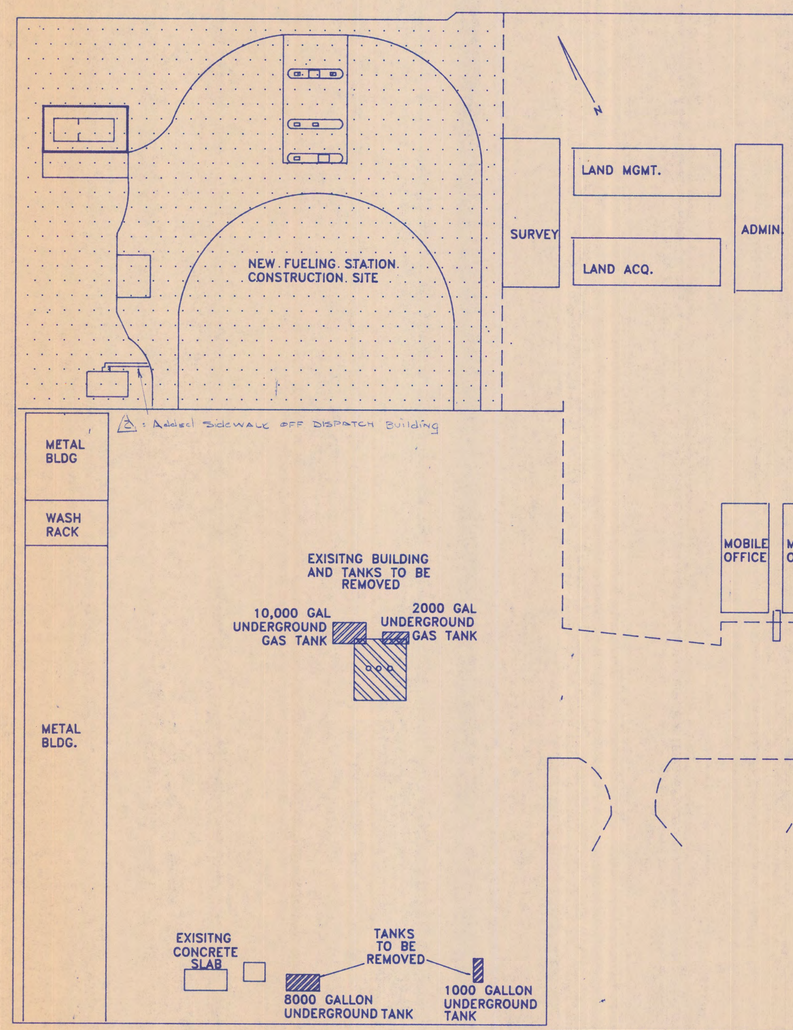
5 – vent
6 – inspection



DETAIL 1



BOLLARD DETAIL



△1 : Added Sidewalk off Dispatch Building

△2 : Revision : New A/C Tank relocated to corner of building

REFERENCE DRAWINGS : NEW FUELING STATION

GP-100-1 : FUELING STATION SITE PLAN
GP-100-2 : TOPOGRAPHY & RETENTION POND
P-100-1 : TANK & CANOPY PIPING PLAN
G-100-2 : DISPATCH BUILDING& ELECTRICAL
G-100-3 : CONTAINMENT AREA
G-100-4 : SERVICE ISLAND CONCRETE

E-100-1 : ELECTRICAL PLAN
FSP-100-1 : FIRE SUPPRESSION SYSTEM
WS-100-1 : CAR WASH SYSTEM
D-100-1 : TANK PLATFORM
ORANGE STATE IND. INC. – CANOPY DRWG.

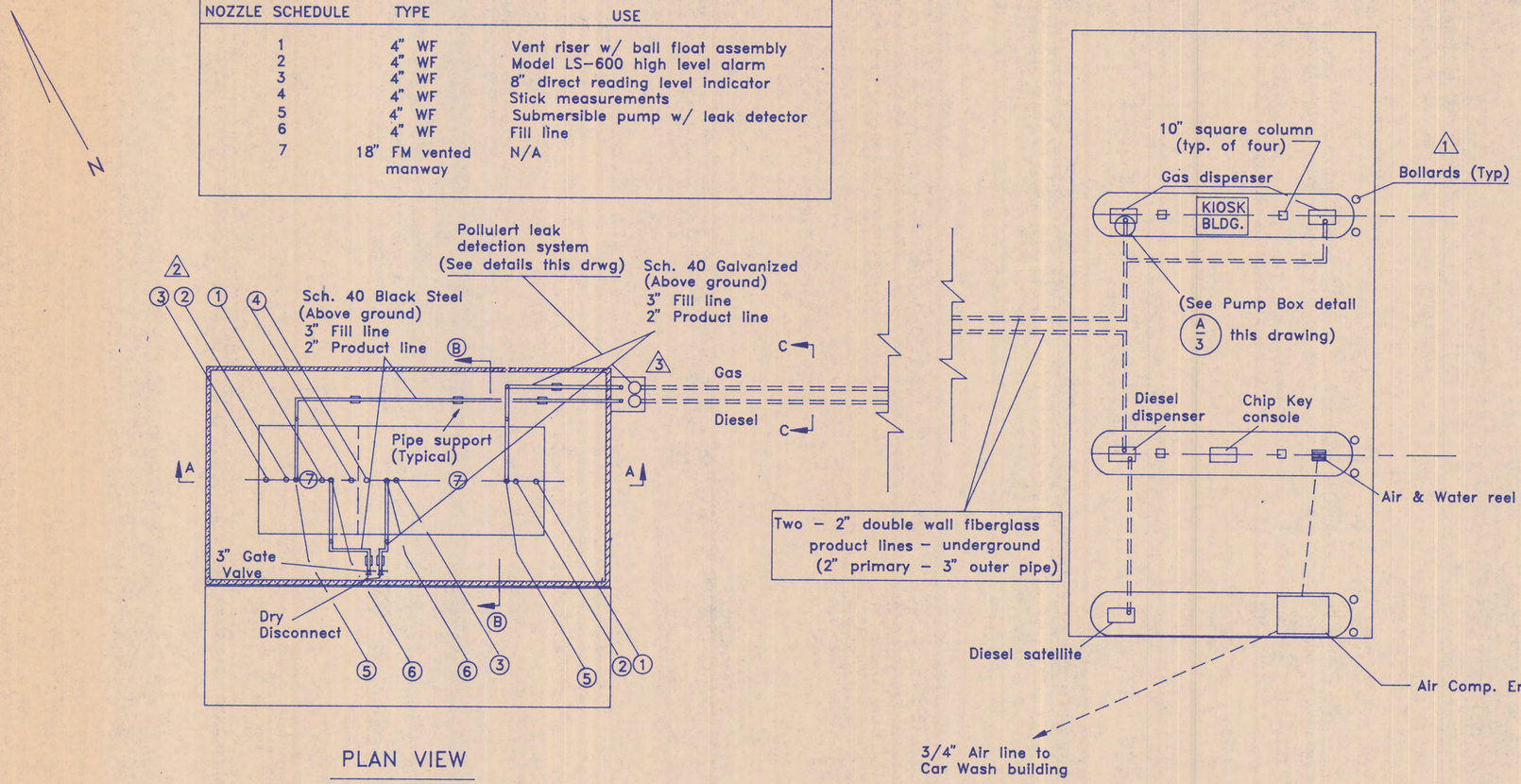
AMERICAN PETROLEUM SERVICE

LAIDLAW ENVIRONMENTAL SERVICE

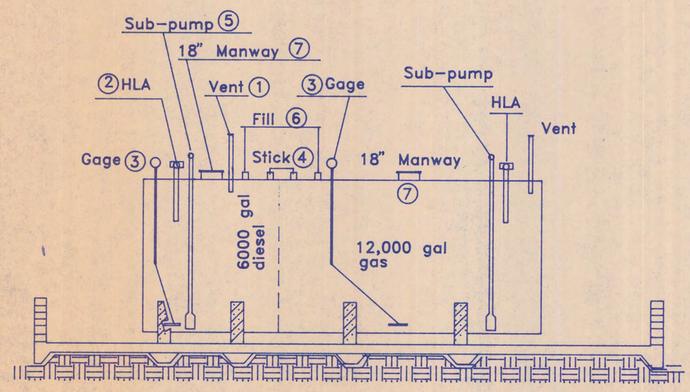
SITE PLAN
NEW FUELING STATION – S.W.F.W.M.D.

SCALE	NTS	DRAWN RER	6/7/91
PROJECT NO.	P.N. 100	CHECKED	
FILE NO.	100-591	DWG. NO.	100-SP-1

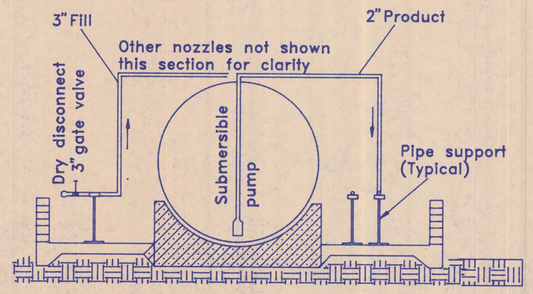
NOZZLE SCHEDULE	TYPE	USE
1	4" WF	Vent riser w/ ball float assembly
2	4" WF	Model LS-600 high level alarm
3	4" WF	8" direct reading level indicator
4	4" WF	Stick measurements
5	4" WF	Submersible pump w/ leak detector
6	4" WF	Fill line
7	18" FM vented manway	N/A



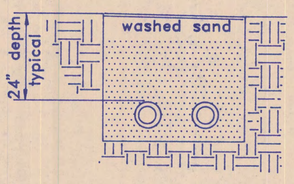
PLAN VIEW



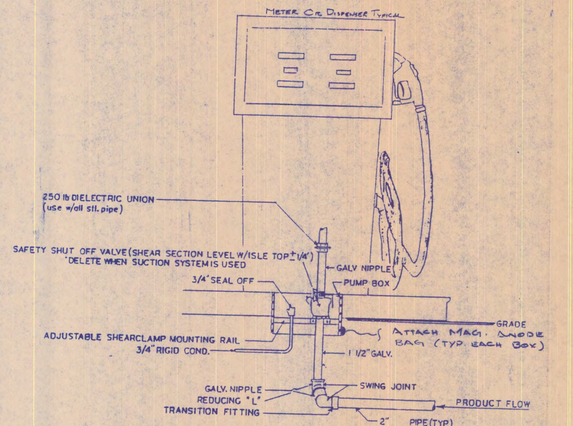
SECTION A-A



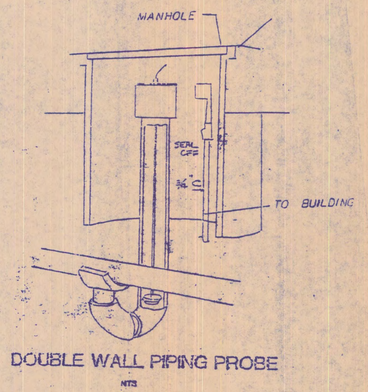
SECTION B-B



SECTION C-C



A/3 PUMP BOX SECTION



DOUBLE WALL PIPING PROBE
NTS

POLLULERT LEAK DETAIL

All piping and workmanship shall conform to local regulations and the latest revision of the API standard.

All work to conform to the latest NFPA-30 specifications.

NO.	REVISION	DATE	NO.	REVISION
1	Added bollards on North side of each fueling island		3	Relocated Pollulert leak detection system and product lines.
2	Switched vent and level indicator on diesel portion of storage tank.			

AMERICAN PETROLEUM SERVICE

LAIDLAW ENVIRONMENTAL SERVICE

PIPING PLAN
NEW FUELING STATION - S.W.F.W.M.D.

SCALE	NOT TO SCALE	DRAWN RER	5/30/91
PROJECT NO.	P.N. 100	CHECKED	
FILE NO.	100-591	DWG. NO.	P-100-1

CURVE NO.	△	D	R	T	L
1	57°22'15"	229.18	25'	12	25
2	37°19'33"	229.18	25'	8	16.3
3	43°36'27"	163.70	35'	13	26.5
4	71°33'06"	88.15	65'	38	81.2
5	80°28'22"	88.15	65'	55	91.3
6	165°43'19"	88.15	65'	519	188'

67.7 X X 67.8 X X 68.3 X X 68.7 X X 68.9

pt pc

* 69.3 69.3 * 30'-0"

Concrete slab under canopy

18'-0"

Bollard protection (Typ of each island)

4" PVC

3'x5' pre-fab KIOSK bldg.

Asphalt surface (Typical)

24'-0"

Typ. 4'wide island

Air & Water Reel

69.0 69.7 TYPICAL 69.0

18'-0"

10'-0"

* 69.1 Concrete slab 69.1 *

18,000 gal. DUEL COMPARTMENT ABOVE GROUND STEEL TANK

pc pt Sta. 1+61 * 69.1

pc Sta.

Concrete drive

* 68.9 68.9 * Sta. 1+23 * 68.9

New 1" PVC water line

8" PVC

Relocate sewer line as shown

Sta. 3+63 pt 69.2 *

EXISTING SURVEY BUILDING

A A

* 68.8 * 68.8

Plum Cherry BLEND Tiswood

68.7 * 68.9

Existing 21" BCCMP

Column drainage to retention pond 8" PVC ⚠1

Sta. 0+95 * 68.8

line as shown

Concrete Ramp

* 69.2 Car wash station * 69.2

Concrete Ramp

Relocate sewer

Headwall (concrete)

63.97 invert

Tiswood Tiswood Tiswood Tiswood

Property Line

65' radius

64.31 invert

Sta. 0+58 pt * 68.7 Sta. 0+48 68.6 *

Existing 6" PVC

Retention Area (Reference Drwg. GP-100-2)

Sta. 2+36 68.8 *

EXISTING LIFT STATION

UNDERGROUND PHONE CABLE

pc pt * 68.7 Sta. 0+42

Blend to existing asphalt

63.32 invert

28'-6"

Dispatch Building Slab 69.0 pc Sta. 0+17

62.74 invert

12' WIDE ASPHALT DRIVE

12' WIDE ASPHALT DRIVE

10'-0" 62'-0" 68.1

X Existing Fence * 68.6 Sta. 0+00

67.9 67.9 68.3 68.5 68.6 68.8 68.7 * 69.0 Sta. 4+88 68.7 X

Sta. 2+81 (inside)

EXISTING METAL BUILDING

Existing 18" CMP Existing 18" CMP

6" 1-1/2" Asphalt

8" Compacted limerock (4" layers)

Virgin soil – Test to assure 95% compaction –

SECTION A–A

TYPICAL ASPHALT SECTION

CONSTRUCTION SPECIFICATIONS

A) Grading and Earthmoving

Embankments shall be constructed of materials containing no muck, stumps, roots, brush, vegetable matter, rubbish or other material that will not compact into a suitable roadbed.

Grading tolerances: Areas to be graded shall be brought to within 0.1' of the accepted elevation after necessary allowance has been made for finishes such as topsoil, paving, etc.

Selected materials for grading shall be placed in layers not exceeding 4". Each layer shall be spread evenly and compacted to within 95% of max density.

B) PAVING AND RELATED WORK

The materials used for stabilizing shall consist of suitable roadway materials, such as local sandy clay, limerock, or limerock screenings.

Limerock used for base construction and construction methods shall meet D.O.T. requirements. Limerock shall be 8" thick, placed in 4" layers and compacted to 95%.

The asphalt surface shall be equivalent to D.O.T. type S-1 modified to reduce the maximum aggregate size to 1/2" size or less. Construction method and testing shall meet D.O.T. standards. Asphalt shall be 1-1/2" thick.

C) GENERAL ARRANGEMENTS AND LAYOUT

Painting traffic stripes shall be in accordance with Florida D.O.T. specifications.

Existing elevations used to design site layout were taken off drawing no. 1-SITE-013 provided by S.W.F.W.M.D.

TREE LEGEND

▽ OAK

○ PINE (U.O.N.)

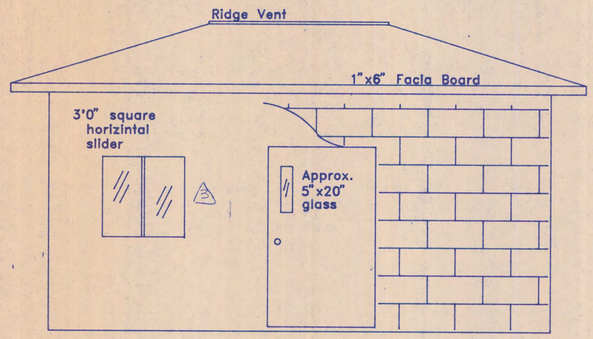
NO.	REFERENCE DRAWINGS	DATE	REVISION
		June 92	⚠1 Added column drainage pipe
		Aug 92	⚠2 Revised entrance

AMERICAN PETROLEUM SERVICE

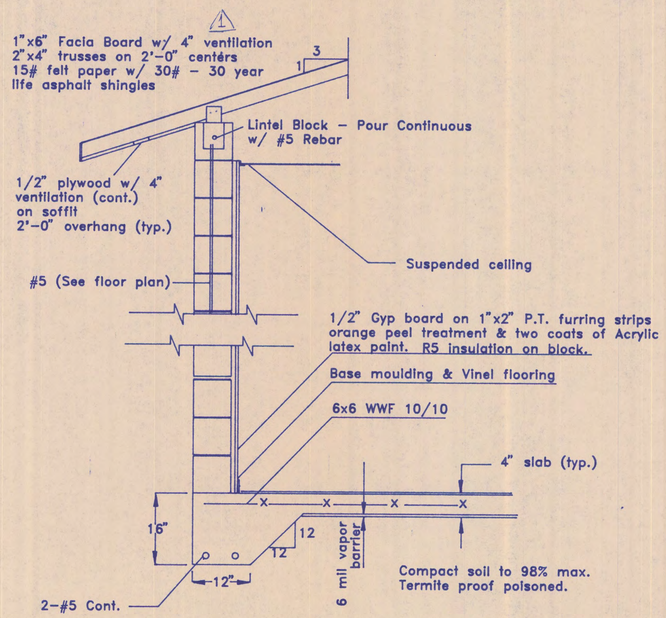
LAIDLAW ENVIRONMENTAL SERVICE

FUELING STATION SITE PLAN
NEW FUELING STATION – S.W.F.W.M.D.

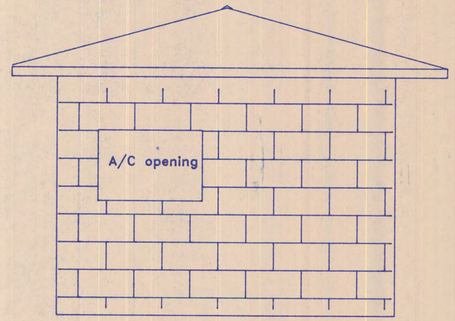
SCALE	1"=10'	DRAWN	RER 5/15/91
PROJECT NO.	P.N. 100	CHECKED	
FILE NO.	100-591	DWG. NO.	GP-100-1



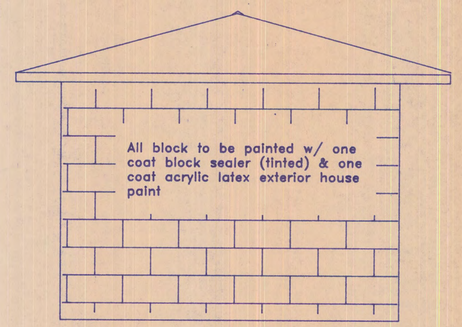
NORTH ELEVATION



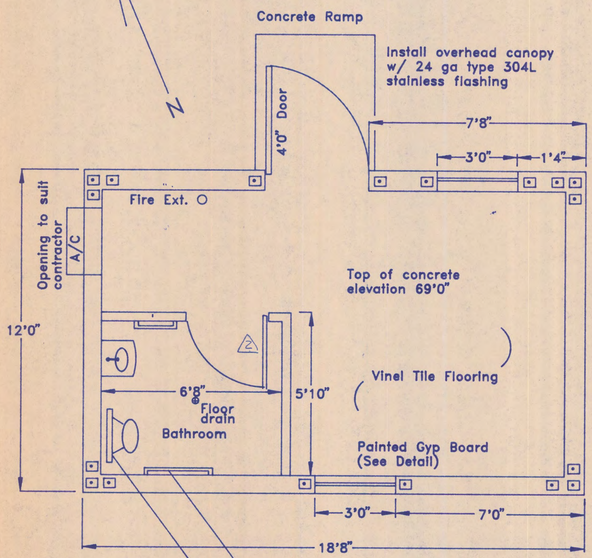
SECTION A-A



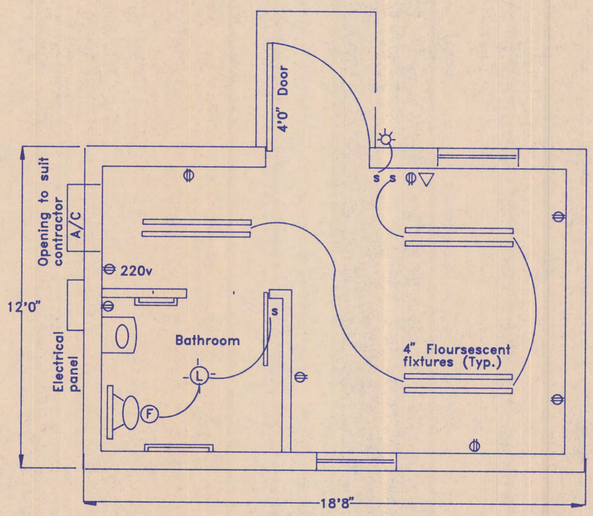
EAST ELEVATION



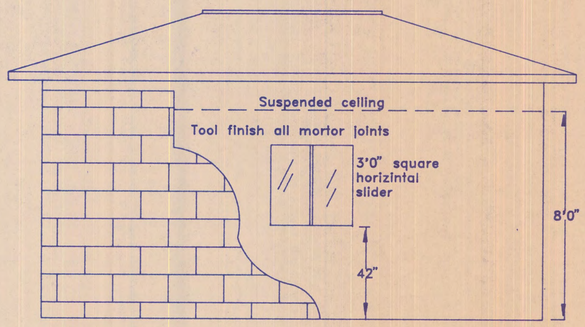
WEST ELEVATION



FLOOR PLAN



ELECTRICAL PLAN



SOUTH ELEVATION

NO.	REFERENCE DRAWINGS	DATE	REVISION
		July 96	CHANGED ROOF DESIGN TO SHINGLED HIP - ROOF (REVISIONS TO SECTION A-A) 1
		July 96	REMOVED TOILET DOOR & BATH ROOM 2
		July 96	CHANGED WINDOW LOCATION ON NORTH ELEVATION 3

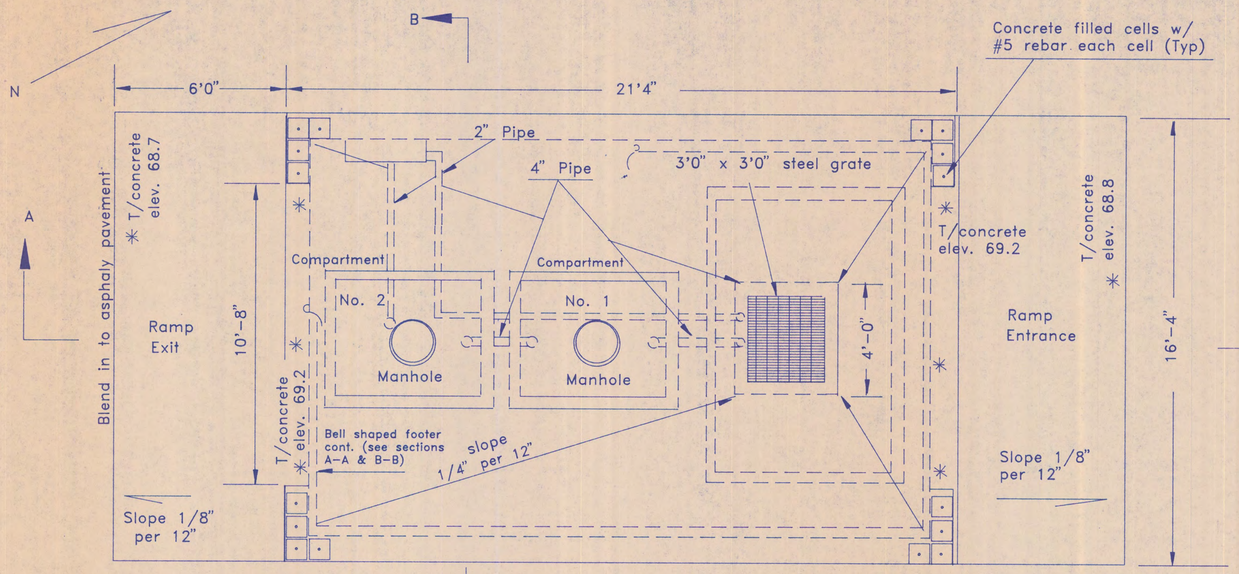
AMERICAN PETROLEUM SERVICES

LAIDLAW ENVIRONMENTAL SERVICES

DISPATCH BUILDING

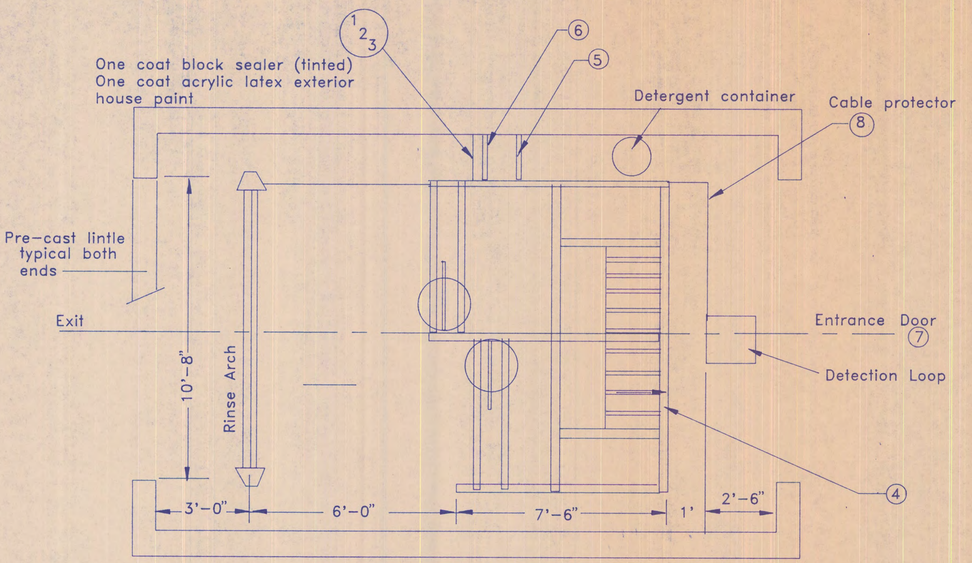
NEW FUELING STATION - S.W.F.W.M.D.

SCALE	NTS	DRAWN	RER 6/10/91
PROJECT NO.	PN 100	CHECKED	
FILE NO.	100-591	DWG. NO.	G-100-2

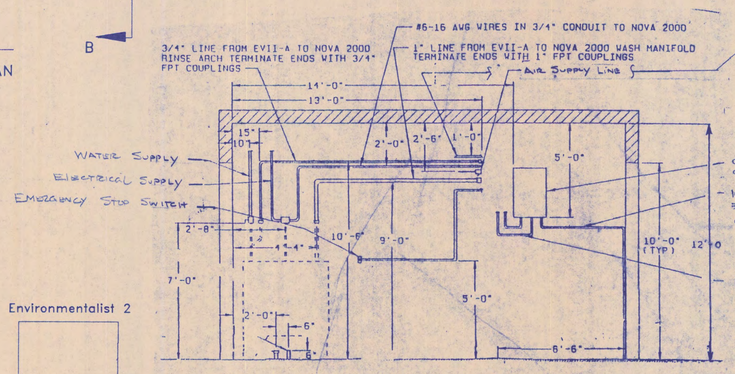


PLAN VIEW

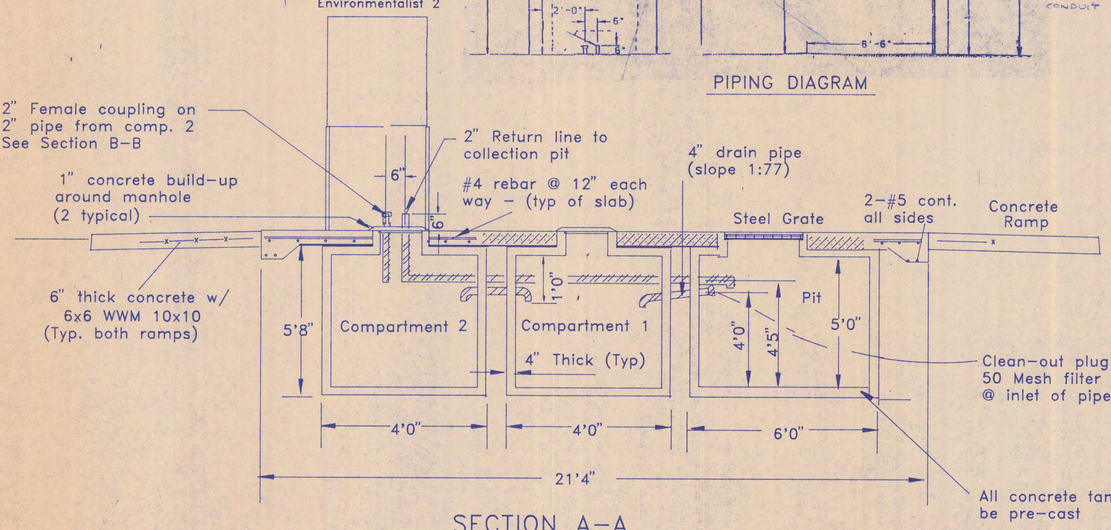
AND FOUNDATION PLAN



TYPICAL INSTALLATION

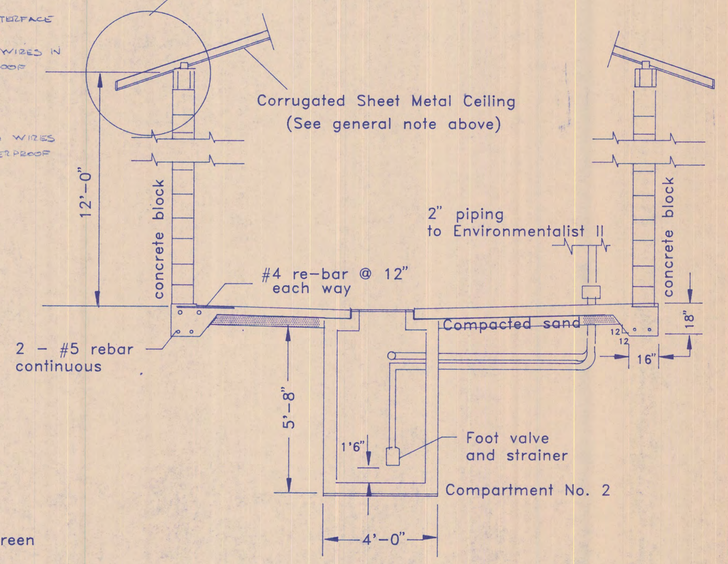


PIPING DIAGRAM



SECTION A-A

1 See Drwg. G-100-2 for Roof Details Dispatch Building and Car Wash Station to be the same with the exception of corrugated ceiling



SECTION B-B

General Notes

* All construction to meet applicable local codes.
* All conduit to enter the sides or bottom of boxes.
* 500 Gallon tanks for locations with a max. carwash volume of less than 45 cars per hour.

2, 3, & 6 :
Air supply line, 1/4" minimum with shut off valve & 3/8" O.D. tubing fittings. Air requirements: 5 SCFM @ 80 PSI min. 150 PSI max.

Water supply line, 1" I.D. min. terminate with shut-off valve and 1" hose barb. Water requirements: 15 GPM @ 25 PSI.

3/8" Black Poly tubing from air filter on the NOVA 2000. Connect to air supply.

4:
Level machine before anchoring to floor. Shim under feet as required. Use 1/2" dia. anchor bolts--typ. 8 places.

5:
Electric power shall be in watertight conduit.

6:
1" water hose. Connect to water supply and water inlet manifold.

9:
Door opening--10'-8"

11:
Place detection loop cable inside cable protector and route to low voltage panel in waterproof conduit. DO NOT splice cable. See manufacturers field wiring diagram.

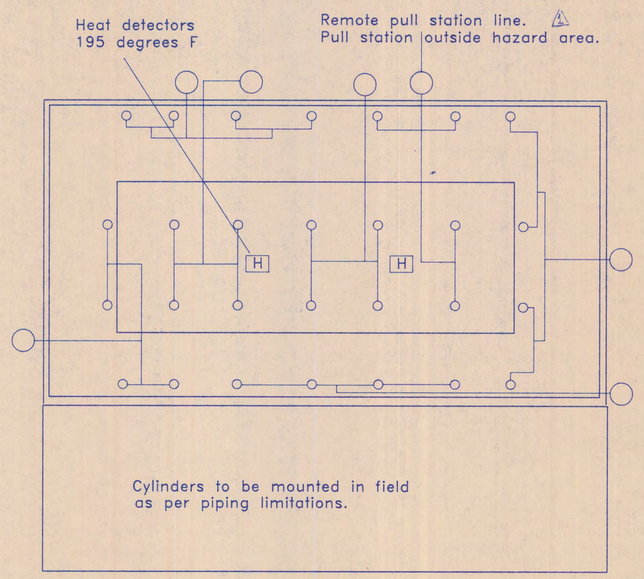
NO.	REFERENCE ONLY	DATE	REVISION
		6/14/92	Roofing Plan - See Drwg G-100-2 ⚠1

AMERICAN PETROLEUM SERVICE

LAIDLAW ENVIRONMENTAL SERVICE

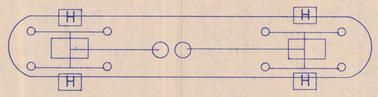
RYKO WASH STATION DETAILS
NEW FUELING STATION - S.W.F.W.M.D.

SCALE	NOT TO SCALE	DRAWN RER	5/29/91
PROJECT NO.	P.N. 100	CHECKED	
FILE NO.	100-591	DWG. NO.	WS-100-1



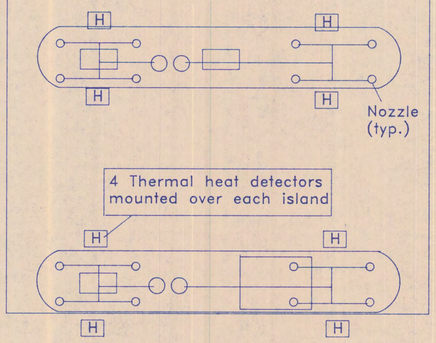
TANK FIRE PROTECTION

MAIN ISLAND FIRE PROTECTION
PCG-45 SYSTEM



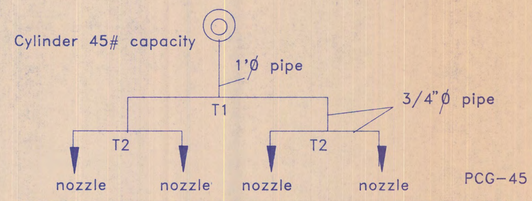
Pneumatic release, electric remote pull, solenoid monitor, and micro switch located in dispatchers office. 1/4" nitrogen gas line and electrical wiring pull together thru 3/4" ridged conduit to dispatchers office to each control head and electric heat detector.

Cylinders to be mounted in field per piping limitations.



CANOPY FIRE PROTECTION

Notes: The PCG-45 must always use four nozzles
1/2" is equivalent to a 45 elbow
Two 45 elbows are equivalent to one 90 elbow
System piping must be balanced. Balanced piping is that in which length of pipe from the cylinder to each nozzle is equal to within 10% of the longest pipe length.



PCG-45 SYSTEM PIPING LIMITATIONS

SECTION	MAX. LENGTH	MAX. ELBOWS	MIN. LENGTH	MIN. ELBOWS	TEE ALLOWED	PIPE DIAMETER
Cyl to T1	24'	4	3'	1	1	1"
T1 to T2	10	2	1'	0	1	3/4"
T2 to nozzle	6'	3 1/2	1'	0	0	3/4"

GENERAL NOTES:

1) System shall be installed per NFPA 17, 1985 and the manufacturers installation manual
2) 110 volt dedicated circuit w/ 24 hour emergency power and control wiring to shut down the pumps shall be provided to the control box.
3) Consult manufacturer before installation of system.
4) The PAC 10 and solenoid monitor shall be mounted inside a control box.
5) All piping shall be installed above the canopy. Penetrations in the canopy shall be sealed w/ silicone caulk.
5) Conduit shall be rigid. All boxes shall be watertight.
6) Pneumatic lines shall be run in EMT conduit.

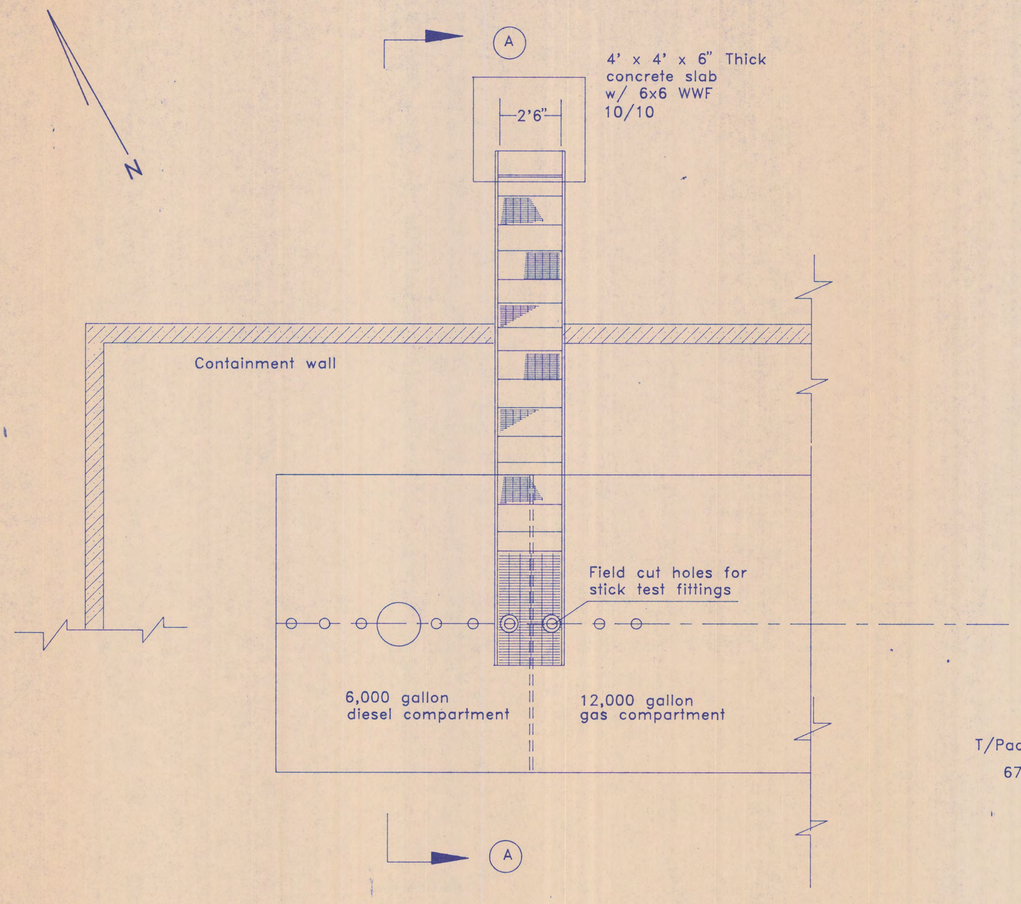
⚠ Relocated Remote Pull Stations

AMERICAN PETROLEUM SERVICE

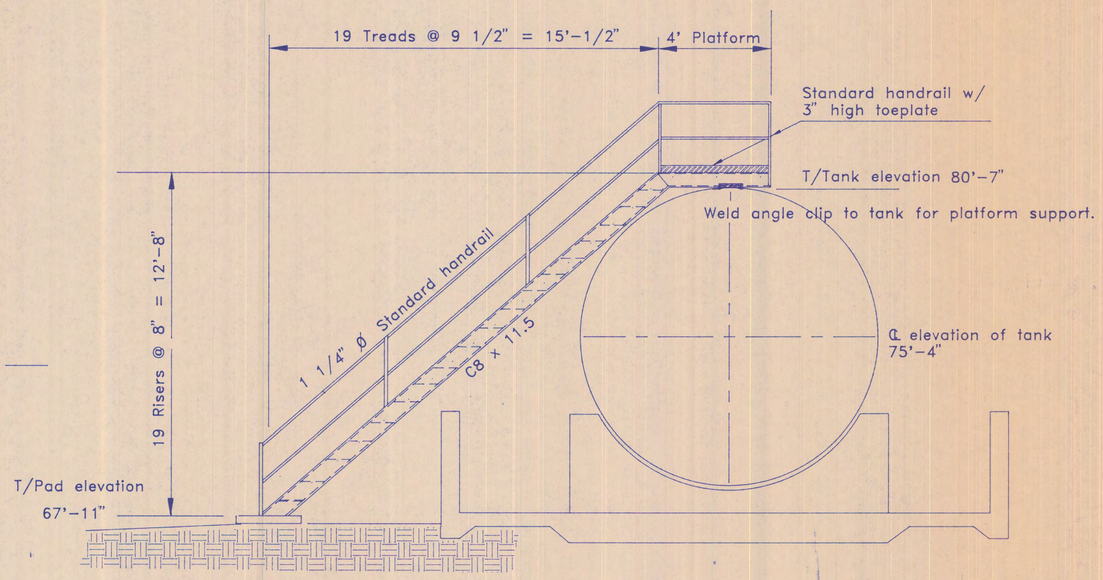
LAIDLAW ENVIRONMENTAL SERVICE

FIRE SUPPRESSION SYSTEM
NEW FUELING STATION - S.W.F.W.M.D.

SCALE	NTS	DRAWN	RER	6/2/91
PROJECT NO.	P.N. 100	CHECKED		
FILE NO.	100-591	DWG. NO.	FSP-100-1	



PLAN VIEW



SECTION A-A

General notes:

1) All steel to be A-36 steel
2) All workmanship to be in accordance with OSHA regulations
3) Angle clips to be welded to tank for platform support
   - DO NOT weld platform to tank -
4) All steel to be primed and painted with a suitable steel coating.
   (Alkyd, Water Reducible, or Epoxy)

NO.	REFERENCE DRAWINGS	DATE	REVISION
		July 92	Revised Section A-A

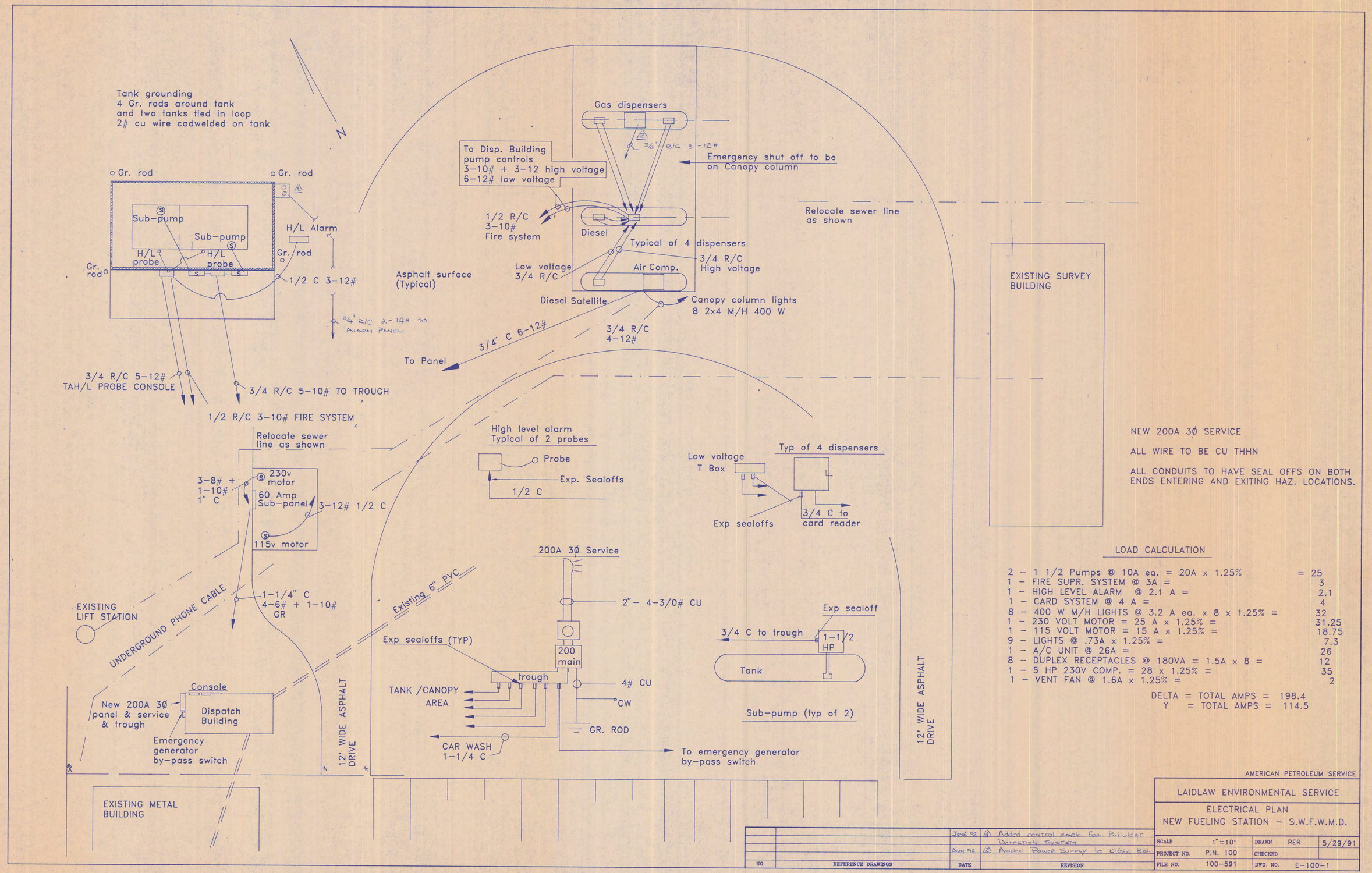
AS-BUILTS AUG. 92

AMERICAN PETROLEUM SERVICE

LAIDLAW ENVIRONMENTAL SERVICE

TANK PLATFORM DETAILS
NEW FUELING STATION - S.W.F.W.M.D.

SCALE	NOT TO SCALE	DRAWN	RER 6/3/91
PROJECT NO.	P.N. 100	CHECKED	
FILE NO.	100-591	DWG. NO.	D-100-1



NEW 200A 3Ø SERVICE

ALL WIRE TO BE CU THHN

ALL CONDUITS TO HAVE SEAL OFFS ON BOTH ENDS ENTERING AND EXITING HAZ. LOCATIONS.

LOAD CALCULATION

2	1 1/2 Pumps @ 10A ea. = 20A x 1.25%	= 25
1	FIRE SUPR. SYSTEM @ 3A =	3
1	HIGH LEVEL ALARM @ 2.1 A =	2.1
1	CARD SYSTEM @ 4 A =	4
8	400 W M/H LIGHTS @ 3.2 A ea. x 8 x 1.25% =	32
1	230 VOLT MOTOR = 25 A x 1.25% =	31.25
1	115 VOLT MOTOR = 15 A x 1.25% =	18.75
9	LIGHTS @ .73A x 1.25% =	7.3
1	A/C UNIT @ 26A =	26
8	DUPLEX RECEPTACLES @ 180VA = 1.5A x 8 =	12
1	5 HP 230V COMP. = 28 x 1.25% =	35
1	VENT FAN @ 1.6A x 1.25% =	2

DELTA = TOTAL AMPS = 198.4
Y = TOTAL AMPS = 114.5

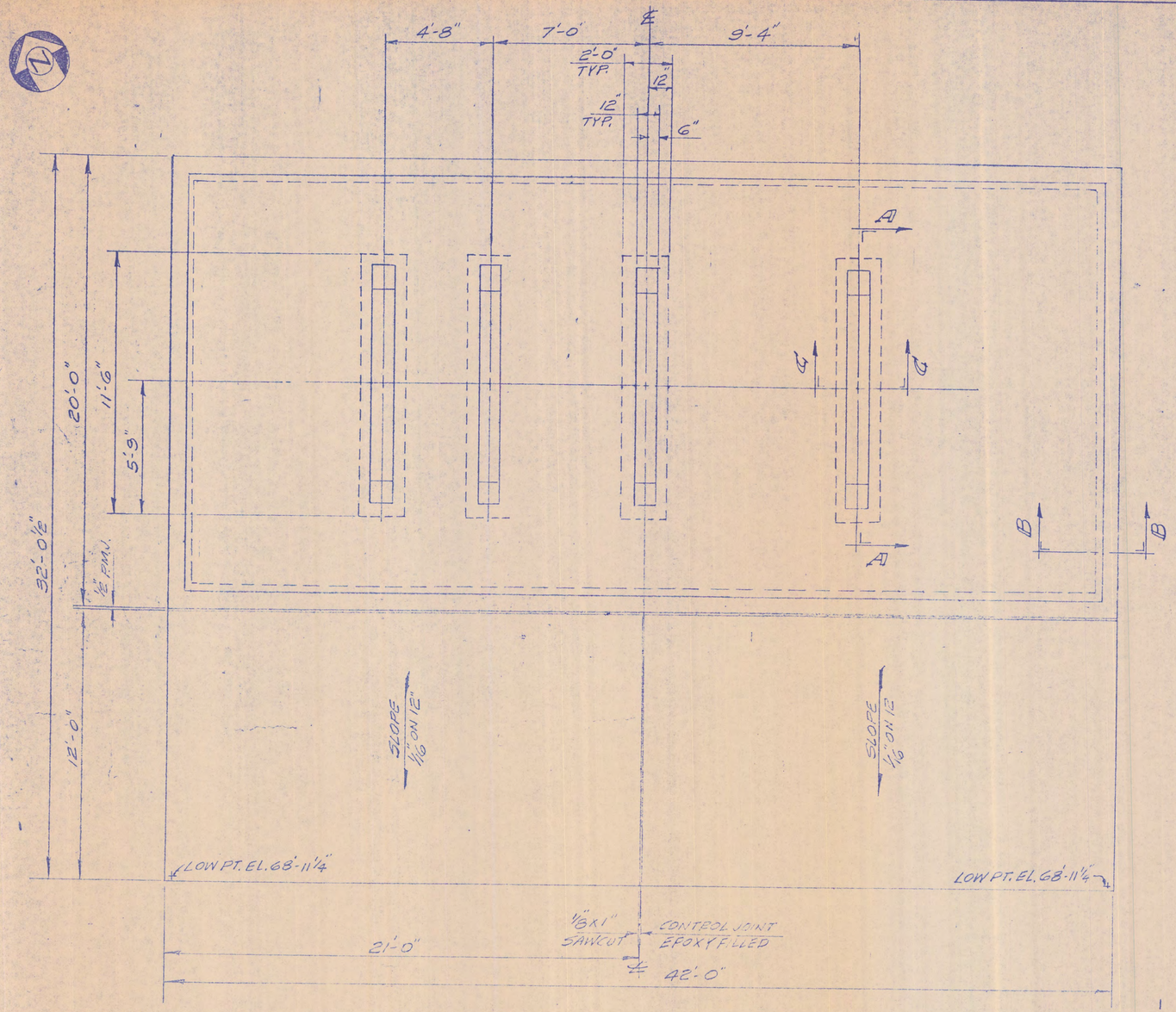
AMERICAN PETROLEUM SERVICE

LAIDLAW ENVIRONMENTAL SERVICE

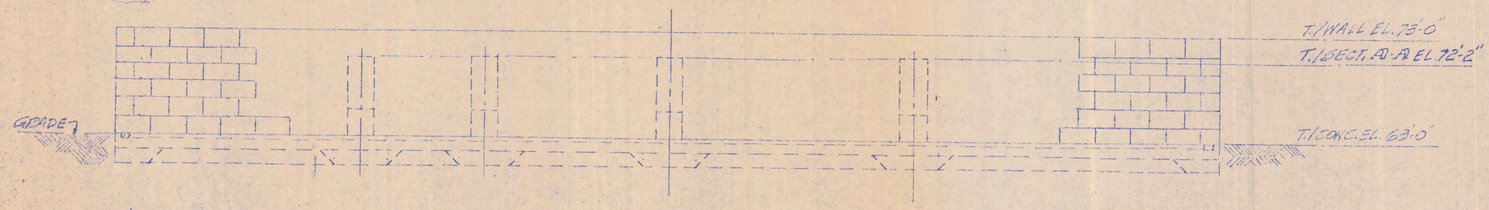
ELECTRICAL PLAN
NEW FUELING STATION – S.W.F.W.M.D.

NO.	REFERENCE DRAWINGS	DATE	REVISION
		June 92	1 Added control cable for Pollutant Detection System
		Aug 92	2 Added Power Supply to Kiosk Bld.

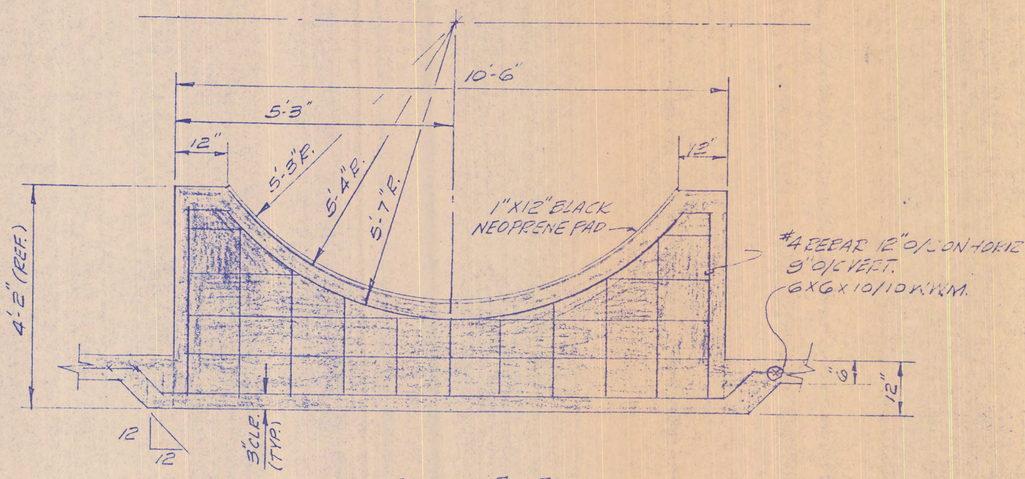
SCALE	1"=10'	DRAWN RER	5/29/91
PROJECT NO.	P.N. 100	CHECKED	
FILE NO.	100-591	DWG. NO.	E-100-1



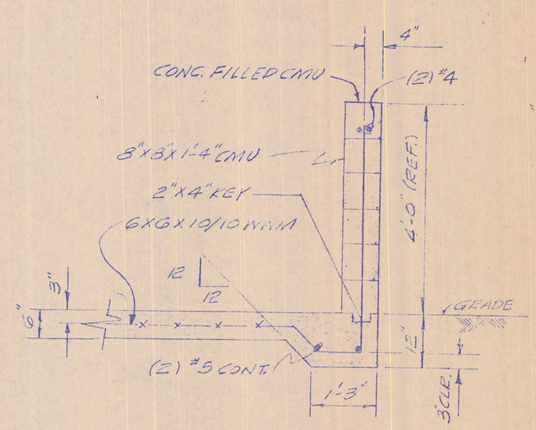
PLAN



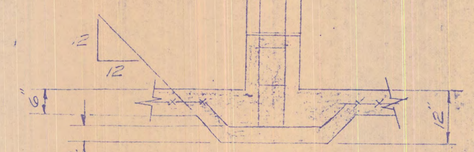
SOUTH ELEVATION



SECTION A-A
TYPICAL 4 PLACES
SCALE- 3/4"=1'-0"



SECTION B-B
TYP. ALL AROUND 4 SIDES
SCALE- 3/4"=1'-0"



SECTION C-C
TYP. 4 PLACES
SCALE- 3/4"=1'-0"

GENERAL NOTES

1. ALL CONCRETE SHALL BE 3000 P.S.I. COMPRESSIVE STRENGTH @ 28 DAYS.
2. ALL REINFORCING BARS BILLET STEEL DEFORMED CONFORM TO ASTM A615.
3. WIRE FABRIC CONFORMS TO ASTM A-185, ELECTRIC WELDED.
4. ALL INSIDE SURFACES OF CONTAINMENT AREA TO BE COATED WITH 15 MIL THK. IMPERVIOUS EPOXY.

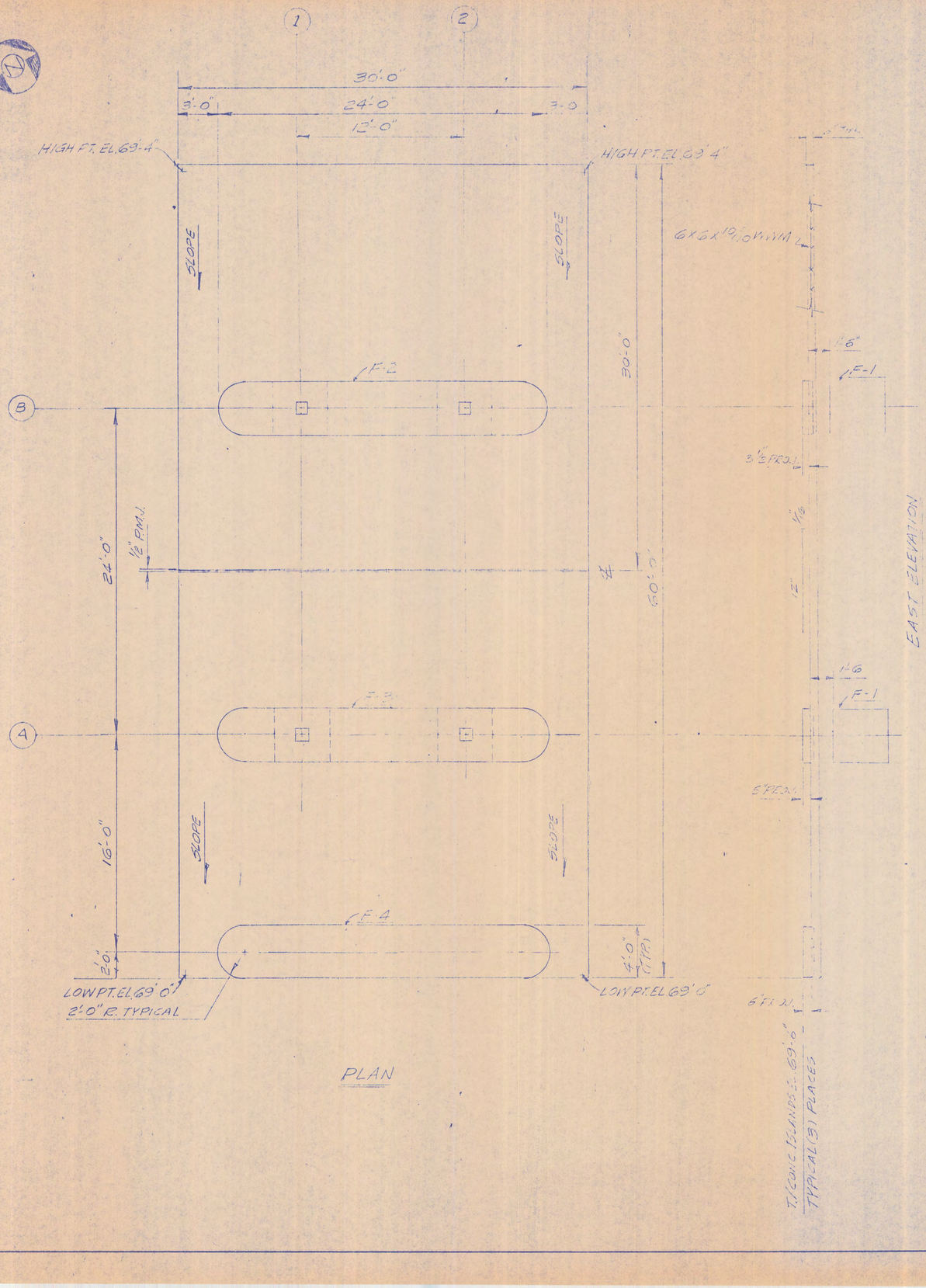
AMERICAN PETROLEUM SERVICE

LAIDLAW ENVIRONMENTAL SERVICE

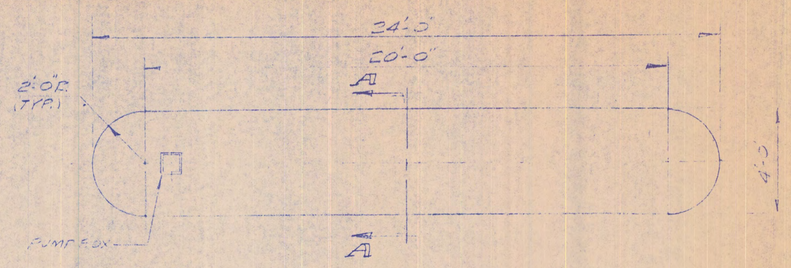
SCALE 3/32"=1'-0"	APPROVED BY	DRAWN BY JRC
DATE 5-21-91		REVISED

CONTAINMENT AREA FOR 18000 GALLON DUAL STORAGE TANK-PLAN, ELEVATION & SECTIONS

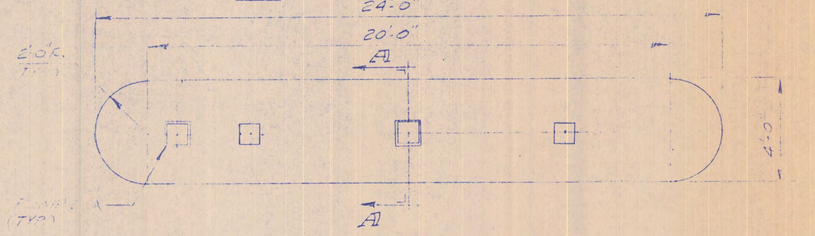
PROJECT NO. P-[illegible]00 | FILE NO.-100-593 | DRAWING NUMBER G-100-3



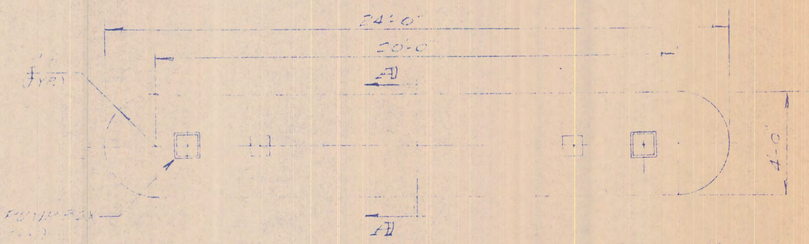
PLAN



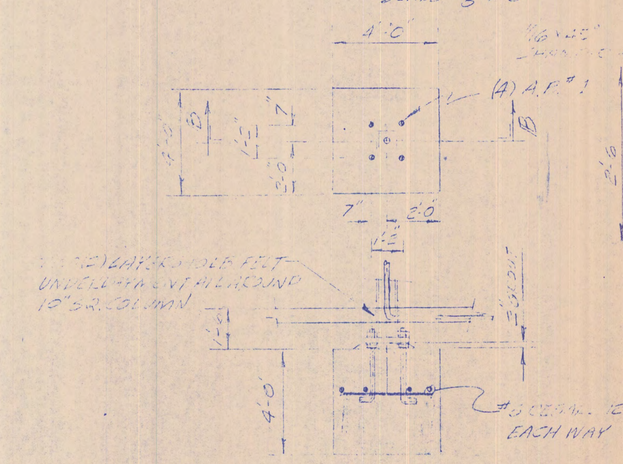
F-4 ISLAND FOUNDATION - 4 REQ'D.



F-3 ISLAND FOUNDATION - 1 REQ'D.

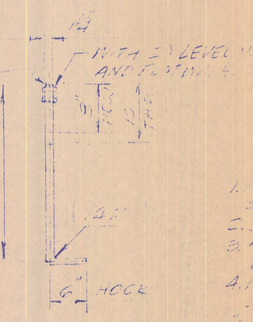


F-2 ISLAND FOUNDATION - 1 REQ'D.
SCALE 3/8"=1'-0"



SECTION B-B

F-1 - FOOTING - 4 REQ'D.
SCALE 3/8"=1'-0"



A.B. #1 - 16 REQ'D.
A307, GR. A STEEL
SCALE 1"=1'-0"

GENERAL NOTES

1. ALL CONCRETE SHALL BE AIR ENTRAINED AND HAVE A MINIMUM STRENGTH OF 3000 PSI.
2. ALL CONCRETE EXPOSED TO THE WEATHER SHALL HAVE A MINIMUM OF 6% AIR ENTRAINMENT.
3. ALL REINFORCING STEEL SHALL BE NEW BILLET STEEL CONFORMING TO ASTM A615 GRADE 60.
4. ALL REINFORCING SHALL BE CLEAR OF FORMS AS FOLLOWS:
   A. ALL FOOTINGS CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH - 3".
   B. ALL CONCRETE EXPOSED TO EARTH OR WEATHER - #6 THROUGH #18 BARS - 2".
   C. ALL CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND - SLABS, WALLS, JOISTS - #14 AND #18 BARS - 1 1/2"; #11 AND SMALLER - 1".
   D. BEAMS, COLUMNS - PRIMARY REINFORCEMENT, TIES, STIRRUPS, SPIRALS - 1 1/2".
5. ALL CONCRETE SHALL BE CLASS "A" (3000 PSI) EXCEPT AS NOTED.

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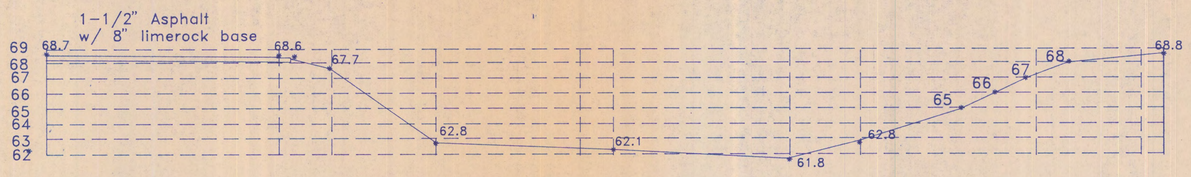
SCALE 1/4"=1'-0"	APPROVED BY	DRAWN BY	
DATE 5-24-91		REVISED	

GASOLINE, DIESEL SERVICE ISLANDS
COMPLETE - PLAN ELEVATION & DETAILS
PROJECT NO. PRJ NO FILE NO. NA-354 DRAWING NUMBER S-100-A

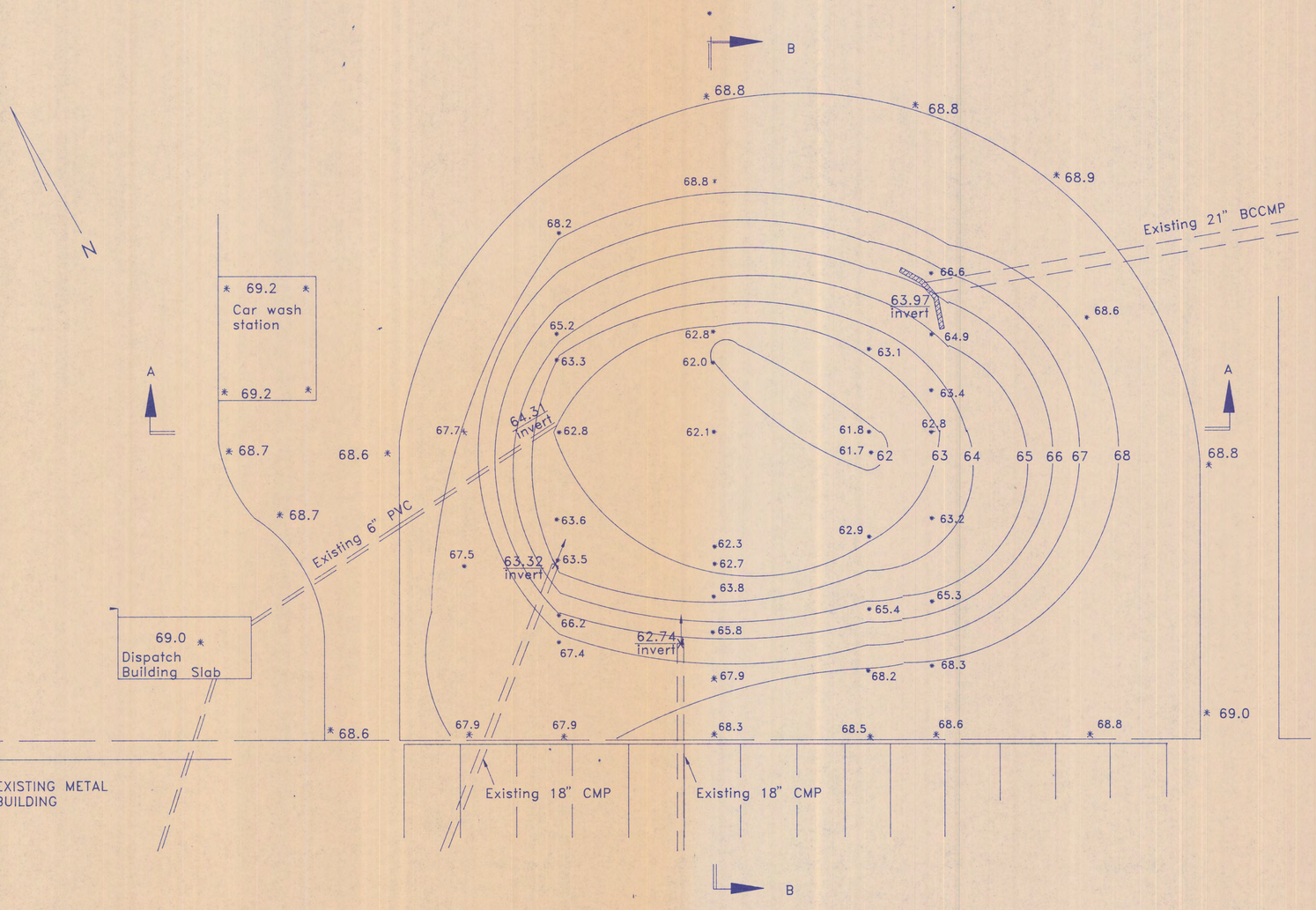


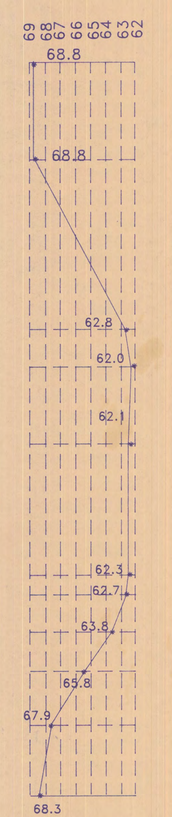
SECTION A-A

17,000 SQUARE FT. ADDITIONAL IMPERVIOUS AREA

1020 CUBIC FT. ADDITIONAL WATER TREATMENT AREA REQUIRED.

BASED ON 1/2" RUNOFF FROM NEW SITE AREA





SECTION B-B

NO.	REFERENCE DRAWINGS	DATE	REVISION

AMERICAN PETROLEUM SERVICE

PROJECT NO.

LAIDLAW ENVIRONMENTAL SERVICE

RETENTION POND / TOPOGRAPHY
NEW FUELING STATION - S.W.F.W.M.D.

SCALE	1"=10'	DRAWN RER	5/15/91
	P.N. 100	CHECKED	
FILE NO.	100-591	DWG. NO.	GP-100-2