SPECIFICATION R92022-SR-01

SOIL REMEDIATION AND GROUNDWATER MONITORING AT FIRE STATION NO. 1 7494 DONOHUE DRIVE DUBLIN, CALIFORNIA

Prepared For:

Dougherty Regional Fire Authority

9399 Fircrest Lane

San Ramon, California

Prepared By:

Remediation Services, Inc.

A Subsidiary of BSK & Associates

1181 Quarry Lane, Building 350

Pleasanton, California 94566

August 27, 1992

REMEDIATION SERVICES, INC.

AZTEC CONSULTANTS
Professional Construction Management

TEL (510) 837-1050
FAX (510) 837-1652

Approved Oct 1992

September 4, 1992

Ravi Arulananthan
ALAMEDA COUNTY HEALTH AGENCY
Division of Hazardous Materials
Department of Environmental Health
80 Swan Way, Room 200
Oakland, CA 94621

Re: Soil Remediation & Groundwater Monitoring
Fire Station No. 1
7494 Donohue Drive
Dublin, CA 94568

Mr. Arulananthan:

Please find attached a copy of the remediation plan as prepared by Remediation Services, Inc. for the Dougherty Regional Fire Authority's subject property. The activities as described in this report have been continuously monitored in accordance with this specification by BSK & Associates under contract directly to the Authority.

We trust that this specification and the recommendations contained therein are acceptable to the Alameda County Health Agency.

Should you have any questions or comments, please feel free to contact us or our consultants directly.

Very truly yours,

Glenn D. Miller
Construction Manager

cc: Chief Karl Diekman/DRFA
Paul Rankin/City of Dublin
Alex Y. Eskendari/BSK
Ken Bugica/Brava
DRFA Contaminated Soils File

2110 Omega Road, Suite B, San Ramon, California 94583

SPECIFICATION R92022-SR-01
SOIL REMEDIATION AND GROUNDWATER MONITORING
7494 DONOHUE DRIVE
DUBLIN, CALIFORNIA

REMEDIATION
SERVICES, INC.

TABLE OF CONTENTS

SPECIFICATION R92022-SR-01

1.0 INTRODUCTION

2.0 SCOPE OF WORK

3.0 APPLICABLE CODES, STANDARDS, AND REGULATIONS

4.0 KEY PERSONNEL AND RESPONSIBILITIES

5.0 PROJECT WORK

6.0 HEALTH AND SAFETY PLAN

FIGURES

FIGURE 1: VICINITY MAP
FIGURE 2: SITE PLAN
FIGURE 3: SAMPLE LOCATION MAP
FIGURE 4: MONITOR WELL LOCATION PLAN
FIGURE 5: TYPICAL MONITOR WELL DESIGN

SPECIFICATION R92022-SR-1

1.0 INTRODUCTION

Subsurface soils at 7494 Donohue Drive in Dublin, California have been impacted by leakage from underground fuel storage tanks formerly located at the site. The Dougherty Regional Fire Authority (DRFA) has performed some remediation work at the site in preparation for construction of a new fire station. The Alameda County Department of Environmental Health (ACDEH) requested DRFA to submit a remedial action plan to address remaining remediation work at the site. DRFA retained Remediation Services, Inc., a subsidiary of BSK & Associates Geotechnical Consultants, Inc. (BSK & Associates), to prepare this remedial action plan which is referenced as Specification R92022-SR-1 (Specification).

1.1 Site Location and Description

The project site is located at 7494 Donohue Drive in Dublin, California. A Vicinity Map is presented on Figure 1. A Site Plan is presented on Figure 2.

The site is approximately one-third acre in size and consists of a fire station, a paved parking area and a vacant area. The property is fenced on the south, west and north perimeters. It is bound to the east by Donohue Drive, to the north by an open concrete-lined storm channel, to the west by an apartment complex, and to the south by a small retail shopping center.

The site is located near the center of San Ramon Valley, at a surface elevation of approximately 350 feet above mean sea level. Groundwater is presently located at a depth of approximately 12-13 feet below grade. Site geology consists primarily of 16 to 28 feet of dark brown and dark gray silty clay and clayey silt, underlain by light brown sandy clay and light gray sandy clay.

1.2 Background

Three underground storage tanks (USTs) containing gasoline and diesel were in use at the site in the 1960's. The tank group was located behind the fire truck garage, in the western portion of the site. The largest tank was 4,000 gallons in capacity and was used to store gasoline. The two smaller tanks were each 550 gallons in capacity. One was used to store diesel and the other gasoline.

In 1965 or 1966, inventory losses were noted from the 550-gallon gasoline tank. It was subsequently abandoned by grouting in place. The other two tanks remained in use until November, 1989 when they were removed by Hageman-Shank, Inc.

SPECIFICATION R92022-SR-1

During removal of the two tanks in 1989, soils in close vicinity to the abandoned gasoline tank were observed to be contaminated with petroleum products. The contaminated soil was subsequently removed, aerated on-site under a permit from the Bay Area Air Quality Management District, and returned to the excavation with the approval of the Alameda County Department of Environmental Health.

In April of 1990, DRFA retained BSK & Associates to install groundwater monitor wells at the site. Three monitor wells (MW-1, MW-2 & MW-3) were installed in the vicinity of the former tanks and one soil boring was drilled. Petroleum hydrocarbon contaminants were detected in soil samples taken from the well borings and the soil boring. In May 1991, five additional exploratory soil borings were drilled by BSK & Associates to assess the lateral and vertical extent of the impacted soil within the vacant lot immediately to the south of the existing fire station.

Monitor Wells MW-1, MW-2 and MW-3 were sampled by BSK & Associates on a quarterly basis from April 1990 to June 1991. No contaminants were detected in the groundwater during this period.

On the basis of information from the limited site investigations conducted by BSK & Associates, DRFA elected to remediate contaminated soil at the site. DRFA retained the services of BSK & Associates to: (1) close Monitor Wells MW-1, MW-2 and MW-3; (2) monitor removal of contaminated soil; and (3) collect soil samples to assess removal and to characterize stockpiled soil. Brava, Inc. was retained by DRFA to excavate and dispose the contaminated soil.

On August 7, 1992 BSK & Associates closed Monitor Wells MW-1, MW-2 and MW-3 in accordance with Permit #92395 issued by the Alameda County Flood Control District- Zone 7. Excavation of contaminated soil commenced on August 10, 1992 and continued until August 17, 1992, when work was temporarily halted.

During excavation, contaminated soil was encountered from approximately 10 to 12 feet below grade, except within about 30 feet of the former tanks where it was encountered approximately 8 to 9 feet below grade. Groundwater was encountered at approximately 12-13 feet.

Prior to excavating contaminated soil, clean overburden was removed and stockpiled on-site. Olfactory senses and a Photo Ionization Detector (PID) were used to assess cleanliness of the overburden. Contaminated soil excavated from the site was stockpiled separately and covered with plastic sheeting. Approximately 1,000 cubic yards of contaminated soil were excavated and stockpiled on-site during the period from August 10th to August 17th.

SPECIFICATION R92022-SR-1

The limits of excavation as of August 17, 1992 are shown on Figure 2. Samples were taken from the sidewalls and the bottom of the excavation to assess removal, as well as to characterize impacted soil which could not be excavated due to either the presence of groundwater, or access constraints presented by the fire station to the north, the apartment complex to the west and stockpiled soil to the south. Sample locations are shown on Figure 3. Analytical data is summarized in Table 1 below.

TABLE 1

Soil Sample Analytical Data
(results in mg/kg)

Date Sampled	Sample Location (See Figure 3)	Sample No./ Depth	Benzene	Toluene	Ethyl-benzene	Xylene	TPH_g	TPH_d	Pb
08/10/92	A	1/12'	ND	ND	ND	ND	ND	3.0	ND
08/10/92	B	2/12'	ND	ND	ND	ND	ND	1.0	ND
08/11/92	C	A/12'	ND	ND	.44	ND	32	3.0	--
08/11/92	D	B/12'	0.35	0.5	4.0	ND	500	3.0	--
08/12/92	E	1/12'	15	4.7	34	52	1900	18	ND
08/13/92	F	2/11.5'	ND	ND	ND	ND	ND	ND	--
08/13/92	G	3/11.5'	ND	ND	ND	ND	ND	ND	--
08/13/92	H	4/11.5'	ND	ND	ND	ND	ND	ND	--
08/14/92	I	2/13.5'	ND	ND	ND	ND	10	6	--
08/14/92	J	3/13'	ND	ND	0.02	ND	20	6	--
08/14/92	K	4/12'	ND	ND	ND	ND	2	1	--
08/17/92	L	1/13.5'	ND	ND	ND	ND	ND	2	--
08/17/92	M	2/12'	ND	ND	ND	ND	ND	1	--

Analytical data indicates contaminated soil is still present: (1) at the soil/groundwater interface in certain areas of the bottom of the excavation; (2) along a portion of the western wall of the excavation at the property boundary; and (3) along a limited area of the northern wall of the excavation adjacent to the fire station. Field observations indicate that contaminated soil also remains along the southeastern quadrant of the excavation. Stockpiled soil prevented excavation of contaminated soil in this area during the previous work performed between August 10th and August 17th.

2.0 SCOPE OF WORK

This Specification establishes requirements and procedures for accomplishing the following scope of work:

- Excavation of contaminated soil located above the soil/groundwater interface, and sampling to assess removal.
- Treatment and/or disposal of excavated contaminated soil.
- Disposition of clean overburden soils.
- Monitor well installation and groundwater sampling.

3.0 APPLICABLE CODES, STANDARDS AND REGULATIONS

In addition to the requirements set forth in this Specification, project work shall comply with currently applicable federal, state and local laws, regulations and rules. These include, but are not limited to:

3.1 Dougherty Regional Fire Authority

3.2 Alameda County Department of Environmental Health (ACDEH)

3.3 Bay Area Air Quality Management District (BAAQMD)

3.4 San Francisco Bay Regional Water Quality Control Board (RWQCB)

3.5 California Code of Regulations, Titles 8, 22 & 23

3.6 Code of Federal Regulations: 29CFR, 40CFR & 49CFR

3.7 Standard Specifications of the State of California, Department of Transportation, latest edition.

4.0 KEY PERSONNEL AND RESPONSIBILITIES

4.1 Owner

The Owner is Dougherty Regional Fire Authority. DRFA's contact for this project is:

Mr. Karl Diekman
9399 Fircrest Lane
San Ramon, California 94583
Phone (510) 829-2333

4.2 Contractor

Brava, Inc. is the Contractor responsible for excavation and disposal of contaminated soil. Brava's contact for this project is:

Mr. Ken Bogica
P.O. Box 2288
Danville, California 94526
Phone (510) 803-9510

4.3 On-site Consultant

BSK & Associates is the On-site Consultant for this project and is responsible for monitoring removal of contaminated soil and soil sampling to assess removal and to characterize stockpiled soil. BSK & Associates' contact for this project is:

Mr. Alex Eskandari
1181 Quarry Lane, Bldg. 300
Pleasanton, California 94566
Phone (510) 462-4000

5.0 PROJECT WORK

5.1 Excavation of Contaminated Soils

Analytical data presented in Section 1.2 of this Specification indicate TPH_{gas} concentrations of 10 mg/kg and 20 mg/kg in samples taken from the layer of contaminated soil present at the western boundary of the excavation. Based on the magnitude of the indicated concentrations, no further excavation of contaminated soil is proposed at this location.

Analytical data and field observations indicate the presence of contaminated soil in areas of the bottom of the excavation at the soil/groundwater interface. During a meeting at the site on August 14, 1992, ACDEH instructed DRFA not to excavate contaminated soil below the soil/groundwater interface.

Analytical data presented in Section 1.2 of this Specification indicate a TPH_{gas} concentration of 500 mg/kg in contaminated soil located at a limited area along the northern sidewall of the excavation. Excavation of this contaminated soil in constrained by the presence of the fire station. Accordingly, excavation of contaminated soil in this area would not be performed until after the new fire station is complete and the old one has been demolished.

Contaminated soil is also known to be present along the southeastern quadrant of the excavation. DRFA intends to remove the contaminated soil in this area. Excavation of the contaminated soil would be to its lateral extent, which is estimated to be as shown on Figure 2, or until site constraints (e.g., Donohue Drive) restrict further removal. Contaminated soil below the soil/groundwater interface, if present, would not be excavated in accordance with ACDEH's instructions.

During excavation, a Photo Ionization Detector (PID) and olfactory senses would be used to screen the soil for contamination. Subsequent to the removal of clean overburden, contaminated soil would be excavated, stockpiled at a designated area of the site, and covered with visqueen.

Subsequent to completing excavation work, soil samples would be taken from the sides and bottom of the excavation using the excavator bucket. Samples from the sidewalls would be taken just above the soil/groundwater interface. Approximately one sample would be taken per every 20 linear feet of excavation, or as otherwise deemed appropriate by the On-site Consultant (BSK & Associates) for adequate representation of soil conditions in the excavation.

As mentioned in the previous paragraph, soil samples would be obtained using an excavator. The samples would be taken directly from the excavator bucket in 2" x 6" stainless steel tubes using a driven tube sampler. Aluminum foil and plastic caps would be placed on the ends of the tubes and the samples would be preserved by cooling them to approximately 4 degrees Centigrade. The samples would be submitted to a State-certified laboratory using chain-of-custody documentation. The samples would be analyzed for TPH_{diesel} (Method 3550), TPH_{gas} (EPA 8015) and BTXE (EPA 8020). Selected samples would also be analyzed for total lead.

5.2 Disposition of Excavated Contaminated Soil

As indicated earlier, approximately 1,000 cubic yards of contaminated soil were excavated and stockpiled on-site during the period from August 10th to August 17th. Analytical data characterizing the stockpiled soil has been submitted to BFI Waste Systems (BFI) in Livermore and they have approved disposal at their site. Dillard Trucking has been retained to transport the contaminated soil from the site to BFI. Non-Hazardous Waste Manifests will be used to document transport and disposal.

Contaminated soil to be excavated in accordance with Section 5.1 of this Specification would be stockpiled on-site pending disposal. Subsequent to completion of contaminated soil excavation work, the On-site Consultant would sample and analyze the stockpiled contaminated soil in accordance with BFI's guidelines for characterization of TPH_{gas} and TPH_{diesel} contaminated soils. If analytical data indicate contaminant concentrations in the soil are higher than can be accepted at BFI, alternative disposal and/or off-site treatment options would be considered. If off-site treatment is chosen, an addendum to this Specification outlining off-site treatment procedures would be submitted to ACDEH and BAAQMD for review and approval.

5.3 Disposition of Clean Overburden Soils

Clean overburden stockpiled on-site during excavation work performed between August 10th and August 17th has been sampled, analyzed and returned to the excavation as approved by the ACDEH.

Clean overburden stockpiled on-site from excavation work to be performed as specified in Section 5.1 of this Specification would be sampled and analyzed. Approximately one sample per every 500 cubic yards of clean overburden would be collected and submitted to a State-certified lab for TPH_{gas}, TPH_{diesel}, and BTEX analyses. Overburden soils with TPH_{gas} concentrations less than 1 mg/kg and TPH_{diesel} concentrations less than 10 mg/kg would be returned to the excavation. Overburden soils with contaminants exceeding these concentrations would be treated and/or disposed in accordance with Section 5.2 of this Specification.

5.4 Groundwater Well Installation and Monitoring

Subsequent to backfilling the excavation created by the removal of contaminated soil, three groundwater monitor wells would be installed downgradient of the former tank group site. Proposed well locations are shown on Figure 4.

SPECIFICATION R92022-SR-1

Groundwater monitoring wells would be installed with a B-53 mobile truck mounted drill rig utilizing an 8-inch O.D. hollow stem auger. Each well would be constructed of 2-inch I.D. Schedule 40 PVC pipe, to a depth of approximately 28 feet. The slotted interval for each well would have 0.020 inch factory perforations and would extend from the bottom of the well to approximately 3 feet above the groundwater level to accommodate groundwater fluctuation and floating product monitoring, if any. Well construction details are shown on Figure 5, Typical Monitoring Well Construction Details.

During drilling, soil samples would be obtained from each well boring at 5 foot intervals in accordance with State guidelines. The samples would be field screened using a PID. One sample from each well would be retained and tested from the soil-groundwater interface. The samples would be obtained using 6-inch stainless steel sampling sleeves in a Modified California Sampler. Samples would be plastic-capped with a teflon liner, labeled, cooled to approximately 4 degrees Centigrade, and delivered along with appropriate chain-of-custody documentation to a State-certified analytical laboratory for TPH_{diesel}, TPH_{gas}, BTXE and total lead analyses.

Soil removed from piezometer and well excavations would be stockpiled on-site for subsequent treatment and/or disposal.

Monitor wells would be developed by bailing, surging or air displacement pumping until the well is as free of sand, silt and/or turbidity as possible. Water removed during well development would be containerized and stored on-site until groundwater chemical analysis is completed and appropriate disposal of the wastewater can be determined.

Each monitor well would be surveyed to establish an elevation with respect to a reference point at the site, such as a building slab. Water levels within each well would be established within 1/100-foot accuracy by electronic sounder following 24-hours time allotted for groundwater surface stabilization.

At the time of sampling, a minimum of three well volumes would be purged from each well to achieve a representative sample of "fresh" well water. Purging would be accomplished by hand-pump or bladder pump. Purged water would be stored on-site in suitable containers until an appropriate disposal method is determined. During purging, water temperature, pH and conductivity would be recorded.

Sampling of well water would follow 80% recovery of water in the wells after purging. Water samples would be obtained by teflon bailer or bladder pump. Samples would be placed into the appropriate container(s), labeled, cooled to approximately 4 degrees Centigrade and delivered with chain-of-custody documentation to a State-certified analytical laboratory for TPH_{diesel}, TPH_{gas}, BTXE and total lead analyses.

Groundwater monitor well sampling and analysis would be repeated on a quarterly basis for a period of two years in accordance with the ACDEH's requirements. Quarterly monitoring reports would be submitted to the RWQCB and the ACDEH.

6.0 HEALTH AND SAFETY PLAN

This section has been prepared to address the general health and safety requirements for the project. The requirements of this health and safety plan may change as work progresses due to changing work conditions, but no changes would be made without the approval of On-site Consultant. A copy of this plan would be maintained on-site during work.

6.1 Project Hazard Assessment

Potential chemical and physical hazards at the project site include but are not limited to:

6.2.1 Site Physical Hazards:

Slip, trip, fall hazards due to uneven work area.

Noise, eye and bodily hazards while operating equipment. The physical hazards presented by heavy equipment used during excavation would be controlled through the use of qualified operators and by following standard equipment operating procedures.

Hazards to hands and feet when handling heavy or sharp materials or equipment.

Exposure to heat: Heat stress can be a serious problem mainly because Personal Protective Equipment (PPE) used to protect workers from chemical exposure limits the body's natural cooling ability. Site workers would be familiar with the signs and symptoms of heat stress. Working conditions and temperature would be monitored and adjustments made to minimize the effects of heat.

Utilities: A potential hazard always exists when excavation is being conducted at sites where underground utilities have not been identified or are unknown. Measures to prevent damage to buried utilities (storm sewer lines, telephone and communication cables, sanitary sewers, natural gas lines, water lines, electrical lines, irrigation lines, etc.) would include inspecting the site for visible signs of utility line locations prior to excavation. In addition, DRFA would be contacted to obtain information regarding on-site utilities. Paths and routes of utilities in, around and through the area of the excavation would be marked prior to commencing excavation.

Excavation Cave-ins: No person would be allowed inside an excavation that is deeper than 5 feet unless appropriate shoring is in place or the excavation is properly sloped.

Fire and Explosion: The generation of a flammable atmosphere is a possibility during excavation. The natural vaporization of volatile organic compounds could produce a flammable mixture within the excavation because natural dilution in the air may be significantly decreased. Monitoring of the excavation and the project site would be performed in accordance with Subsection 6.4 of this Specification.

6.2.2 Site Chemical Hazards:

Petroleum hydrocarbon contaminants may be present at the project site. Routes of exposure include inhalation, ingestion and absorption. Exposure limits for contaminants which may be encountered at the site are as follows:

NAME	WARNING CONCENTRATION	TLV	IDLH
Gasoline	0.005-10 ppm	300 ppm	--
Diesel	0.25 ppm	--	--
Benzene	4.68 ppm	10 ppm	2,000 ppm
Ethylbenzene	0.25-200 ppm	100 ppm	2,000 ppm
Toluene	0.17-40 ppm	100 ppm	2,000 ppm
Xylene	0.05-200 ppm	100 ppm	10,000 ppm

6.2.3 Steps To Minimize Hazards

- Wear proper personal protective equipment (Section 6.5)
- Familiarize workers with site conditions
- Monitor for heat and cold stress
- Operate equipment in a safe manner
- Locate utilities before commencing excavation

6.3 Risk Assessment

6.3.1 General Public: Portable fencing has been installed to restrict public access into the work area.

6.3.2 Other workers: Work being performed by others would be conducted outside of the work area and would be unrelated to the work being performed.

6.3.3 Workers Performing Services: The risks associated with excavation and sampling operations would be minimized by safe work practices and proper protective equipment.

6.4 Exposure Monitoring Plan

6.4.1 Hazardous Materials: The project site would be monitored for contaminant vapors using a tube sampler (Draeger or equal) and/or combustible gas meter whenever hydrocarbon odor is observed, or a change in odor level is observed. If volatile organics are determined to be present, air purifying respirators (APR's) with organic cartridges would be worn. APR's would not be worn in atmospheres exceeding 2xTLV. Should atmospheres exceed 2xTLV, work would be halted until appropriate measures have been implemented to reduce volatile organics in the air.

6.4.2 Excavations: Excavations are considered to be confined spaces and would not be entered until atmospheres are tested and the excavation is determined to be safe to enter. Requirements for confined space entry include but are not limited to the following:

Test the atmosphere prior to entry for oxygen and toxic and combustible levels of gases or vapors. Testing the atmosphere within the excavation would be performed with a combination O_2/LEL meter. Testing would occur before and during entry.

If the oxygen content is less than 19.5% or other conditions considered Immediately Dangerous to Life or Health (IDLH) exist, the confined space would not be entered until the confined space is ventilated and re-tested. If the confined space atmosphere requires more than Level D protection, engineering controls would be implemented to lower the level of protection required to Level D. The concentrations of oxygen, LEL, and toxic vapors shall be monitored continuously during entry. Forced ventilation would be used to lower the concentration of toxic or combustible gases and to raise the oxygen content, if required.

During confined space entry, a person would be posted outside the confined space to observe the worker and to provide help in an emergency. During confined space entry, the only responsibility of the standby person is as safety observer. Rescue personnel entering the confined space would wear appropriate protective equipment.

Confined space entry would comply with the requirements of California Code of Regulations, Title 8, Article 108.

6.4.3 Heat and Cold Stress: Ambient temperature would be monitored and appropriate work/rest procedures would be implemented and/or appropriate protective equipment would be worn.

6.5 Personal Protective Equipment

Laborers, Supervisors, Consultant and Authorized Visitors - Level D protective equipment:

Hard Hat
Coveralls or poly-tyvek, as needed
Work gloves, as needed
Steel toe boots or steel toe shoes
Half-face cartridge respirator, as needed
Organic vapor cartridges, as needed
Safety glasses or goggles
Hearing protection

6.6 Work Zones and Security Measures

Work zones would be established before proceeding with project work, including:

6.6.1 Contamination Reduction Zone: A clean area designated at the site for donning and doffing protective equipment.

6.6.2 Exclusion Zone: The area where work is being conducted. Only workers and authorized persons wearing the proper protective equipment would be allowed into the Exclusion Zone.

6.7 Decontamination Procedures

Recommended decontamination procedures would be conducted as follows:

6.7.1 Personnel would remove protective equipment in the Contamination Reduction Zone. Expendable items such as tyvek, gloves and respirator cartridges would be disposed with other contaminated materials.

6.7.2 An eye wash would be located on site, and there would be waterless hand cleaner at the site to wash hands when necessary.

6.8 General Safe Work Practices

No drugs or alcohol
No horse play
No smoking in work areas
No eating in work areas
Operate equipment properly
Plan ahead
Follow instructions and adhere to safety guidelines

6.9 Standard Operating Procedures

6.9.1 Proper protective equipment would be worn in the Exclusion Zone.

6.9.2 Personnel would don and doff protective equipment while in the Contamination Reduction Zone.

6.9.3 Removal of protective clothing would be in the following order: Tyvek suit, boots, respirator, gloves.

6.9.4 Sampling or other entry within excavation areas would not be permitted unless the excavation is properly shored or sloped and is safe to enter as determined by confined space entry monitoring as set forth in Subsection 6.4.2 of this Specification.

6.10 Contingency Plan

6.10.1 Hospital, fire and emergency telephone numbers would be posted near the work area.

6.10.2 Personnel would be trained in Hazardous Waste Operations and Emergency Response in accordance with CFR 1910.120.

6.10.3 Personnel injured in the Exclusion Zone would be moved to the Contamination Reduction Zone if possible, and personal protective equipment would be removed as necessary to administer first aid.

6.11 Training Requirements

6.11.1 Personnel working in the project areas considered potentially hazardous would have had, as a minimum, 40 hours training in the hazards and protections associated with handling hazardous wastes in accordance with CFR 1910.120. Copies of personnel training certificates would be maintained on-site.

6.11.2 Tailgate safety meetings would be conducted at the beginning of each shift and would highlight the hazards that may be encountered during the shift.

6.12 Medical Surveillance

6.12.1 Personnel working at the site would have had a thorough physical examination within the previous eighteen months.

6.12.2 Minimal exposure risk during the project does not merit base-line physicals before and after the project.

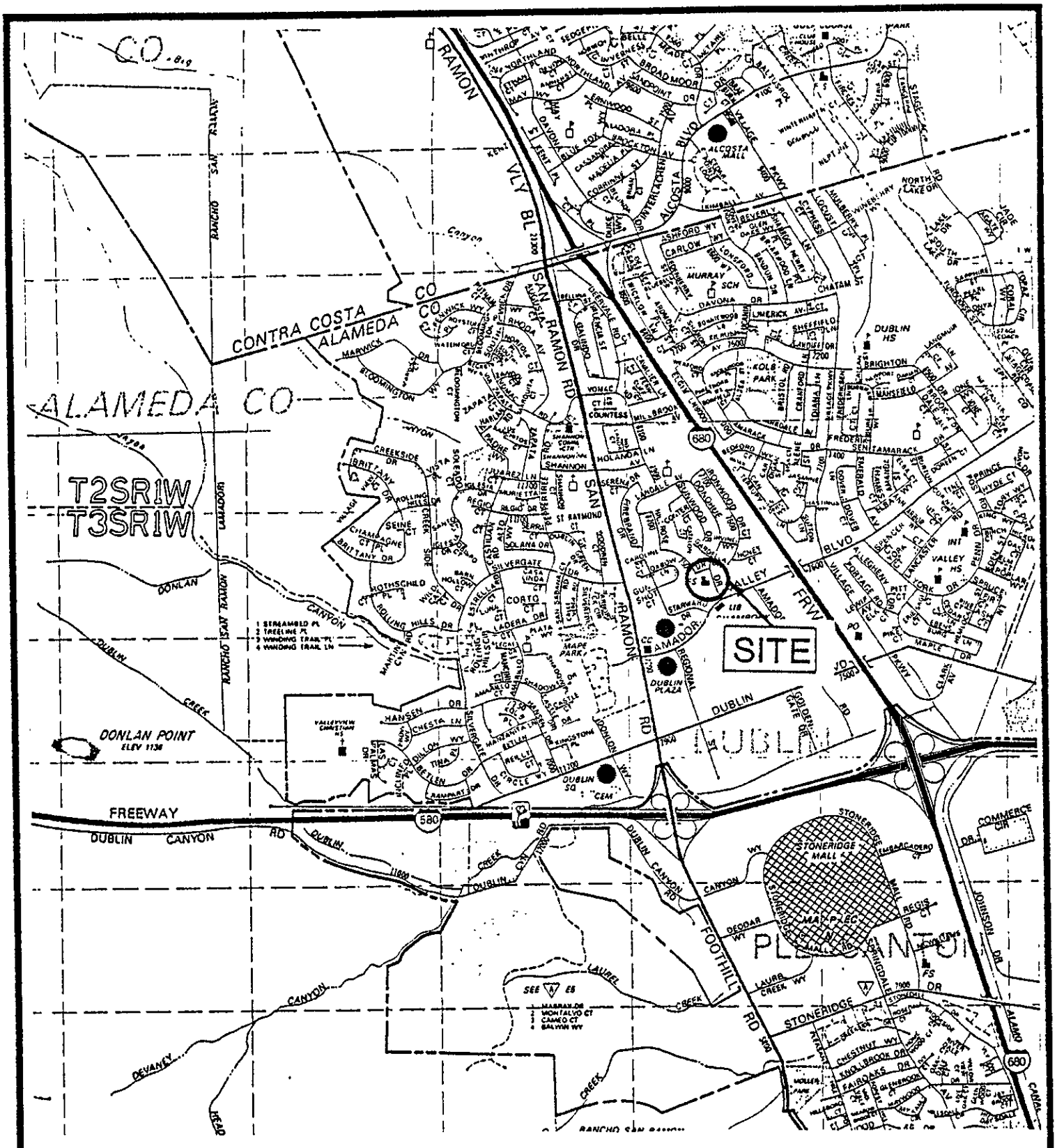
6.13 Record Keeping and Accident Reporting

A reporting form would be completed and submitted to the County for each accident or incident involving Contractor or subcontractor personnel. The California Division of Occupational Safety and Health (DOSH) would be notified immediately in the event of a fatality or serious accident.

Documentation pertaining to exposure monitoring, temperature, safety meetings, etc., would be recorded and maintained at the office of the Contractor.

6.14 Equipment

Combustible gas (LEL) and oxygen (O_2) field testing required by this specification would be done with a combination O_2/LEL meter such as a Bachrach Sniffer Model 302 or approved equal. The LEL meter would be calibrated to a Methane standard daily prior to use. The LEL meter shall be calibrated to zero and the oxygen meter to 21% in an upwind atmosphere.



DATE	BY	DATE	REVISION
DRAWN	ED	8-24-92	
CHECKED	ROF	8-28-92	
APPROVED	ROF	8-28-92	

REMEDIATION SERVICES, INC.

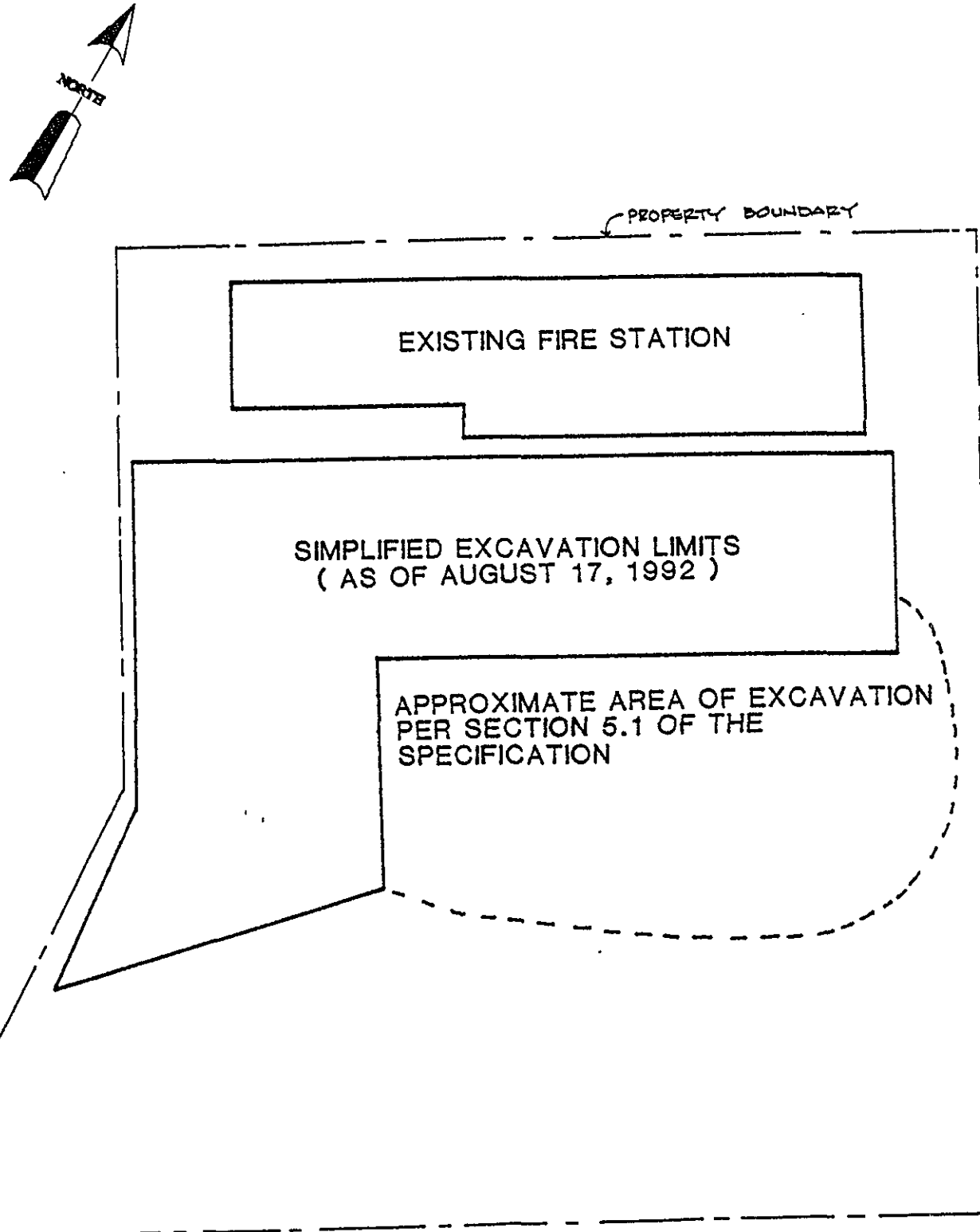
VICINITY MAP

7494 DONOHUE DRIVE
DUBLIN, CALIFORNIA

JOB NUMBER R92022

SCALE: 1" = 2200'

FIGURE 1



DATE	BY	DATE	REVISION
DRAWN	ED	8.28.92	
CHECKED	ROF	8.28.92	
APPROVED	ROF	8.28.92	

REMEDIATION SERVICES, INC.

SITE PLAN

7494 DONOHUE DRIVE
DUBLIN, CALIFORNIA

JOB NUMBER R92022

SCALE: NTS

FIGURE 2

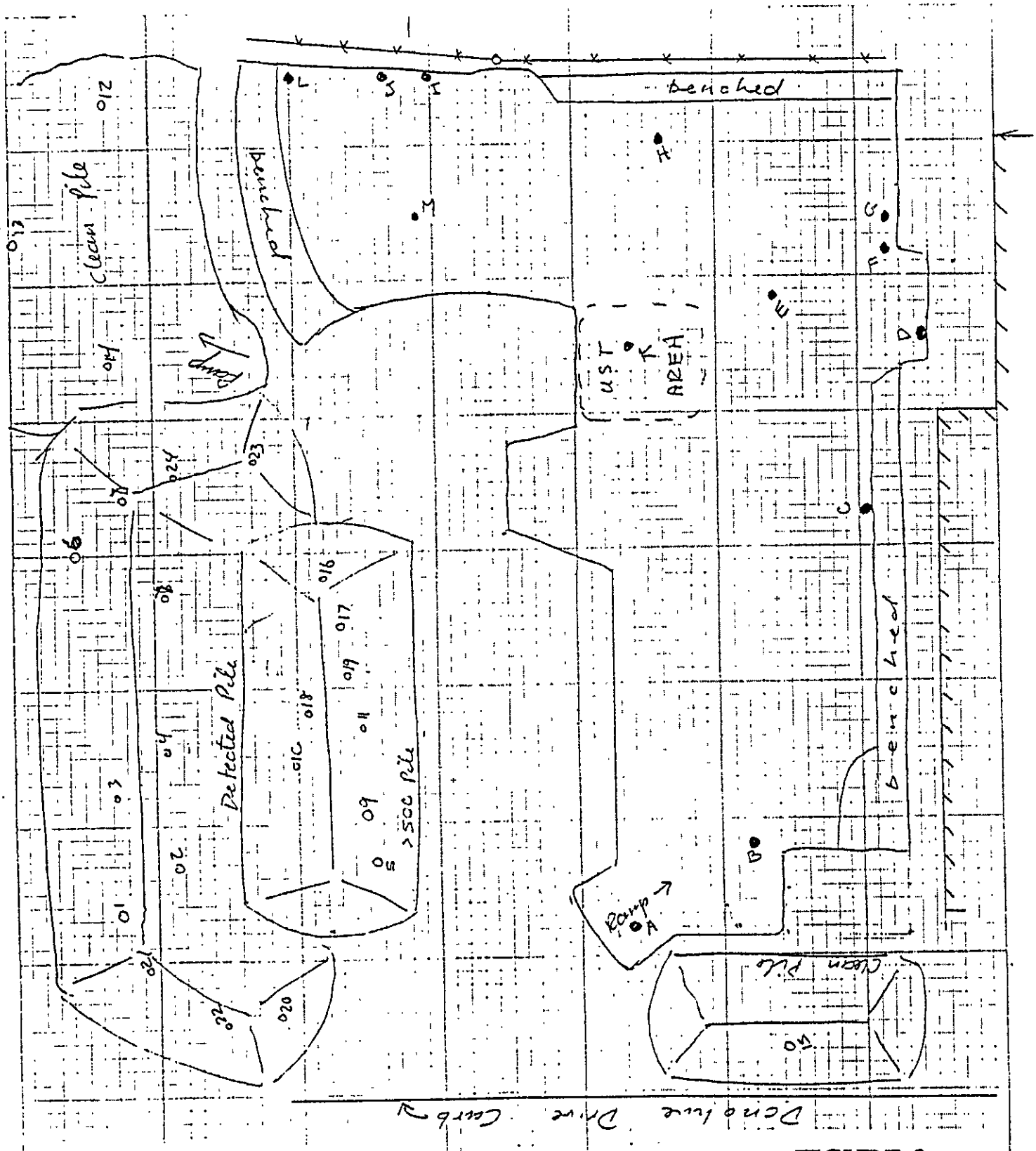
BSK & Associates

SHEET 1 OF 2

PROJECT Dublin F.S. PROJECT NO. 92187

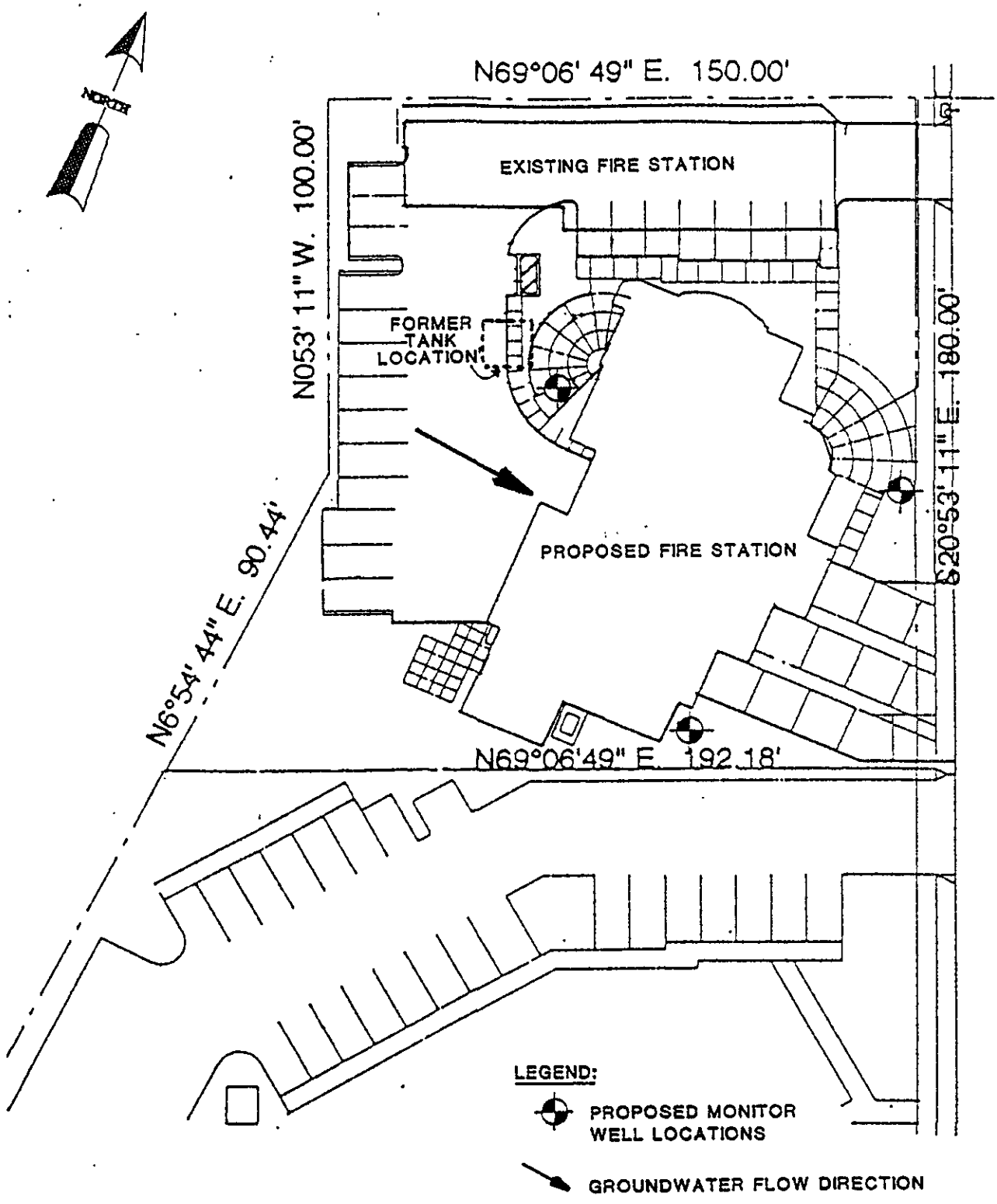
SUBJECT Sample Locations BY TWB DATE 8/20/92

REVIEWED BY DATE



SCALE: 1"=20'

FIGURE 3
SAMPLE LOCATION MAP
7494 DONOHUE DRIVE
DUBLIN, CALIFORNIA



DATE	BY	DATE	REVISION
DRAWN	ED	8-28-92	
CHECKED	ROF	8-28-92	
APPROVED	ROF	8-28-92	

REMEDIATION SERVICES, INC.

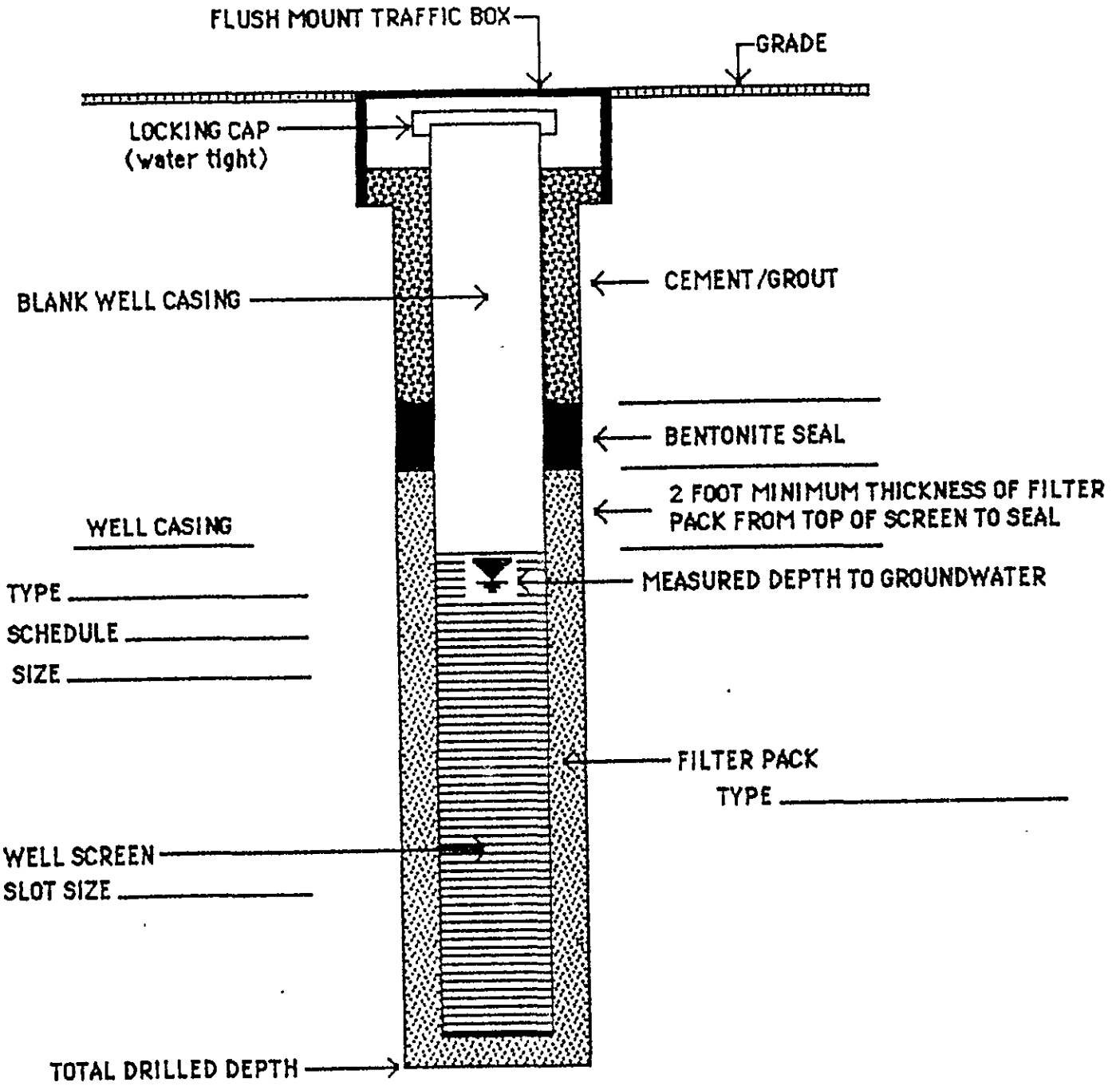
MONITOR WELL LOCATION PLAN

7494 DONOHUE DRIVE
DUBLIN, CALIFORNIA

JOB NUMBER R92022

SCALE: 1"=40'

FIGURE 4



TYPICAL MONITORING WELL CONSTRUCTION DETAILS

BSK
& Associates

FIGURE 5