# APPENDIX A
# PERMITS

CA DEPARTMENT OF FISH AND GAME
Streambed Alteration Agreement
*Pending*

SAN LUIS OBISPO AIR POLLUTION CONTROL DISTRICT
Geologic Exemption from Naturally Occurring Asbestos ATCM

AIR POLLUTION CONTROL DISTRICT
COUNTY OF SAN LUIS OBISPO

RECEIVED
NOV - 4 2009
AECOM

November 2, 2009

Bruce Buel, General Manager
Nipomo Community Services District
148 South Wilson Street
Nipomo CA 93444

SUBJECT: Naturally Occurring Asbestos ATCM – Geologic Exemption Request Granted for the Nipomo Community Service District Waterline Inter-tie Project

Dear Mr. Buel:

Thank you for your submittal for exemption from California Code of Regulations Section 93105 (Naturally Occurring Asbestos ATCM) dated October 14, 2009. After review of the documentation, the District agrees with the geological evaluation and grants Nipomo Community Services District's request for exemption for the scope of evaluations for the Nipomo CSD Waterline Inter-tie Project located in Nipomo.

Based upon the Geologic Evaluation performed by Fugro West, Inc. dated March 2, 2009, it appears that the likelihood of encountering serpentine deposits is low.

*Expiration of the Geologic Exemption:* If Nipomo Community Services District or its contractors subsequently discover any naturally occurring asbestos, serpentine, or ultramafic rock in the area to be disturbed, then:

1. Nipomo Community Services District or operator must comply with the requirements of CCR 93105;
2. Nipomo Community Services District or operator must report the discovery of the naturally-occurring asbestos, serpentine, or ultramafic rock to the APCO no later than the next business day; and
3. The exemption under CCR 93105 subsection (c) (1) shall expire and cease to be effective.

Based on the information provided, we are unsure of the types of equipment that may be present at the site during construction. Certain operational sources may require APCD permits, such as back-up diesel generators > 50 HP. Portable equipment used during construction activities may require California statewide portable equipment registration (issued by the California Air Resources Board) or a District permit. Please contact the District's Engineering Division at (805) 781-5912 for specific information regarding registration or permitting requirements.

Thank you for the payment of the NOA Evaluation Fee. If you have any questions, please contact me at (805) 781-5912.

Very truly yours,

Tim Fuhs
Air Quality Specialist

TJF/lmg

cc: Melissa Guise, San Luis Obispo County Air Pollution Control District
Eric Snelling, Padre Associates
Brian Pedrotti, San Luis Obispo County Planning Department
Eileen Shields, AECOM

H:\PLAN\CEQA\Project_Review\3000\3100\3194-2\3194-2NOA.doc

3433 Roberto Court • San Luis Obispo, CA 93401 • 805-781-5912 • FAX: 805-781-1002
info@slocleanair.org ❖ www.slocleanair.org

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# CAL/OSHA MINING AND TUNNELING UNIT
## Tunneling Classifications

State of California

Department of Industrial Relations

DIVISION OF OCCUPATIONAL SAFETY AND HEALTH
MINING AND TUNNELING UNIT

C101-083-10T

Van Nuys Office R5D2

# Underground Classification

NCSD Nipomo Waterline Intertie Project
(NAME OF TUNNEL OR MINE AND COMPANY NAME)

of *AECOM for*: Nipomo Community Services District
*1194 Pacific Street, Suite 204 San Luis Obispo, CA 93401*
(MAILING ADDRESS)

at North Blosser Road south of Canal Street
Santa Maria, Santa Barbara County, California
(LOCATION)

has been classified as ** NON GASSY **
(CLASSIFICATION)

as required by the California Labor Code Section 7955.

**The Division shall be notified if sufficient quantities of flammable gas or vapors have been encountered underground. Classifications are based on the California Labor Code Part 9, Tunnel Safety Orders and Mine Safety Orders.**

A 30" diameter steel casing, approximately 60 feet in length to be installed under a storm drain by "jack and bore" method from station 21+79 to station 22+38, Santa Maria, Santa Barbara County, California

** Reference:(1) Geotechnical Report by Fugro West, Inc. dated March 2, 2009
(2) Preliminary Plans by AECOM, undated.

March 22, 2010

James Wittry
Interim District Manager

**State of California**

**Department of Industrial Relations**

**DIVISION OF OCCUPATIONAL SAFETY AND HEALTH**
**MINING AND TUNNELING UNIT**

C102-083-10T Revised: 3/30/10

Van Nuys Office R5D2

# Underground Classification

NCSD Nipomo Waterline Intertie Project
(NAME OF TUNNEL OR MINE AND COMPANY NAME)

*AECOM for*: Nipomo Community Services District
of *1194 Pacific Street, Suite 204 San Luis Obispo, CA 93401*
(MAILING ADDRESS)

Santa Maria River levee at the north end of Blosser Road
at Santa Maria, Santa Barbara County, California
(LOCATION)

has been classified as ** POTENTIALLY GASSY **
(CLASSIFICATION)

as required by the California Labor Code Section 7955.

**The Division shall be notified if sufficient quantities of flammable gas or vapors have been encountered underground. Classifications are based on the California Labor Code Part 9, Tunnel Safety Orders and Mine Safety Orders.**

A 30" diameter steel casing, approximately 270 feet in length to be installed by "jack and bore" method under the Santa Maria River levee from station 50+96 to station 53+66, Santa Maria, Santa Barbara County, California

** Reference:(1) Geotechnical Report by Fugro West, Inc. dated March 2, 2009
(2) Preliminary Plans by AECOM, undated.
(3) Addendum to Geotechnical Report by Fugro West, Inc. 3/10/10

March 30, 2010

James Wittry
Interim District Manager

# APPENDIX B
# EASEMENTS AND ACCESS

SANTA BARBARA COUNTY
FLOOD CONTROL & WATER CONSERVATION DISTRICT
ACCESS AGREEMENT
*Pending*

# LEGAL DESCRIPTIONS FOR EASEMENTS

**EXHIBIT “A”**

**LEGAL DESCRIPTION**
Over a portion of APN: 090-341-019 (County of San Luis Obispo)
Owner: Patricia P. McLanahan

A portion of Government Lot 4, in the west one-half of Section 34, and a portion of Government Lot 1 in the east one-half of Section 33, both in Township 11 North, Range 34 West, S.B.M. in the County of San Luis Obispo, State of California according to the Official Plat on file in the District Land Office, and being more particularly described as Parcels “A” and “B” below:

**PARCEL “A” (Exhibit C, Permanent Easement Area)**

A strip of land, thirty feet (30 feet) wide, the center line described as follows:

Commencing at a found 1 inch diameter iron pipe marking the Section Corner between Sections 33 and 34, Township 11 North, Range 34 West, and Sections 3 and 4, Township 10 North, Range 34 West, S.B.M. in the County of Santa Barbara, State of California, as shown on Tract 5764, Phase 3, Unit 2, in the City of Santa Maria, County of Santa Barbara, State of California, according to the map filed in Book 188 at Pages 31 through 36 of Maps, in the Office of the County Recorder of said Santa Barbara County, and having grid coordinates of (northing) 2,188,882.615 feet, (easting) 5,826,896.812 feet of the California Coordinate System 1983 (CCS83), Zone 5, epoch date 2002.00, using Continuous Operating Reference Stations, 1996 adjustment [NAD83(CORS96)];

Thence north 07°03’04” east 2,406.08 feet to a found two inch diameter iron pipe and brass cap stamped "LS 5565" marking the point of intersection of Blosser Road and Atlantic Place as shown on said map and having grid coordinates of (northing) 2,191,270.493 feet (easting) 5,827,192.174 feet of said CCS83, Zone 5;

Thence south 88°33’41” west 8.19 feet to the **True Point of Beginning** and for convenience called **Point “A”**;

Thence north 02°44'34" east 512.30 feet;

Thence north 21°53'43" west 3,162.47 feet to a point for convenience called Point “B” and lying south 36°54’15” east 1,098.08 feet from a found one inch iron pipe and plastic plug stamped “RCE 25366” marking the corner common to Lot 1 and Lot 2 and on the northwesterly boundary line of Tract No. 2034 in the County of San Luis Obispo, State of California, according to the map filed in Book 18 at

Page 78 of Maps, in the Office of the County Recorder of said County, and having grid coordinates of (northing) 2,195,594.427 feet (easting) 5,825,369.804 feet of said CCS83, Zone 5, and also lying south 45°03'37" west 1,909.68 feet from a found three quarter inch iron pipe and tag stamped "LS 2391" marking the most easterly corner of Lot 3 of said Tract No. 2034 and having grid coordinates of (northing) 2,196,065.278 feet (easting) 5,827,380.941 feet of said CCS83, Zone 5.

Containing 13,900 square feet more of less.

**PARCEL "B" (Exhibit D, Temporary Construction Easement)**

A strip of land, one hundred and eighty five feet (185 feet) wide, the center line described as follows:

**Beginning** at the above described **Point "A"**;

Thence north 02°44'34" east 512.30 feet;

Thence north 21°53'43" west 3,162.47 feet to the above described Point "B".

Excepting therefrom the land described in Parcel "A" above.

Containing 71,821 square feet more of less.

All distances are grid distances CCS 83, Zone 5. The combined scale factor is 1.00025844.

The above described Parcels "A" and "B" are graphically shown on the Exhibits "B" , "C", and "D" attached hereto and made a part hereof.

**END DESCRIPTION**

Joseph T. Morris, PLS 6192 6/18/10

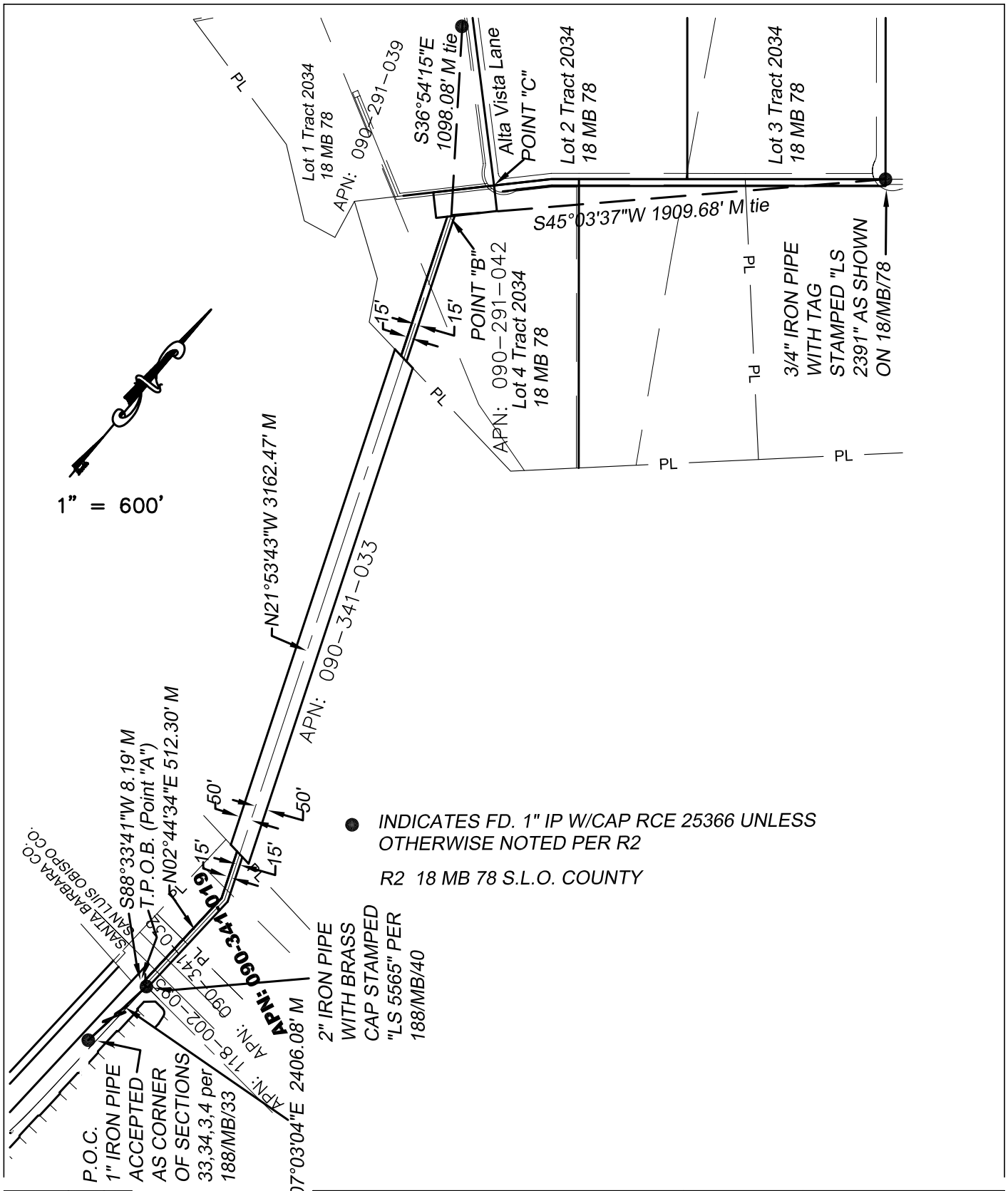



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**EXHIBIT B, OVERALL EASEMENT**
**PORTIONS OF THE CITY OF**
**SANTA MARIA**
**AND THE COUNTY OF**
**SAN LUIS OBISPO, CA**

| | | |
|---|---|---|
| PROJECT NO. 0532-0024 | | |
| 532-0024 Legal-4B.dwg | | |
| SURVEYED BY: | EMR | 10-12/2008 |
| DRAFTED BY: | ML | 6-18-2010 |
| CHECKED BY: | JTM | 6-18-2010 |

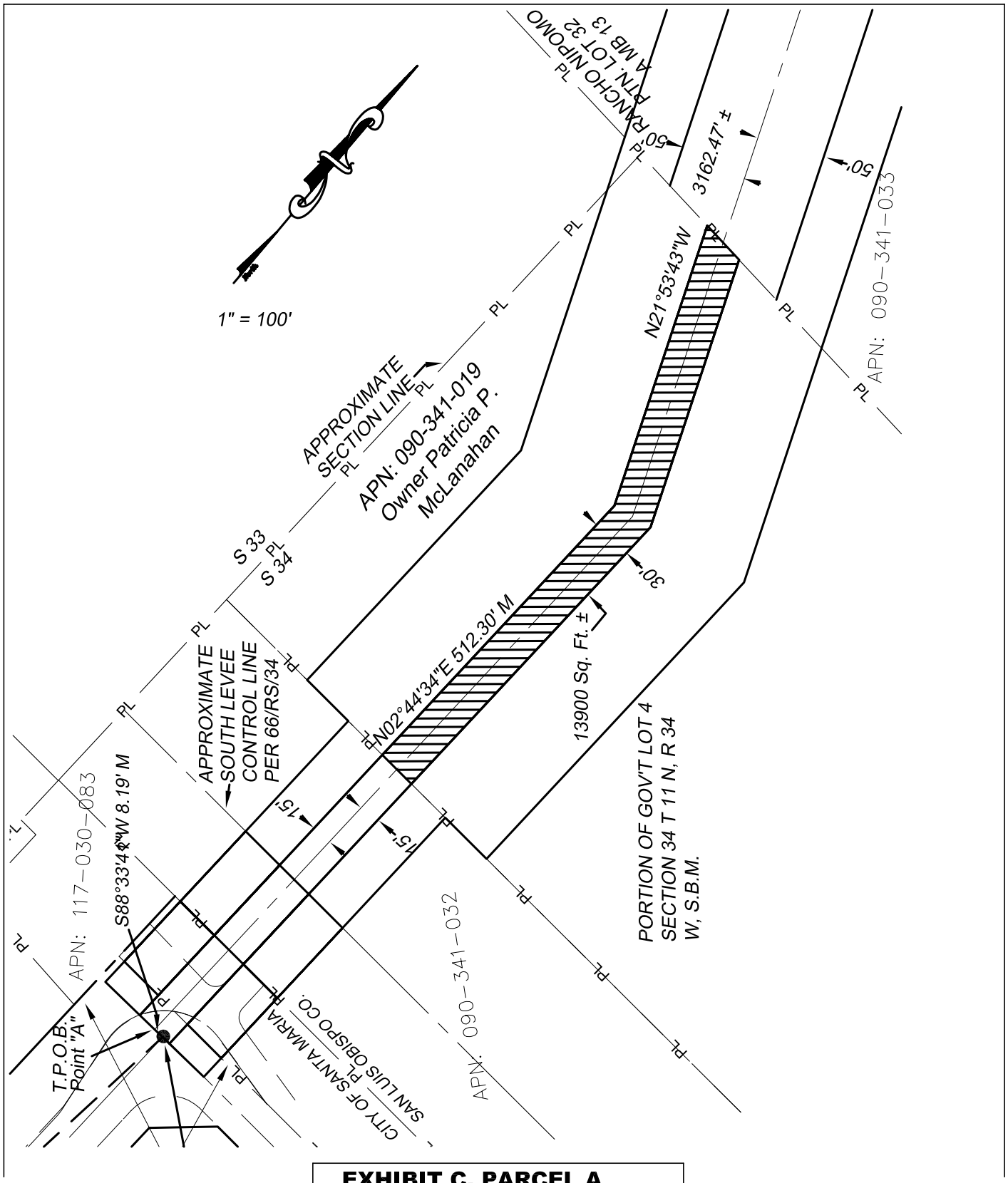



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**EXHIBIT C, PARCEL A**
**PERMANENT EASEMENT**
**PORTION OF GOV'T LOT 4**
**SECTION 34 T 11 N R 34 W**
**S.B.M. COUNTY**
**OF SAN LUIS OBISPO**

| | | |
|---|---|---|
| PROJECT NO. 0532-0024 | | |
| 532-0024 Legal-4.dwg | | |
| SURVEYED BY: | EMR | 10-12/2008 |
| DRAFTED BY: | ML | 6-18-2010 |
| CHECKED BY: | JTM | 6-18-2010 |

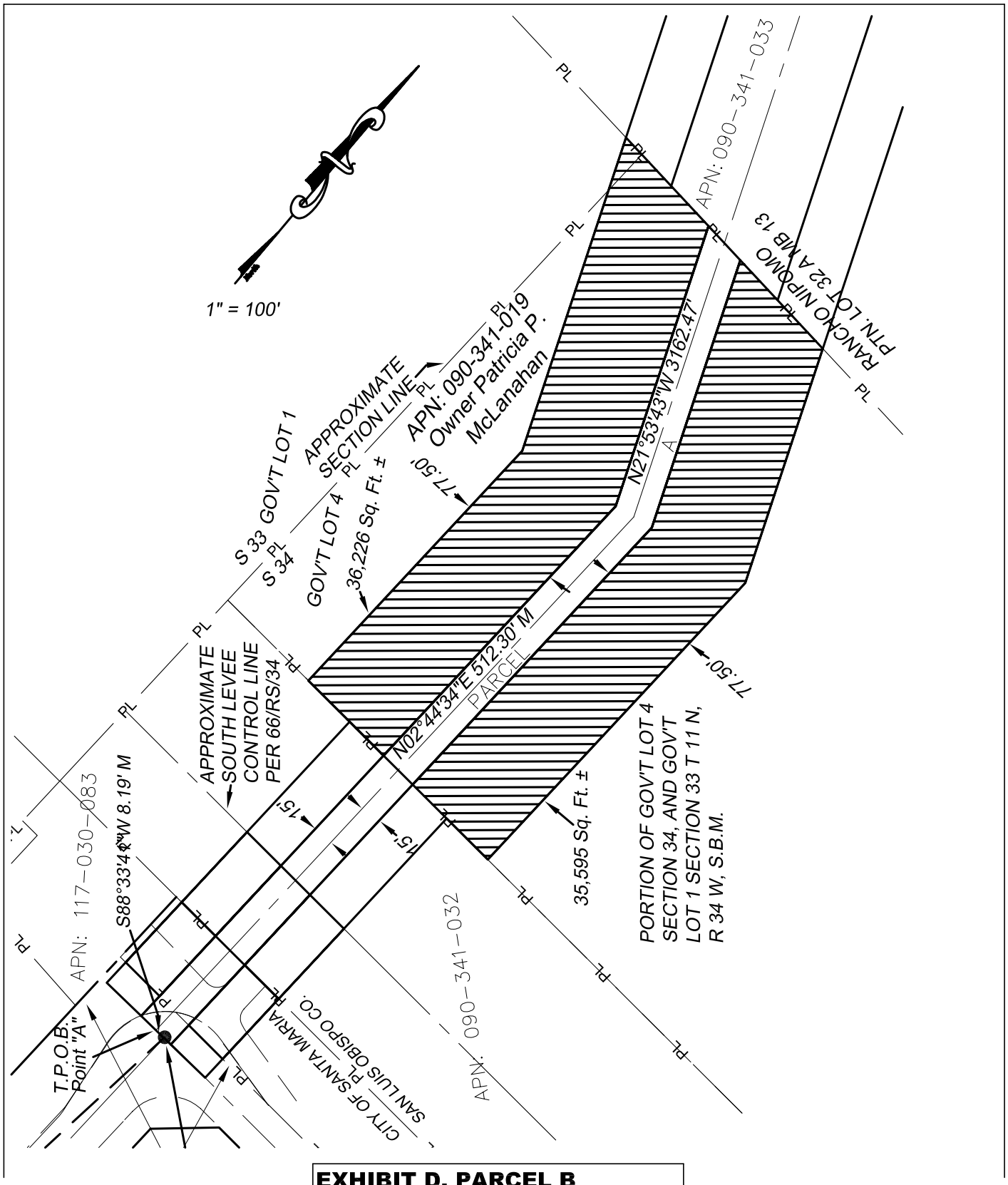



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**EXHIBIT D, PARCEL B**
**TEMP. CONSTR. EASEMENT**
**PTN. OF GOV'T LOT 4**
**S. 34, AND GOV'T LOT 1 S. 33,**
**T 11 N R 34 W, S.B.M. COUNTY**
**OF SAN LUIS OBISPO, CA.**

| | | |
|---|---|---|
| PROJECT NO. 0532-0024 | | |
| 532-0024 Legal-4A.dwg | | |
| SURVEYED BY: | EMR | 10-12/2008 |
| DRAFTED BY: | ML | 6-18-2010 |
| CHECKED BY: | JTM | 6-18-2010 |

**EXHIBIT “A”**

**LEGAL DESCRIPTION**
Over a portion of APN: 118-002-095 (City of Santa Maria)
Owner: North Preisker Ranch

A portion of North Preisker Ranch, Tract 5764, Phase 3, Unit 2, in the City of Santa Maria, County of Santa Barbara, State of California, according to the map filed in Book 188 at Pages 31 through 36 of Maps, in the Office of the County Recorder of said County, and being more particularly described as Parcels “A” and “B” below:

**PARCEL “A” (Exhibit C, Permanent Easement Area)**

A strip of land, thirty feet (30 feet) wide, the center line described as follows:

Commencing at a found 1 inch diameter iron pipe marking the Section Corner between Sections 33 and 34, Township 11 North, Range 34 West, and Sections 3 and 4, Township 10 North, Range 34 West, S.B.M. in the County of Santa Barbara, State of California, as shown on said map and having grid coordinates of (northing) 2,188,882.615 feet, (easting) 5,826,896.812 feet of the California Coordinate System 1983 (CCS83), Zone 5, epoch date 2002.00 using Continuous Operating Reference Stations, 1996 adjustment [NAD83(CORS96)];

Thence north 07°03’04” east 2,406.08 feet to a found two inch diameter iron pipe and brass cap stamped "LS 5565" marking the point of intersection of Blosser Road and Atlantic Place as shown on said map and having grid coordinates of (northing) 2,191,270.493 feet (easting) 5,827,192.174 feet of said CCS83, Zone 5;

Thence south 88°33’41” west 8.19 feet to the **True Point of Beginning** and for convenience called **Point “A”**;

Thence north 02°44'34" east 512.30 feet;

Thence north 21°53'43" west 3,162.47 feet to a point for convenience called Point “B” and lying south 36°54’15” east 1,098.08 feet from a found one inch iron pipe and plastic plug stamped “RCE 25366” marking the corner common to Lot 1 and Lot 2 and on the northwesterly boundary line of Tract No. 2034 in the County of San Luis Obispo, State of California, according to the map filed in Book 18 at Page 78 of Maps, in the Office of the County Recorder of said County, and having grid coordinates of (northing) 2,195,594.427 feet (easting) 5,825,369.804 feet of said CCS83, Zone 5, and also lying south 45°03’37” west 1,909.68 feet from a found three quarter inch iron pipe and tag stamped “LS 2391” marking the

most easterly corner of Lot 3 of said Tract No. 2034 and having grid coordinates of (northing) 2,196,065.278 feet (easting) 5,827,380.941 feet of said CCS83, Zone 5.

Excepting therefrom any portion of Blosser Road, Atlantic Place, and the area shown as the irrevocable offer of street dedication to the City of Santa Maria as shown on first said map.

Containing 1,749 square feet more of less.

**PARCEL "B" (Exhibit D, Temporary Construction Easement)**

A strip of land, one hundred feet (100 feet) wide, the center line described as follows:

**Beginning** at the above described **Point "A"**;

Thence north 02°44'34" east 512.30 feet;

Thence north 21°53'43" west 3,162.47 feet to the above described Point "B".

Excepting therefrom any portion of Blosser Road, Atlantic Place, and the area shown as the irrevocable offer of street dedication to the City of Santa Maria as shown on first said map.

Excepting therefrom the land described in Parcel "A" above.

Containing 3,894 square feet more of less.

All distances are grid distances CCS 83, Zone 5. The combined scale factor is 1.00025844.

The above described Parcels "A" and "B" are graphically shown on the Exhibits "B", "C", and "D" attached hereto and made a part hereof.

**END DESCRIPTION**

Joseph T. Morris, PLS 6192 6/18/10

LICENSED LAND SURVEYOR
Joseph T. Morris
No. 6192
Exp. 3/31/12
STATE OF CALIFORNIA

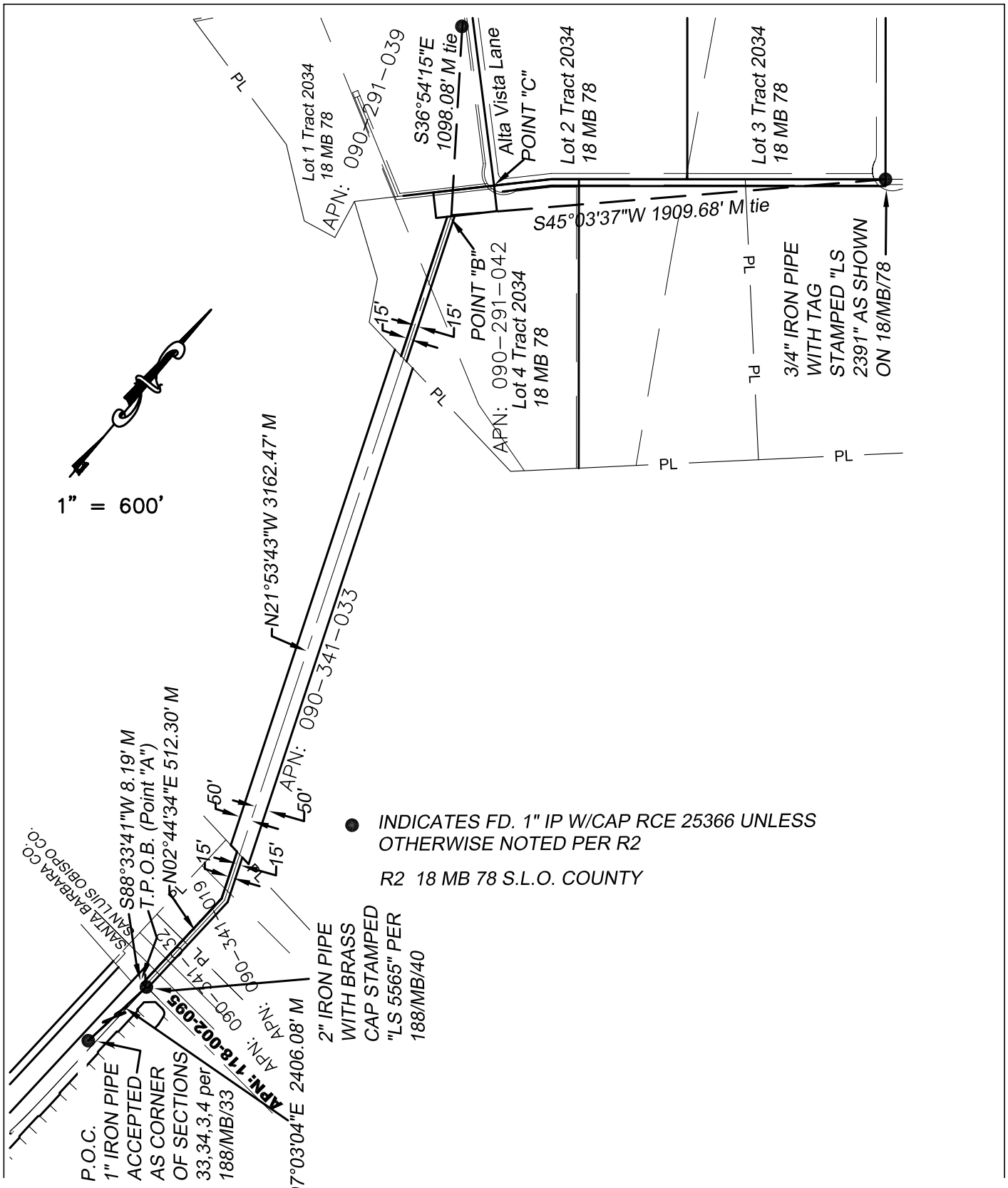



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**EXHIBIT B, OVERALL EASEMENT**
**PORTIONS OF THE CITY OF**
**SANTA MARIA**
**AND THE COUNTY OF**
**SAN LUIS OBISPO, CA**

| | | |
|---|---|---|
| PROJECT NO. 0532-0024 | | |
| 532-0024 Legal-2C.dwg | | |
| SURVEYED BY: | EMR | 10-12/2008 |
| DRAFTED BY: | ML | 6-18-2010 |
| CHECKED BY: | JTM | 6-18-2010 |

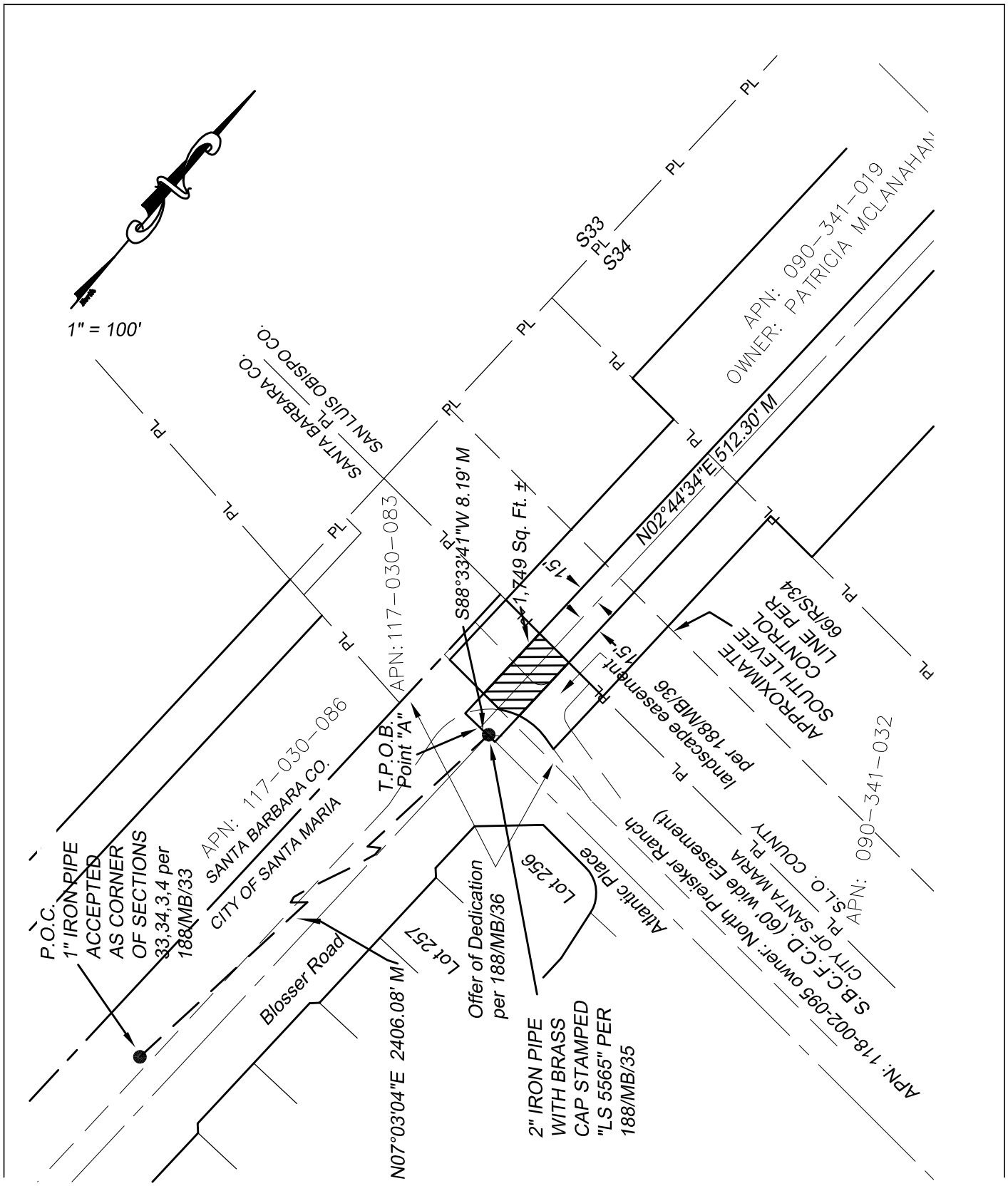



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**EXHIBIT C, PARCEL A,**
**PERMANENT EASEMENT**
**PORTION OF TRACT 5764**
**PHASE 3 UNIT 2**
**CITY OF SANTA MARIA, CA**

| | | |
|---|---|---|
| PROJECT NO. 0532-0024 | | |
| 532-0024 Legal-2.dwg | | |
| SURVEYED BY: | EMR | 10-12/2008 |
| DRAFTED BY: | ML | 6-18-2010 |
| CHECKED BY: | JTM | 6-18-2010 |

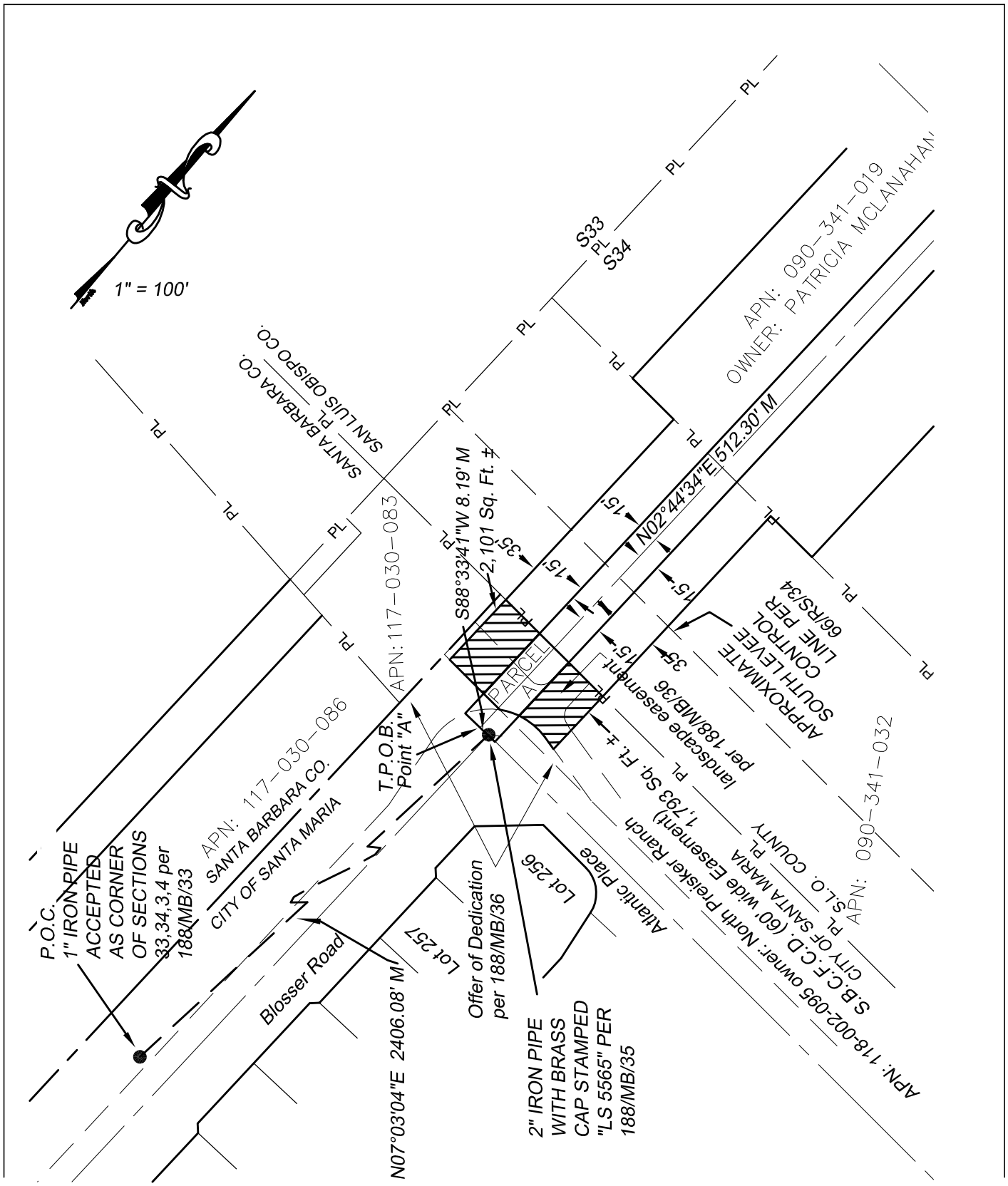



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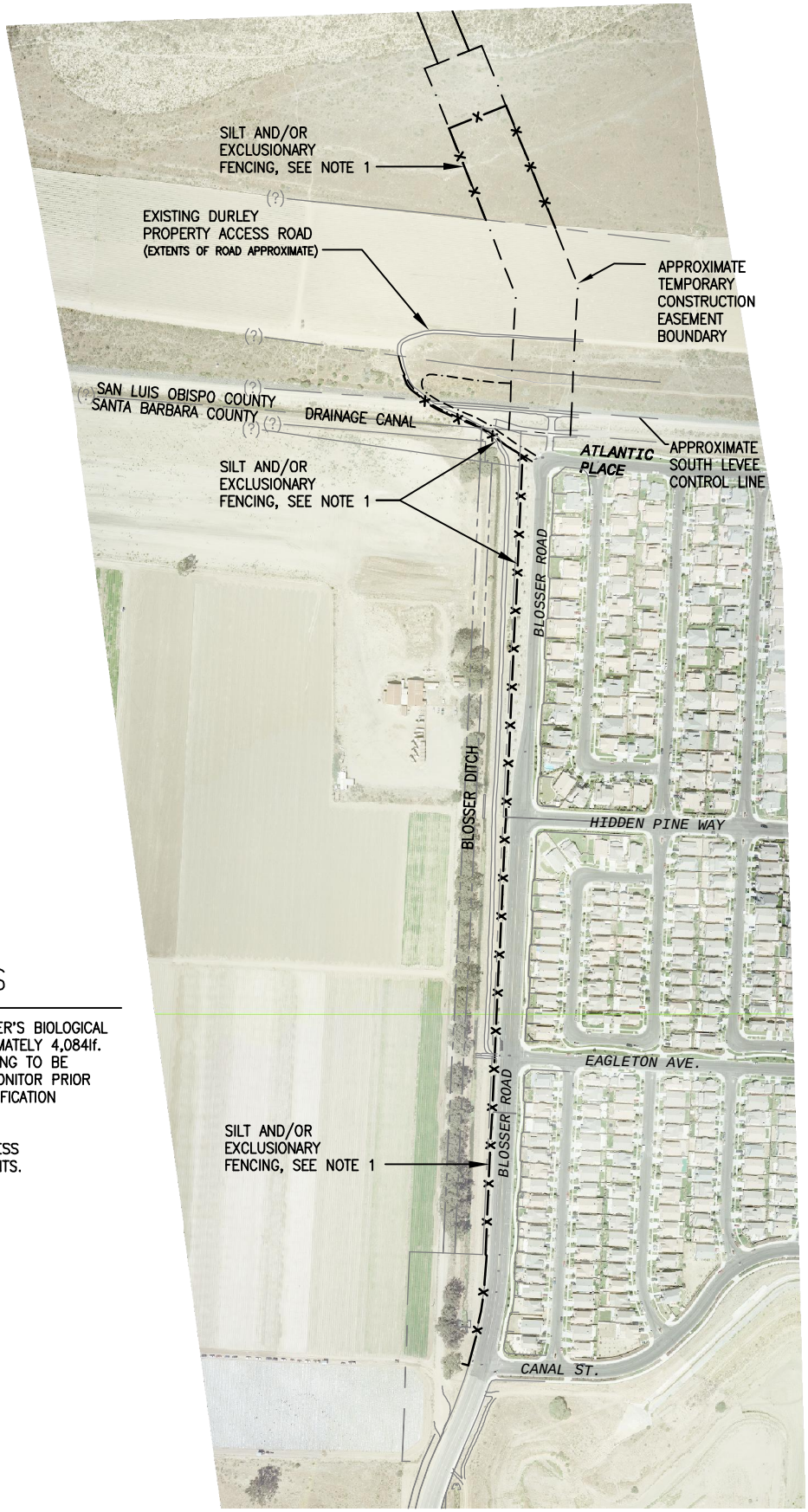
**EXHIBIT D, PARCEL B,**
**TEMP. CONSTR. EASEMENT**
**PORTION OF TRACT 5764**
**PHASE 3 UNIT 2**
**CITY OF SANTA MARIA, CA**

| | | |
|---|---|---|
| PROJECT NO. 0532-0024 | | |
| 532-0024 Legal-2A.dwg | | |
| SURVEYED BY: | EMR | 10-12/2008 |
| DRAFTED BY: | ML | 6-18-2010 |
| CHECKED BY: | JTM | 6-18-2010 |

EASEMENT AGREEMENTS AND CONDITIONS

*Pending*

# APPENDIX C
# EXHIBITS




## CONSTRUCTION NOTES

1. INSTALL FENCING AS DIRECTED BY OWNER'S BIOLOGICAL MONITOR. LENGTH OF FENCING APPROXIMATELY 4,084lf. EXACT LOCATION AND AMOUNT OF FENCING TO BE DETERMINED BY OWNER'S BIOLOGICAL MONITOR PRIOR TO START OF CONSTRUCTION PER SPECIFICATION SECTION 011160.

2. FOR EASEMENT DESCRIPTIONS AND ACCESS AGREEMENTS, SEE RESPECTIVE DOCUMENTS.

N

0 500

1 INCH = 500 FEET

AECOM

AECOM USA, Inc.
1194 Pacific Street, Suite 204
San Luis Obispo, California 93401
T 805.542.9840 F 805.542.9990

www.aecom.com

# NIPOMO COMMUNITY SERVICES DISTRICT
# WATERLINE INTERTIE PROJECT - BP#3

## POTENTIAL PROJECT FENCING AREAS FOR PROTECTION OF HABITAT

AECOM PROJECT NO.

60061295

EXHIBIT

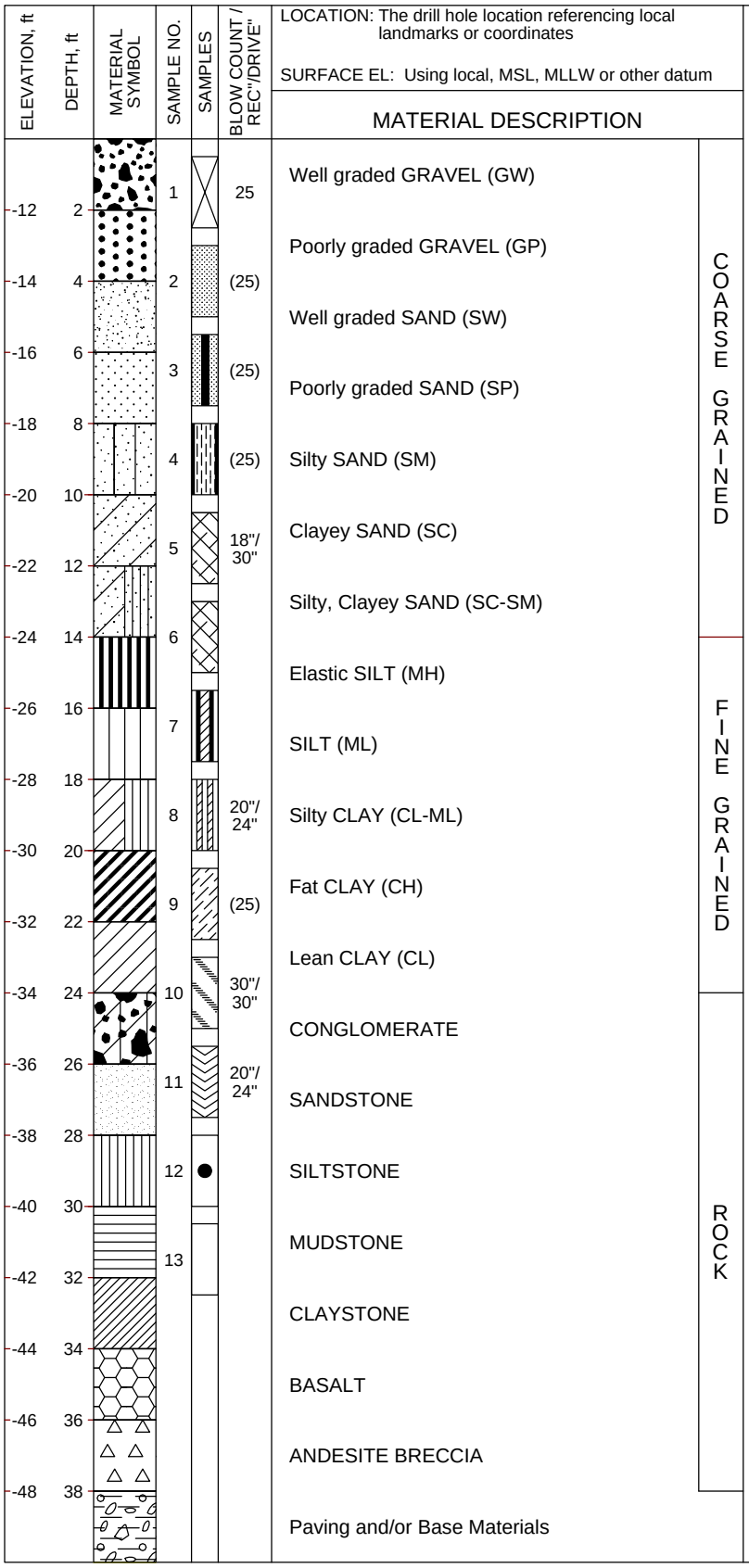
A

DWG: W:\Nipomo CSD (19996)\19996.70 Waterline Intertie Project Design\Design Plans\CAD\Planset\BP-3_BLOSSER ROAD\90% Planset\Exhibit A_Habitat Fencing.dwg Layout Name: Exhibit A – Plotted by: Froelicher, Jim Date: 3/10/2010 – 8:42 AM
XREFS: WaterBase – Ex-Utilities – TANK SITE-rev – HDD YARD IMAGES: Santa Maria Waterline-1.sid – Santa Maria Waterline-2.sid – Santa Maria Waterline-3.sid –

DWG: W:\Nipomo CSD (19996)\19996.70 Waterline Intertie Project Design\Phase 0004 - Project Management\Task 003 - SLO Misc Exhibits\CAD\Exhibits\Exhibit B_Potential Laydown Area.dwg Layout Name: FIGURE 1 - Plotted by: Froelicher, Jim Date: 4/5/2010 - 2:46 PM
XREFS: IMAGES: Hill_Grande2.jpg - img20600389 Aerial Photo-LITEa.jpg -

| EXHIBIT | NIPOMO COMMUNITY SERVICES DISTRICT<br>WATERLINE INTERTIE PROJECT | BEC PROJECT NO. | AECOM |
|---|---|---|---|
| B | POTENTIAL LAYDOWN AREAS<br>AND TEMPORARY CONSTRUCTION YARDS | 60061295 | AECOM USA, Inc.<br>1194 Pacific Street, Suite 204<br>San Luis Obispo, California 93401<br>T 805.542.9840 F 805.542.9990<br>www.aecom.com |

# APPENDIX D
# BORING LOGS




## General Notes

Soil Texture Symbol

Sloped line in symbol column indicates transitional boundary

Samplers and sampler dimensions
(unless otherwise noted in report text) are as follows:

Symbol for:

| | |
|---|---|
| 1 | SPT Sampler, driven 1-3/8" ID, 2" OD |
| 2 | CA Liner Sampler, driven 2-3/8" ID, 3" OD |
| 3 | CA Liner Sampler, disturbed 2-3/8" ID, 3" OD |
| 4 | Thin-walled Tube, pushed 2-7/8" ID, 3" OD |
| 5 | Bulk Bag Sample (from cuttings) |
| 6 | CA Liner Sampler, Bagged |
| 7 | Hand Auger Sample |
| 8 | CME Core Sample |
| 9 | Pitcher Sample |
| 10 | Lexan Sample |
| 11 | Vibracore Sample |
| 12 | No Sample Recovered |
| 13 | Sonic Soil Core Sample |

Sampler Driving Resistance

Number of blows with 140 lb. hammer, falling 30" to drive sampler 1 ft. after seating sampler 6"; for example,

| Blows/ft | Description |
|---|---|
| 25 | 25 blows drove sampler 12" after initial 6" of seating |
| 86/11" | After driving sampler the initial 6" of seating, 36 blows drove sampler through the second 6" interval, and 50 blows drove the sampler 5" into the third interval |
| 50/6" | 50 blows drove sampler 6" after initial 6" of seating |
| Ref/3" | 50 blows drove sampler 3" during initial 6" seating interval |

Blow counts for California Liner Sampler shown in ( )

Length of sample symbol approximates recovery length

Classification of Soils per ASTM D2487 or D2488

Geologic Formation noted in bold font at the top of interpreted interval

Strength Legend

Q = Unconfined Compression
u = Unconsolidated Undrained Triaxial
t = Torvane
p = Pocket Penetrometer
m = Miniature Vane

Water Level Symbols

- Initial or perched water level
- Final ground water level
- Seepages encountered

Rock Quality Designation (RQD) is the sum of recovered core pieces greater than 4 inches divided by the length of the cored interval.

# KEY TO TERMS & SYMBOLS USED ON LOGS

PLATE A-1

LOCATION: 60' north of intersection of Canal Street and Blosser Road southbound lane

SURFACE EL: 193.5 ft +/- (rel. MSL datum)

| ELEVATION, ft | DEPTH, ft | MATERIAL SYMBOL | SAMPLE NO. | SAMPLERS | SAMPLER BLOW COUNT | MATERIAL DESCRIPTION | UNIT WET WEIGHT, pcf | UNIT DRY WEIGHT, pcf | WATER CONTENT, % | % PASSING #200 SIEVE | LIQUID LIMIT, % | PLASTICITY INDEX, % | UNDRAINED SHEAR STRENGTH, $S_u$, ksf |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | **ARTIFICIAL FILL (af)** Approximately 4.5" asphalt concrete over approximately 5" base material | | | | | | | |
| 192 | 2 | | 1 | | 20 | Well-graded SAND (SW): medium dense, brown, moist | | | 3 | 4 | | | |
| 190 | 4 | | 2 | | (19) | Silty SAND (SM): medium dense, brown, moist, occasional subangular gravel up to approximately 1/2" | 117 | 110 | 7 | 14 | | | |
| 188 | 6 | | | | | | | | | | | | |
| 186 | 8 | | | | | Well-graded SAND with silt (SW-SM): medium dense, brown, moist | | | | | | | |
| 184 | 10 | | 3 | | 16 | | | | | | | | |
| 182 | 12 | | | | | | | | | | | | |
| 180 | 14 | | | | | | | | | | | | |
| 178 | 16 | | | | | | | | | | | | |
| 176 | 18 | | | | | | | | | | | | |
| 174 | 20 | | | | | | | | | | | | |
| 172 | 22 | | | | | | | | | | | | |
| 170 | 24 | | | | | | | | | | | | |
| 168 | 26 | | | | | | | | | | | | |
| 166 | 28 | | | | | | | | | | | | |
| 164 | 30 | | | | | | | | | | | | |
| 162 | 32 | | | | | | | | | | | | |
| 160 | 34 | | | | | | | | | | | | |
| 158 | 36 | | | | | | | | | | | | |
| 156 | 38 | | | | | | | | | | | | |
| 154 | 40 | | | | | | | | | | | | |
| 152 | | | | | | | | | | | | | |

The log and data presented are a simplification of actual conditions encountered at the time of drilling at the drilled location. Subsurface conditions may differ at other locations and with the passage of time.

COMPLETION DEPTH: 11.0 ft
DEPTH TO WATER: Not Encountered
BACKFILLED WITH: Cuttings/Cold Patch
DRILLING DATE: October 17, 2008

DRILLING METHOD: 8-inch-dia. Hollow Stem Auger
HAMMER TYPE: 140-lb Automatic Trip
DRILLED BY: S/G Drilling Company
LOGGED BY: C Stoehr
CHECKED BY: C Lovato

# LOG OF BORING NO. B-01

Nipomo-Santa Maria Intertie
Nipomo, California

LOCATION: 60' north of Eagleton Avenue, west side of Blosser Road

SURFACE EL: 193.5 ft +/- (rel. MSL datum)

| ELEVATION, ft | DEPTH, ft | MATERIAL SYMBOL | SAMPLE NO. | SAMPLERS | SAMPLER BLOW COUNT | MATERIAL DESCRIPTION | UNIT WET WEIGHT, pcf | UNIT DRY WEIGHT, pcf | WATER CONTENT, % | % PASSING #200 SIEVE | LIQUID LIMIT, % | PLASTICITY INDEX, % | UNDRAINED SHEAR STRENGTH, $S_u$, ksf |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | **ARTIFICIAL FILL (af)** Approximately 4.5" asphalt concrete over approximately 5" base material | | | | | | | |
| 192 | 2 | | A | | | Silty clayey SAND (SC-SM): brown, moist | | | | | | | |
| | | | | | | **ALLUVIUM (Qal)** | | | | | | | |
| 190 | 4 | | | | | Poorly-graded SAND (SP): medium dense, brown, moist, occasional subangular gravel up to approximately 3/4" | | | | | | | |
| 188 | 6 | | 1 | | (30) | | 108 | 105 | 3 | 5 | | | |
| 186 | 8 | | | | | Poorly-graded SAND with gravel (SP): medium dense, brown, moist, subangular and subrounded gravel up to approximately 1/2", increase in grain size | | | | | | | |
| 184 | 10 | | 2 | | 28 | | | | | | | | |
| 182 | 12 | | | | | | | | | | | | |
| 180 | 14 | | | | | | | | | | | | |
| 178 | 16 | | | | | | | | | | | | |
| 176 | 18 | | | | | | | | | | | | |
| 174 | 20 | | | | | | | | | | | | |
| 172 | 22 | | | | | | | | | | | | |
| 170 | 24 | | | | | | | | | | | | |
| 168 | 26 | | | | | | | | | | | | |
| 166 | 28 | | | | | | | | | | | | |
| 164 | 30 | | | | | | | | | | | | |
| 162 | 32 | | | | | | | | | | | | |
| 160 | 34 | | | | | | | | | | | | |
| 158 | 36 | | | | | | | | | | | | |
| 156 | 38 | | | | | | | | | | | | |
| 154 | 40 | | | | | | | | | | | | |
| 152 | | | | | | | | | | | | | |

The log and data presented are a simplification of actual conditions encountered at the time of drilling at the drilled location. Subsurface conditions may differ at other locations and with the passage of time.

COMPLETION DEPTH: 11.0 ft
DEPTH TO WATER: Not Encountered
BACKFILLED WITH: Cuttings/Cold Patch
DRILLING DATE: October 13, 2008

DRILLING METHOD: 8-inch-dia. Hollow Stem Auger
HAMMER TYPE: 140-lb Automatic Trip
DRILLED BY: S/G Drilling Company
LOGGED BY: C Stoehr
CHECKED BY: C Lovato

# LOG OF BORING NO. B-02

Nipomo-Santa Maria Intertie
Nipomo, California

PLATE A-3

LOCATION: Approximately 115' north of Hidden Pines Road on Blosser Road west side

SURFACE EL: 195 ft +/- (rel. MSL datum)

| ELEVATION, ft | DEPTH, ft | MATERIAL SYMBOL | SAMPLE NO. | SAMPLERS | SAMPLER BLOW COUNT | MATERIAL DESCRIPTION | UNIT WET WEIGHT, pcf | UNIT DRY WEIGHT, pcf | WATER CONTENT, % | % PASSING #200 SIEVE | LIQUID LIMIT, % | PLASTICITY INDEX, % | UNDRAINED SHEAR STRENGTH, $S_u$, ksf |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 194 | | | | | | **ARTIFICIAL FILL (af)** Approximately 2.5" asphalt concrete over approximately 3" base material | | | | | | | |
| | 2 | | | | | | | | | | | | |
| 192 | | | 1 | | 21 | Silty clayey SAND (SC-SM): medium dense, brown, moist, dark grey-brown in top of sample | | | 9 | 23 | | | |
| | 4 | | | | | | | | | | | | |
| 190 | | | 2 | | (36) | **ALLUVIUM (Qal)** Silty SAND (SM): medium dense, brown, moist | 101 | 97 | 5 | | | | |
| | 6 | | | | | | | | | | | | |
| 188 | | | | | | | | | | | | | |
| | 8 | | | | | | | | | | | | |
| 186 | | | | | | | | | | | | | |
| | 10 | | 3 | | (20) | - increase in grain size, occasional gravel subrounded up to approximately 1/2" | 110 | 104 | 6 | | | | |
| 184 | | | | | | | | | | | | | |
| | 12 | | | | | | | | | | | | |
| 182 | | | | | | | | | | | | | |
| | 14 | | | | | | | | | | | | |
| 180 | | | | | | | | | | | | | |
| | 16 | | | | | | | | | | | | |
| 178 | | | | | | | | | | | | | |
| | 18 | | | | | | | | | | | | |
| 176 | | | | | | | | | | | | | |
| | 20 | | | | | | | | | | | | |
| 174 | | | | | | | | | | | | | |
| | 22 | | | | | | | | | | | | |
| 172 | | | | | | | | | | | | | |
| | 24 | | | | | | | | | | | | |
| 170 | | | | | | | | | | | | | |
| | 26 | | | | | | | | | | | | |
| 168 | | | | | | | | | | | | | |
| | 28 | | | | | | | | | | | | |
| 166 | | | | | | | | | | | | | |
| | 30 | | | | | | | | | | | | |
| 164 | | | | | | | | | | | | | |
| | 32 | | | | | | | | | | | | |
| 162 | | | | | | | | | | | | | |
| | 34 | | | | | | | | | | | | |
| 160 | | | | | | | | | | | | | |
| | 36 | | | | | | | | | | | | |
| 158 | | | | | | | | | | | | | |
| | 38 | | | | | | | | | | | | |
| 156 | | | | | | | | | | | | | |
| | 40 | | | | | | | | | | | | |
| 154 | | | | | | | | | | | | | |

The log and data presented are a simplification of actual conditions encountered at the time of drilling at the drilled location. Subsurface conditions may differ at other locations and with the passage of time.

COMPLETION DEPTH: 11.0 ft
DEPTH TO WATER: Not Encountered
BACKFILLED WITH: Cuttings/Cold Patch
DRILLING DATE: October 13, 2008

DRILLING METHOD: 8-inch-dia. Hollow Stem Auger
HAMMER TYPE: 140-lb Automatic Trip
DRILLED BY: S/G Drilling Company
LOGGED BY: C Stoehr
CHECKED BY: C Lovato

# LOG OF BORING NO. B-03

Nipomo-Santa Maria Intertie
Nipomo, California

LOCATION: South of levee, proposed jack and bore location, intersection of Atlantic and Blosser

SURFACE EL: 198 ft +/- (rel. MSL datum)

| ELEVATION, ft | DEPTH, ft | MATERIAL SYMBOL | SAMPLE NO. | SAMPLERS | SAMPLER BLOW COUNT | MATERIAL DESCRIPTION | UNIT WET WEIGHT, pcf | UNIT DRY WEIGHT, pcf | WATER CONTENT, % | % PASSING #200 SIEVE | LIQUID LIMIT, % | PLASTICITY INDEX, % | UNDRAINED SHEAR STRENGTH, $S_u$, ksf | Gas Readings co, voc, h2s, lel (ppm) oxy (%) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | **ARTIFICIAL FILL (af):** Approximately 2.25" asphalt concrete over approximately 12" base material over angular shale cobble, approximately 7" | | | | | | | | co = 0 voc = 1.2 h2s = 0 lel = 0 oxy = 20.5 |
| 196 | 2 | | 1 | | 19 | Well-graded SAND with silt (SW-SM): medium dense, brown, moist | | | | | | | | |
| 194 | 4 | | 2 | | (29) | - occasional subangular gravel up to approximately 1" | 117 | 110 | 7 | 10 | | | | |
| 192 | 6 | | | | | | | | | | | | | |
| | | | | | | **ALLUVIUM (Qal):** Poorly-graded SAND (SP): medium dense, brown, moist, occasional subangular gravel up to approximately 1/2", well graded SAND (SW) layer in middle of sampler, approximately 5" thick | | | | | | | | |
| 190 | 8 | | | | | | | | | | | | | |
| 188 | 10 | | 3 | | 21 | | | | | | | | | co = 0 voc = 1 h2s = 0 lel = 0 oxy = 20.9 |
| | | | A | | | | | | | | | | | |
| 186 | 12 | | | | | | | | | | | | | |
| 184 | 14 | | 4 | | (13) | - loose, decrease in grain size | 96 | 92 | 4 | | | | | co = 0 voc = 1.2 h2s = 0 lel = 0 oxy = 20.9 |
| 182 | 16 | | | | | | | | | | | | | |
| 180 | 18 | | | | | | | | | | | | | |
| | | | | | | Poorly-graded SAND with gravel (SP): medium dense, brown, moist, subangular and subrounded gravel up to approximately 1" | | | | | | | | |
| 178 | 20 | | 5 | | (23) | | 104 | 100 | 5 | 4 | | | | co = 0 voc = 0.8 h2s = 0 lel = 0 oxy = 20.9 |
| 176 | 22 | | | | | | | | | | | | | |
| | | | | | | Poorly-graded SAND (SP): medium dense, brown, moist, occasional subangular gravel up to approximately 3/8" | | | | | | | | |
| 174 | 24 | | 6 | | 22 | | | | | | | | | co = 0 voc = 0.7 h2s = 0 lel = 0 oxy = 20.9 |
| 172 | 26 | | | | | | | | | | | | | |
| | | | | | | Well-graded SAND with gravel (SW): dense, brown, moist, subrounded to rounded gravel up to approximately 2" | | | | | | | | |
| 170 | 28 | | | | | | | | | | | | | |
| 168 | 30 | | 7 | | (49) | Note: October 13, 2008 drilling terminated at 31.0 feet | 115 | 107 | 7 | | | | | co = 0 voc = 0 h2s = 0 lel = 0 oxy = 20.9 |
| | | | | | | Poorly-graded SAND with silt and gravel (SP-SM): dense, tan, moist, some coarse sand, fine gravel, interlayered with silty SAND (SM) | | | | | | | | |
| 166 | 32 | | | | | | | | | | | | | |
| 164 | 34 | | 1A | | (63) | | 112 | 107 | 5 | | | | | co = 0 voc = 0 h2s = 0 lel = 0 |
| 162 | 36 | | | | | | | | | | | | | |

The log and data presented are a simplification of actual conditions encountered at the time of drilling at the drilled location. Subsurface conditions may differ at other locations and with the passage of time.

COMPLETION DEPTH: 81.0 ft
DEPTH TO WATER: Not Encountered
BACKFILLED WITH: Cuttings/Cold Patch
DRILLING DATE: October 13, 2008 and February 22, 2010

DRILLING METHOD: 8-inch-dia. Hollow Stem Auger
HAMMER TYPE: 140-lb Automatic Trip
DRILLED BY: S/G Drilling Company
LOGGED BY: C Stoehr and N Lehr
CHECKED BY: C Lovato

# LOG OF BORING NO. B-04

Nipomo-Santa Maria Intertie
Nipomo, California

PLATE A-5a

LOCATION: South of levee, proposed jack and bore location, intersection of Atlantic and Blosser

SURFACE EL: 198 ft +/- (rel. MSL datum)

| ELEVATION, ft | DEPTH, ft | SAMPLE NO. | SAMPLER BLOW COUNT | MATERIAL DESCRIPTION | UNIT WET WEIGHT, pcf | UNIT DRY WEIGHT, pcf | WATER CONTENT, % | % PASSING #200 SIEVE | LIQUID LIMIT, % | PLASTICITY INDEX, % | UNDRAINED SHEAR STRENGTH, $S_u$, ksf | Gas Readings co, voc, h2s, lel (ppm) oxy (%) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | oxy = 21.1 |
| 158 | 40 | 2A | 61 | - very dense, gravel or cobbles, rig chatter | | | | 8 | | | | co = 0<br>voc = 0.3<br>h2s = 0<br>lel = 0<br>oxy = 21 |
| 156 | 42 | | | | | | | | | | | |
| 154 | 44 | | | - fine to coarse gravel, few cobbles | | | | | | | | |
| | | 3A | (61) | Poorly-graded SAND with silt (SP-SM): dense, tan, moist, interlayered coarse sand | 102 | 99 | 3 | | | | | co = 0<br>voc = 0<br>h2s = 0<br>lel = 0<br>oxy = 21 |
| 152 | 46 | | | | | | | | | | | |
| 150 | 48 | | | | | | | | | | | |
| 148 | 50 | 4A | 52 | - very dense, interbedded 2" layers of fine silty SAND (SM) | | | | 8 | | | | co = 0<br>voc = 0<br>h2s = 0<br>lel = 0<br>oxy = 20.9 |
| 146 | 52 | | | | | | | | | | | |
| 144 | 54 | | | | | | | | | | | |
| | | 5A | (82) | **OLDER ALLUVIUM (Qoa):** Poorly-graded SAND (SP): very dense, tan, moist | 111 | 106 | 4 | | | | | co = 0<br>voc = 0<br>h2s = 0<br>lel = 0<br>oxy = 20.9 |
| 142 | 56 | | | | | | | | | | | |
| 140 | 58 | | | | | | | | | | | |
| 138 | 60 | 6A | 68 | - interlayered silty SAND (SM), very dense, brown, moist | | | | | | | | co = 0<br>voc = 0<br>h2s = 0<br>lel = 0<br>oxy = 20.9 |
| 136 | 62 | | | | | | | | | | | |
| 134 | 64 | | | | | | | | | | | |
| | | 7A | (50/5") | - very dense, moist | 108 | 104 | 4 | | | | | co = 0<br>voc = 0<br>h2s = 0<br>lel = 0<br>oxy = 21.1 |
| 132 | 66 | | | | | | | | | | | |
| 130 | 68 | | | Silty SAND (SM): very dense, tan, moist | | | | | | | | |
| 128 | 70 | 8 | 58 | | | | | | | | | co = 0<br>voc = 0<br>h2s = 0<br>lel = 0<br>oxy = 20.9 |
| 126 | 72 | | | | | | | | | | | |
| 124 | 74 | | | Poorly-graded SAND (SP): very dense, tan, moist | | | | | | | | |
| | | 9 | (86) | | 115 | 111 | 4 | | | | | co = 0 |

The log and data presented are a simplification of actual conditions encountered at the time of drilling at the drilled location. Subsurface conditions may differ at other locations and with the passage of time.

COMPLETION DEPTH: 81.0 ft
DEPTH TO WATER: Not Encountered
BACKFILLED WITH: Cuttings/Cold Patch
DRILLING DATE: October 13, 2008 and February 22, 2010

DRILLING METHOD: 8-inch-dia. Hollow Stem Auger
HAMMER TYPE: 140-lb Automatic Trip
DRILLED BY: S/G Drilling Company
LOGGED BY: C Stoehr and N Lehr
CHECKED BY: C Lovato

# LOG OF BORING NO. B-04

Nipomo-Santa Maria Intertie
Nipomo, California

PLATE A-5b

LOCATION: South of levee, proposed jack and bore location, intersection of Atlantic and Blosser

SURFACE EL: 198 ft +/- (rel. MSL datum)

| ELEVATION, ft | DEPTH, ft | MATERIAL SYMBOL | SAMPLE NO. | SAMPLERS | SAMPLER BLOW COUNT | MATERIAL DESCRIPTION | UNIT WET WEIGHT, pcf | UNIT DRY WEIGHT, pcf | WATER CONTENT, % | % PASSING #200 SIEVE | LIQUID LIMIT, % | PLASTICITY INDEX, % | UNDRAINED SHEAR STRENGTH, $S_u$, ksf | Gas Readings co, voc, h2s, lel (ppm) oxy (%) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | voc = 0<br>h2s = 0 |
| 120 | 78 | | | | | | | | | | | | | lel = 0<br>oxy = 21.3 |
| 118 | 80 | | 10 | | 27 | - medium dense | | | | | | | | co = 0<br>voc = 0 |
| 116 | 82 | | | | | | | | | | | | | h2s = 0<br>lel = 0 |
| 114 | 84 | | | | | | | | | | | | | oxy = 21.2 |
| 112 | 86 | | | | | | | | | | | | | |
| 110 | 88 | | | | | | | | | | | | | |
| 108 | 90 | | | | | | | | | | | | | |
| 106 | 92 | | | | | | | | | | | | | |
| 104 | 94 | | | | | | | | | | | | | |
| 102 | 96 | | | | | | | | | | | | | |
| 100 | 98 | | | | | | | | | | | | | |
| 98 | 100 | | | | | | | | | | | | | |
| 96 | 102 | | | | | | | | | | | | | |
| 94 | 104 | | | | | | | | | | | | | |
| 92 | 106 | | | | | | | | | | | | | |
| 90 | 108 | | | | | | | | | | | | | |
| 88 | 110 | | | | | | | | | | | | | |
| 86 | 112 | | | | | | | | | | | | | |

The log and data presented are a simplification of actual conditions encountered at the time of drilling at the drilled location. Subsurface conditions may differ at other locations and with the passage of time.

COMPLETION DEPTH: 81.0 ft
DEPTH TO WATER: Not Encountered
BACKFILLED WITH: Cuttings/Cold Patch
DRILLING DATE: October 13, 2008 and February 22, 2010

DRILLING METHOD: 8-inch-dia. Hollow Stem Auger
HAMMER TYPE: 140-lb Automatic Trip
DRILLED BY: S/G Drilling Company
LOGGED BY: C Stoehr and N Lehr
CHECKED BY: C Lovato

# LOG OF BORING NO. B-04

Nipomo-Santa Maria Intertie
Nipomo, California

PLATE A-5c

LOCATION: North of levee between levee and dirt road, proposed location of jack and bore

SURFACE EL: 191.5 ft +/- (rel. MSL datum)

| ELEVATION, ft | DEPTH, ft | MATERIAL SYMBOL | SAMPLE NO. | SAMPLERS | SAMPLER BLOW COUNT | MATERIAL DESCRIPTION | UNIT WET WEIGHT, pcf | UNIT DRY WEIGHT, pcf | WATER CONTENT, % | % PASSING #200 SIEVE | LIQUID LIMIT, % | PLASTICITY INDEX, % | UNDRAINED SHEAR STRENGTH, $S_u$, ksf |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 190 | 2 | | 1 | | 16 | **ALLUVIUM (Qal)** Poorly-graded SAND with silt (SP-SM): medium dense, light brown, dry to moist, occasional subrounded gravel up to approximately 1/2" | | | | | | | |
| 188 | 4 | | 2 | | (29) | - decrease in grain size, decrease in gravel | 102 | 98 | 4 | 7 | | | |
| 186 | 6 | | | | | | | | | | | | |
| 184 | 8 | | | | | | | | | | | | |
| 182 | 10 | | 3 | | 21 | Silty SAND with gravel (SM): medium dense, brown, moist, occasional subrounded gravel up to approximately 3/4" | | | 4 | | | | |
| 180 | 12 | | | | | Poorly-graded SAND (SP): medium dense, brown, moist | | | | | | | |
| 178 | 14 | | | | | | | | | | | | |
| 176 | 16 | | 4 | | (33) | - 8" layer of well-graded SAND (SW) | 108 | 103 | 5 | | | | |
| 174 | 18 | | | | | | | | | | | | |
| 172 | 20 | | 5 | | 30 | - occasional subrounded gravel up to approximately 1/2" | | | | | | | |
| 170 | 22 | | | | | | | | | | | | |
| 168 | 24 | | | | | | | | | | | | |
| 166 | 26 | | | | | | | | | | | | |
| 164 | 28 | | | | | | | | | | | | |
| 162 | 30 | | | | | | | | | | | | |
| 160 | 32 | | | | | | | | | | | | |
| 158 | 34 | | | | | | | | | | | | |
| 156 | 36 | | | | | | | | | | | | |
| 154 | 38 | | | | | | | | | | | | |
| 152 | 40 | | | | | | | | | | | | |
| 150 | | | | | | | | | | | | | |

The log and data presented are a simplification of actual conditions encountered at the time of drilling at the drilled location. Subsurface conditions may differ at other locations and with the passage of time.

COMPLETION DEPTH: 21.0 ft
DEPTH TO WATER: Not Encountered
BACKFILLED WITH: Cuttings
DRILLING DATE: October 13, 2008

DRILLING METHOD: 8-inch-dia. Hollow Stem Auger
HAMMER TYPE: 140-lb Automatic Trip
DRILLED BY: S/G Drilling Company
LOGGED BY: C Stoehr
CHECKED BY: C Lovato

# LOG OF BORING NO. B-05

Nipomo-Santa Maria Intertie
Nipomo, California

LOCATION: Proposed HDD laydown area in Santa Maria River

SURFACE EL: 191 ft +/- (rel. MSL datum)

| ELEVATION, ft | DEPTH, ft | SAMPLE NO. | SAMPLERS | SAMPLER BLOW COUNT | MATERIAL DESCRIPTION | UNIT WET WEIGHT, pcf | UNIT DRY WEIGHT, pcf | WATER CONTENT, % | % PASSING #200 SIEVE | LIQUID LIMIT, % | PLASTICITY INDEX, % | UNDRAINED SHEAR STRENGTH, $S_u$, ksf |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 190 | | | | | **ALLUVIUM (Qal)** Silty SAND (SM): loose, dark brown, dry (topsoil) | | | | | | | |
| | 2 | 1 | ● | 7 | | | | | | | | |
| 188 | | | | | | | | | | | | |
| | 4 | 2 | ● | (10) | Poorly-graded SAND with silt (SP-SM): loose light brown, dry to moist, occasional rounded gravel up to approximately 1/2" | | | | | | | |
| 186 | | | | | | | | | | | | |
| | 6 | | | | | | | | | | | |
| 184 | | A | | | Silty SAND with gravel (SM): medium dense, brown, dry, subrounded gravel up to approximately 1", occasional pockets of brown lean clay | | | | | | | |
| | 8 | | | | | | | | | | | |
| 182 | | | | | | | | | | | | |
| | 10 | 3 | | (17) | | 119 | 116 | 2 | 14 | | | |
| 180 | | | | | | | | | | | | |
| | 12 | | | | Poorly-graded SAND with gravel (SP): medium dense, brown, dry, subrounded and subangular gravel up to approximately 1-1/2" | | | | | | | |
| 178 | | | | | | | | | | | | |
| | 14 | | | | | | | | | | | |
| 176 | | 4 | | (23) | | 107 | 104 | 3 | 2 | | | |
| | 16 | | | | | | | | | | | |
| 174 | | | | | | | | | | | | |
| | 18 | | | | | | | | | | | |
| 172 | | | | | | | | | | | | |
| | 20 | 5 | | 18 | Poorly-graded SAND with silt (SP-SM): medium dense, light brown, dry, occasional subangular gravel up to approximately 1" | | | | | | | |
| 170 | | B | | | | | | | | | | |
| | 22 | | | | | | | | | | | |
| 168 | | | | | | | | | | | | |
| | 24 | | | | | | | | | | | |
| 166 | | 6 | | (34) | | 105 | 101 | 4 | 5 | | | |
| | 26 | | | | Poorly-graded SAND with silt (SP-SM): medium dense, brown, dry | | | | | | | |
| 164 | | | | | | | | | | | | |
| | 28 | | | | | | | | | | | |
| 162 | | | | | | | | | | | | |
| | 30 | 7 | | 34 | - dense, occasional subangular gravel up to approximately 3/8" | | | | | | | |
| 160 | | | | | | | | | | | | |
| | 32 | | | | | | | | | | | |
| 158 | | | | | | | | | | | | |
| | 34 | | | | | | | | | | | |
| 156 | | 8 | | (61) | - coarse grained | 107 | 103 | 4 | | | | |
| | 36 | | | | | | | | | | | |
| 154 | | | | | | | | | | | | |
| | 38 | | | | Well-graded SAND with silt (SW-SM): medium dense, brown, moist | | | | | | | |
| 152 | | | | | | | | | | | | |
| | 40 | 9 | | 26 | | | | 5 | 11 | | | |
| 150 | | | | | | | | | | | | |

The log and data presented are a simplification of actual conditions encountered at the time of drilling at the drilled location. Subsurface conditions may differ at other locations and with the passage of time.

COMPLETION DEPTH: 41.0 ft
DEPTH TO WATER: Not Encountered
BACKFILLED WITH: Cuttings
DRILLING DATE: October 13, 2008

DRILLING METHOD: 8-inch-dia. Hollow Stem Auger
HAMMER TYPE: 140-lb Automatic Trip
DRILLED BY: S/G Drilling Company
LOGGED BY: C Stoehr
CHECKED BY: C Lovato

# LOG OF BORING NO. B-06

Nipomo-Santa Maria Intertie
Nipomo, California

SPT — Standard Penetration Test (SPT) split spoon sampler having a 2-inch (50mm) O.D., 1 3/8-inch (35 mm) I.D. and without liners. Sampler is driven in three 6-inch (305 mm) increments by dropping a 140-lb (63 kg) weight 30 inches (760 mm). The reported blowcount is the sum of the blows for the last two increments.

CAL — Modified California split spoon sampler having a 3-inch (76 mm) O.D., 2 3/8-inch (60 mm) I.D. with liners. Sampler is driven in three 6-inch (305 mm) increments by dropping a 140-lb (63 kg) weight 30 inches (760 mm).

CAL — Thick-walled modified California split spoon sampler driven 12 inches (305 mm) using the rigs kelley.

SHELBY — Thin-walled shelby tube sampler that is pushed into the ground using the rig's hydraulics.

Hand — Hand driven modified California sampler with liners.

Bulk — Bulk sample obtained from drill auger flights, backhoe cuttings or hand excavation.

NR - No recovery

**Consistency of Cohesive Soil:**

| SPT N-Valve | Undrained Shear Strength (Su) psf | kpa | Consistency |
|---|---|---|---|
| 0-1 | <250 | <12 | very soft |
| 2-4 | 250-500 | 13-25 | soft |
| 5-8 | 500-1,000 | 26-50 | firm |
| 9-15 | 1,000-1,500 | 51-75 | stiff |
| 16-30 | 1,500-2,000 | 76-100 | very stiff |
| >31 | >2,000 | >100 | hard |

**Relative Density of Granular Soil:**

| SPT N-Valve | Consistency |
|---|---|
| 0-4 | very loose |
| 5-10 | loose |
| 11-30 | medium dense |
| 31-50 | dense |
| >50 | very dense |

pp = Unconfined compression strength from pocket penetrometer

$S_{t,v}$ = Undrained strength (t = torvane, v = minivane)

Initial depth to groundwater

Groundwater level after drilling

Notes:

Soil classification and descriptions are performed in general accordance with ASTMD-2487 and ASTMD-2488 based on the Unified Soil Classification System.

The logs represent the interpretation of field classifications and testing, interpolation between sample intervals, results of laboratory tests, and the conditions observed at the time of exploration. The transitions between soil types and strata are approximate and can be gradual.

Soil and rock materials vary in type and other geotechnical properties between points of observation and exploration. Groundwater and soil moisture conditions vary seasonally and for other reasons.

Explorations and services have not been requested nor performed to assess the presence or absence of hazardous or toxic materials.

Drilling Method: 8" (200 mm) Hollow Stem Auger
Date: January 13, 2000
Driller: S/G Testing Laboratories
Completion Depth: 30.5'(9.3m) Ground Elevation: 196'(59.7m)
Logged by: Chris Lovato
Groundwater: NA initial NA after drilling
Hammer Type: 140 lb CME Autotrip with 30" drop
Backfill Material: Cuttings

| Depth Meters | Depth Feet | Drive Samples | Bulk Samples | Blowcount (blows/foot) | Sample | Geologic Unit | DESCRIPTION AND CLASSIFICATION | Total Unit Weight pcf (kN/m³) | Water Content (%) | Other Tests |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Af | **Artificial Fill:** Fine silty SAND with gravel (SM), loose, dark brown, moist | | | |
| 1 | | | | | | Qal | **Alluvium:** | | | |
| | 5 | CAL | | 14 | 8-1 | | Medium to coarse SAND with gravel (SP), loose, tan, moist, subrounded gravel to 1/2" (12mm) | | | |
| 2 | | | | | | | | | | |
| | | | | 16 | 8-2 | | medium dense | | | |
| 3 | 10 | SPT | | | | | | | | |
| 4 | | | | 16 | 8-3 | | subrounded gravel to 1 1/2" (35mm) | 101 (15.8) | 2.2 | |
| | 15 | CAL | | | | | | | | |
| 5 | | | | 11 | 8-4 | | layer of clayey silt (ML) at 20' (6.2m) | | | |
| | | | | | | | subrounded gravel to 2 1/2" (60mm) | | | |
| 6 | 20 | SPT | | | | | | | | |
| | | | | 26 | 8-5 | | Fine SAND with silt (SP-SM), medium dense, tan to light brown, moist | | | |
| 7 | | | | | | | | 103 (16.2) | 6.8 | |
| | 25 | CAL | | | | | | | | Direct Shear |
| 8 | | | | | | | | | | |

CFS Geotechnical Consultants

**BORING NO. 8**

Blosser Road at Taylor
Station 79+00, Right 100 ft.

Blosser Road Drainage Channel
Santa Maria, California
Project No. 991217

Plate E-2a

Drilling Method: 8" (200 mm) Hollow Stem Auger
Date: January 13, 2000
Driller: S/G Testing Laboratories
Completion Depth: 30.5'(9.3m) Ground Elevation: 196'(59.7m)
Logged by: Chris Lovato
Groundwater: NA initial NA after drilling
Hammer Type: 140 lb CME Autotrip with 30" drop
Backfill Material: Cuttings

| Depth Meters | Depth Feet | Drive Samples | Bulk Samples | Blowcount (blows/foot) | Sample | Geologic Unit | DESCRIPTION AND CLASSIFICATION | Total Unit Weight pcf (kN/m³) | Water Content (%) | Other Tests |
|---|---|---|---|---|---|---|---|---|---|---|
| 9 | 30 | SPT | | 5 | 8-7 | **Qal** | Interlayered firm lean CLAY (CL) and clayey SILT (ML), soft, brown, moist | | | pp=1.7 tsf |
| | | | | | | | Boring terminated at 30.5' (9.3m) | | | |
| 10 | 35 | | | | | | | | | |
| 11 | | | | | | | | | | |
| 12 | 40 | | | | | | | | | |
| 13 | | | | | | | | | | |
| 14 | 45 | | | | | | | | | |
| 15 | 50 | | | | | | | | | |
| 16 | | | | | | | | | | |
| | 55 | | | | | | | | | |

CFS Geotechnical Consultants

**BORING NO. 8**
Blosser Road at Taylor
Station 79+00, Right 100 ft.

Blosser Road Drainage Channel
Santa Maria, California
Project No. 991217

Plate E-2b

Drilling Method: 8" (200 mm) Hollow Stem Auger
Date: January 13, 2000
Driller: S/G Testing Laboratories
Completion Depth: 30.5'(9.3m) Ground Elevation: 195'(59.5m)
Logged by: Chris Lovato
Groundwater: NA initial NA after drilling
Hammer Type: 140 lb CME Autotrip with 30" drop
Backfill Material: Cuttings/6"pcc

| Depth Meters | Depth Feet | Drive Samples | Bulk Samples | Blowcount (blows/foot) | Sample | Geologic Unit | DESCRIPTION AND CLASSIFICATION | Total Unit Weight pcf (kN/m³) | Water Content (%) | Other Tests |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Af | **Artificial Fill:** 125 mm asphalt 203 mm base. Fine silty SAND (SM), medium dense to loose, dark brown, moist | | | |
| 1 | | | | | | Qal | **Alluvium:** Fine to medium SAND with silt and gravel (SP-SM), loose, brown, moist, subrounded gravel to 1/4" (6mm) | | | |
| | 5 | CAL | Bulk | 7 | 9-1 | | | 120 (18.7) | 9.1 | SE=25 |
| 2 | | | | | 9A | | | | | |
| 3 | 10 | CAL | | 10 | 9-2 | | Medium to coarse SAND with gravel (SP), loose, tan, moist, subrounded gravel to 1 1/2" (40mm) | 98 (15.3) | 5.6 | Direct Shear |
| 4 | | | | | | | | | | |
| | 15 | SPT | | 4 | 9-3 | | | | | |
| 5 | | | | | | | | | | |
| 6 | 20 | CAL | | 22 | 9-4 | | medium dense | 100 (15.7) | 3.1 | |
| 7 | | | | | | | | | | |
| | 25 | SPT | | 11 | 9-5 | | Fine SAND with silt (SP-SM), medium dense, light brown to tan, moist, with 2"(50mm) seams of clayey SILT (ML) | | | |
| 8 | | | | | | | | | | |

CFS Geotechnical Consultants

**BORING NO. 9**
Rancho Verde Road at Rancho Verde
50' east of Blosser Road

Blosser Road Drainage Channel
Santa Maria, California
Project No. 991217

Plate E-3a

Drilling Method: 8" (200 mm) Hollow Stem Auger
Date: January 13, 2000
Driller: S/G Testing Laboratories
Completion Depth: 30.5'(9.3m) Ground Elevation: 195'(59.5m)
Logged by: Chris Lovato
Groundwater: NA initial NA after drilling
Hammer Type: 140 lb CME Autotrip with 30" drop
Backfill Material: Cuttings

| Depth Meters | Depth Feet | Drive Samples | Bulk Samples | Blowcount (blows/foot) | Sample | Geologic Unit | DESCRIPTION AND CLASSIFICATION | Total Unit Weight pcf (kN/m³) | Water Content (%) | Other Tests |
|---|---|---|---|---|---|---|---|---|---|---|
| 9 | 30 | CAL | | 24 | 9-6 | **Qal** | Pockets of silty CLAY (CL) | | | |
| | | | | | | | Boring terminated at 30.5' (9.3m) | | | |
| 10 | 35 | | | | | | | | | |
| 11 | | | | | | | | | | |
| 12 | 40 | | | | | | | | | |
| 13 | | | | | | | | | | |
| 14 | 45 | | | | | | | | | |
| 15 | 50 | | | | | | | | | |
| 16 | | | | | | | | | | |
| | 55 | | | | | | | | | |

CFS Geotechnical Consultants

**BORING NO. 9**

Rancho Verde Road at Rancho Verde
50' east of Blosser Road

Blosser Road Drainage Channel
Santa Maria, California
Project No. 991217

Plate E-3b

Drilling Method: 8" (200 mm) Hollow Stem Auger
Date: January 13, 2000
Driller: S/G Testing Laboratories
Completion Depth: 30.5'(9.3m) Ground Elevation: 194'(59.1m)
Logged by: Chris Lovato
Groundwater: NA initial NA after drilling
Hammer Type: 140 lb CME Autotrip with 30" drop
Backfill Material: Cuttings

| Depth Meters | Depth Feet | Drive Samples | Bulk Samples | Blowcount (blows/foot) | Sample | Geologic Unit | DESCRIPTION AND CLASSIFICATION | Total Unit Weight pcf (kN/m³) | Water Content (%) | Other Tests |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | Af | **Artificial Fill:** Fine silty SAND (SM), loose, brown, dry to moist | | | |
| | 5 | CAL | | 13 | 10-1 | Qal | **Alluvium:** Fine to medium SAND with gravel (SP), loose, tan, moist | 113 (17.7) | 6.3 | |
| 2 | | | | | | | | | | |
| 3 | 10 | SPT | | 24 | 10-2 | | medium dense<br>gravel in shoe | | | |
| | | | | | | | subrounded gravel to 2 1/2" (65mm) | | | |
| 4 | | | | | | | | 109 (17.1) | 5.5 | |
| | 15 | CAL | | 21 | 10-3 | | | | | |
| 5 | | | | | | | | | | |
| 6 | 20 | SPT | | 28 | 10-4 | | | | | |
| 7 | | | | | | | Medium to coarse SAND with gravel (SP), dense, tan,moist | 102 (16.1) | 7.2 | |
| | 25 | CAL | | 51 | 10-5 | | | | | |
| 8 | | | | | | | | | | |

CFS Geotechnical Consultants

**BORING NO. 10**

Northern Terminus of Bosser Road
550' North of Rancho Verde

Blosser Road Drainage Channel
Santa Maria, California
Project No. 991217

Plate E-4a

Drilling Method: 8" (200 mm) Hollow Stem Auger
Date: January 13, 2000
Driller: S/G Testing Laboratories
Completion Depth: 30.5'(9.3m) Ground Elevation: 194'(59.1m)
Logged by: Chris Lovato
Groundwater: NA initial NA after drilling
Hammer Type: 140 lb CME Autotrip with 30" drop
Backfill Material: Cuttings

| Depth Meters | Depth Feet | Drive Samples | Bulk Samples | Blowcount (blows/foot) | Sample | Geologic Unit | DESCRIPTION AND CLASSIFICATION | Total Unit Weight pcf (kN/m³) | Water Content (%) | Other Tests |
|---|---|---|---|---|---|---|---|---|---|---|
| 9 | 30 | SPT | | 20 | 10-6 | **Qal** | Fine SAND with silt (SP-SM), medium dense, light brown, moist | | | |
| | | | | | | | Boring terminated at 30.5' (9.3m) | | | |
| 10 | 35 | | | | | | | | | |
| 11 | | | | | | | | | | |
| 12 | 40 | | | | | | | | | |
| 13 | | | | | | | | | | |
| 14 | 45 | | | | | | | | | |
| 15 | 50 | | | | | | | | | |
| 16 | | | | | | | | | | |
| | 55 | | | | | | | | | |

CFS Geotechnical Consultants

**BORING NO. 10**

Northern Terminus of Bosser Road
550' North of Rancho Verde

Blosser Road Drainage Channel
Santa Maria, California
Project No. 991217

Plate E-4b