

November 20, 2023
File No. 2321207.11

Mr. Dylan Dyer
Ohio EPA Southwest District Office
401 East Fifth Street
Dayton, Ohio 45402-2911

Subject: Closed St. Bernard Landfill
Certification Report for Landfill Gas Sampling in Waste

Dear Mr. Dyer:

SCS Engineers, on behalf of Village of St. Bernard, prepared this certification report for temporary probes for in-waste landfill gas sampling at the closed Village of St. Bernard Landfill. Figure 1 in Attachment A shows the general location of the closed Village of St. Bernard Landfill. Figure 2 in Attachment A shows the general location of the temporary probes. The purpose of these probes was to measure the methane concentration within the waste mass to compare with the target concentration per OEPA Guidance GD# 0657, Ending Explosive Gas Monitoring for Solid Waste Landfills the Ceased Accepting Waste Prior to June 1, 1994 to determine if an application to cease gas monitoring was feasible.

The temporary probes were installed on November 13, 2023. The drilling was performed by Direct Push Analytical, using a Geoprobe 54DT tracked drill rig with 2 ¼ inch O.D. direct push rods. Samples were collected over maximum 4 foot intervals with the samples retained in clear acetate tubes. SCS observed the drilling and probe installation. The probes were advanced to 8 to 10 feet below the landfill surface.

The temporary probes were constructed as soil vapor sampling points with 2-inch long porous plastic intakes connected to ¼-inch plastic tubing. The annulus between the borehole and intake and tubing was filled with up to 2 feet of sand. The remainder of the borehole was backfilled with granular bentonite which was hydrated as it was placed.

A GEM 5000 meter was connected to the tubing at each probe location. The GEM was operated for 120 seconds, by which time the methane concentrations readings had reached the maximum methane concentration. The methane concentration readings are presented in the table below.

Temporary Probe No.	Probe Depth (ft)	Methane Concentration* (% by vol.)
WP-1	10	0
WP-2	10	17.2
WP-3	10	4.8



Temporary Probe No.	Probe Depth (ft)	Methane Concentration* (% by vol.)
WP-4	10	3.8
WP-5	8	39.7

* Stabilized concentration after 2 minutes.

Once gas sampling was completed, the tubing was removed and the tubing hole was sealed as the bentonite continued to expand following hydration.

The following information is provided/verified as required by OAC 3745-513-370:

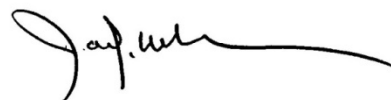
- (A)(1). The Rule 513 activities performed did not impact the facility such that the existing plat is not accurate.
- (A)(2)(a). The area impacted by the Rule 513 activities was less than 5 square feet in total for all five borings.
- 1(A)(2)(a)(i). The location of waste is shown on Figure 2 in Attachment A.
- (A)(2)(a)(ii). The depth of waste is not known.
- (A)(2)(a)(iii). The volume of waste disposed of at the site is not known.
- (A)(2)(a)(iv). The waste was assumed to be primarily municipal solid waste incinerator ash, but the drilling that that material beneath the 5-foot thick cap is primarily soil fill.
- (A)(3). The Rule 513 activities did not impact the facility such that the existing notation is no longer valid.
- (B). The protective layer and surface soil disturbed by the Rule 515 activities were sealed with granular bentonite.

Based on the methane concentrations observed, the Village of St. Bernard does not intend to prepare an application to cease explosive gas at this time.

Sincerely,



Randall C. Mills
Senior Project Scientist
SCS Engineers



James J. Walsh, P.E.
Project Director
SCS Engineers

RCM/JJW

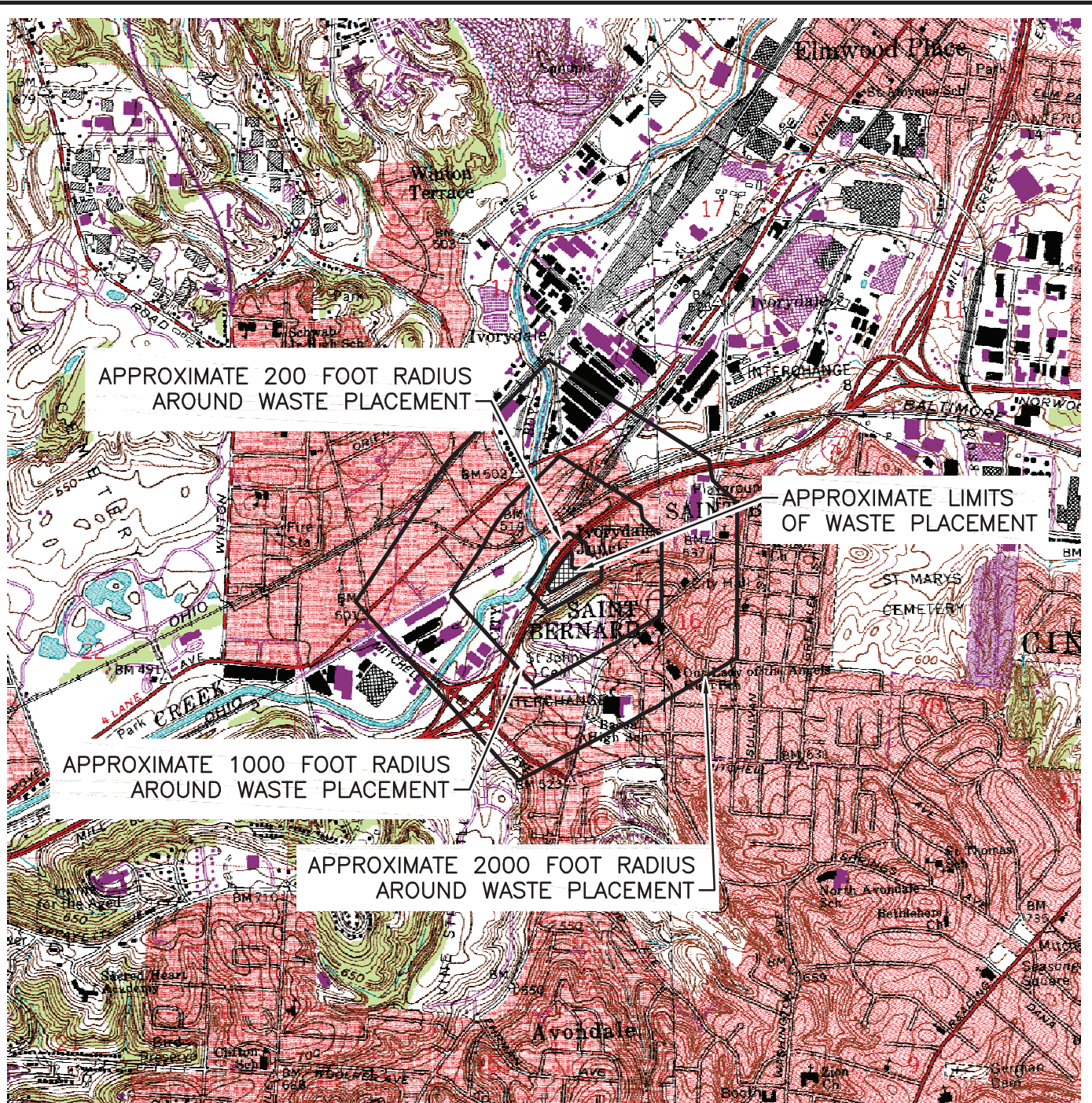
cc: Nick Schapman, GHD
Tom Paul, Village of St. Bernard
Jonathan Stuchell, Village of St. Bernard
Chuck DeJonckheere, R.S., Hamilton County Public Health

Encl.

Attachment A

Figures

G:\PROJECTS\2001\210158\DWG\210158 SITE LOC.dwg DSNOK - JANUARY 29, 2004 - 07:51:41 XREFS:

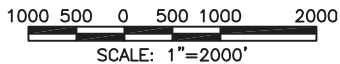


APPROXIMATE 200 FOOT RADIUS
AROUND WASTE PLACEMENT

APPROXIMATE LIMITS
OF WASTE PLACEMENT

APPROXIMATE 1000 FOOT RADIUS
AROUND WASTE PLACEMENT

APPROXIMATE 2000 FOOT RADIUS
AROUND WASTE PLACEMENT



SOURCE: USGS 7.5 MINUTE QUADRANGLES CINCINNATI EAST, OHIO, 1961 PHOTOREVISED 1981 AND CINCINNATI WEST, OHIO, 1961, PHOTOREVISED 1981, PHOTOINSPECTED 1986.



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Chicago, IL

Indianapolis, IN
St. Louis, MO

SITE VICINITY MAP
FORMER BANK AVENUE LANDFILL
ST. BERNARD, OHIO
HAMILTON COUNTY

DWN BY: MTM

SCALE:

DATE:

PROJECT NO.:

FIGURE NO.:

CHKD. BY: RH

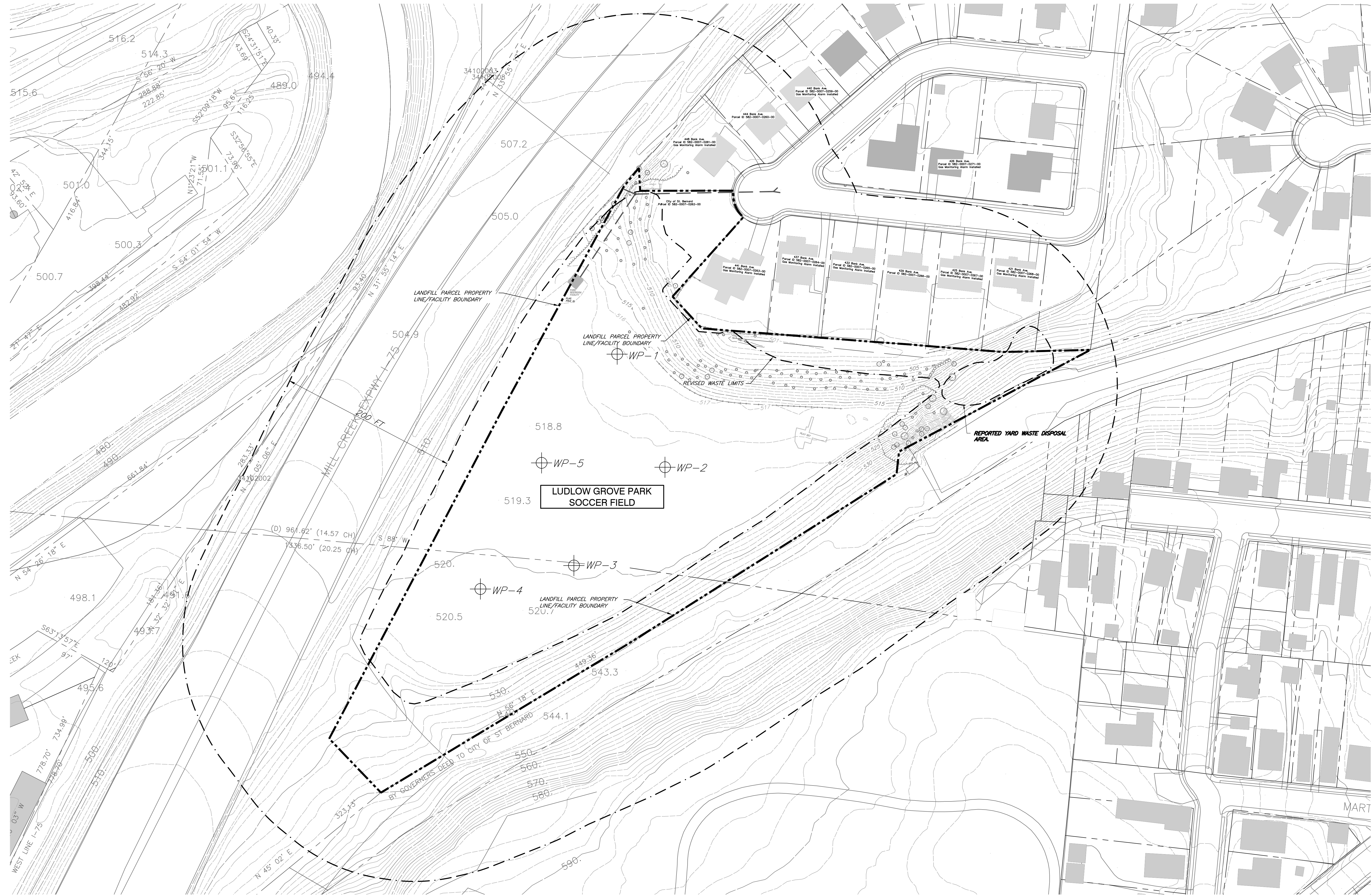
AS NOTED

MAY 2003

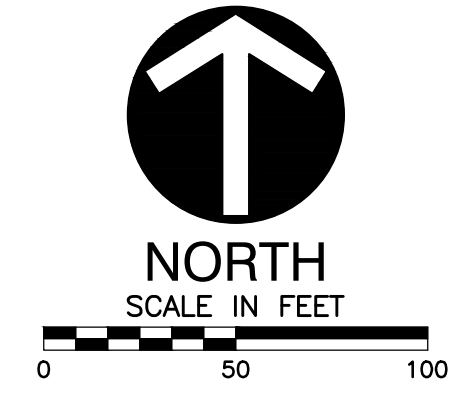
210158

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I:\PROJECT\2012 Projects\23212007.00 St Bernard LF\Deliverables\Gas Probe Monitoring\cessation investigations\St. B waste probes\Fig 2.dwg Nov 20, 2023 - 9:00am Layout Name: Fig 2 By: 4572aof



LEGEND
 ⊕ TEMPORARY WASTE PROBE



REV.	DATE	DESCRIPTION	CK.	BY
1	11/15/23	ADDED PROBE LOCATIONS		
2	8/24/21	REMOVED OWNER NAMES/HOUSES		

SHEET TITLE
 TEMPORARY WASTE PROBE LOACTIONS

PROJECT TITLE
 ST. BERNARD LANDFILL
 VILLAGE OF ST. BERNARD, OHIO

CLIENT
 VILLAGE OF ST. BERNARD
 110 WASHINGTON AVENUE
 ST. BERNARD, OHIO 45217

SCS ENGINEERS
 STEARNS, CONRAD AND SCHMIDT
 CONSULTING ENGINEERS, INC.
 2060 READING ROAD, CINCINNATI, OH 45202
 PH. (513) 451-5353 FAX. (513) 421-2647

DATE: 11/15/23
 DRAWN BY: ADF
 CHECKED BY: ADF
 APPR. BY:

CADD FILE:
 Figure 2

DATE:
 NOVEMBER 2023

SCALE:
 AS SHOWN

DRAWING NO.

FIG 2