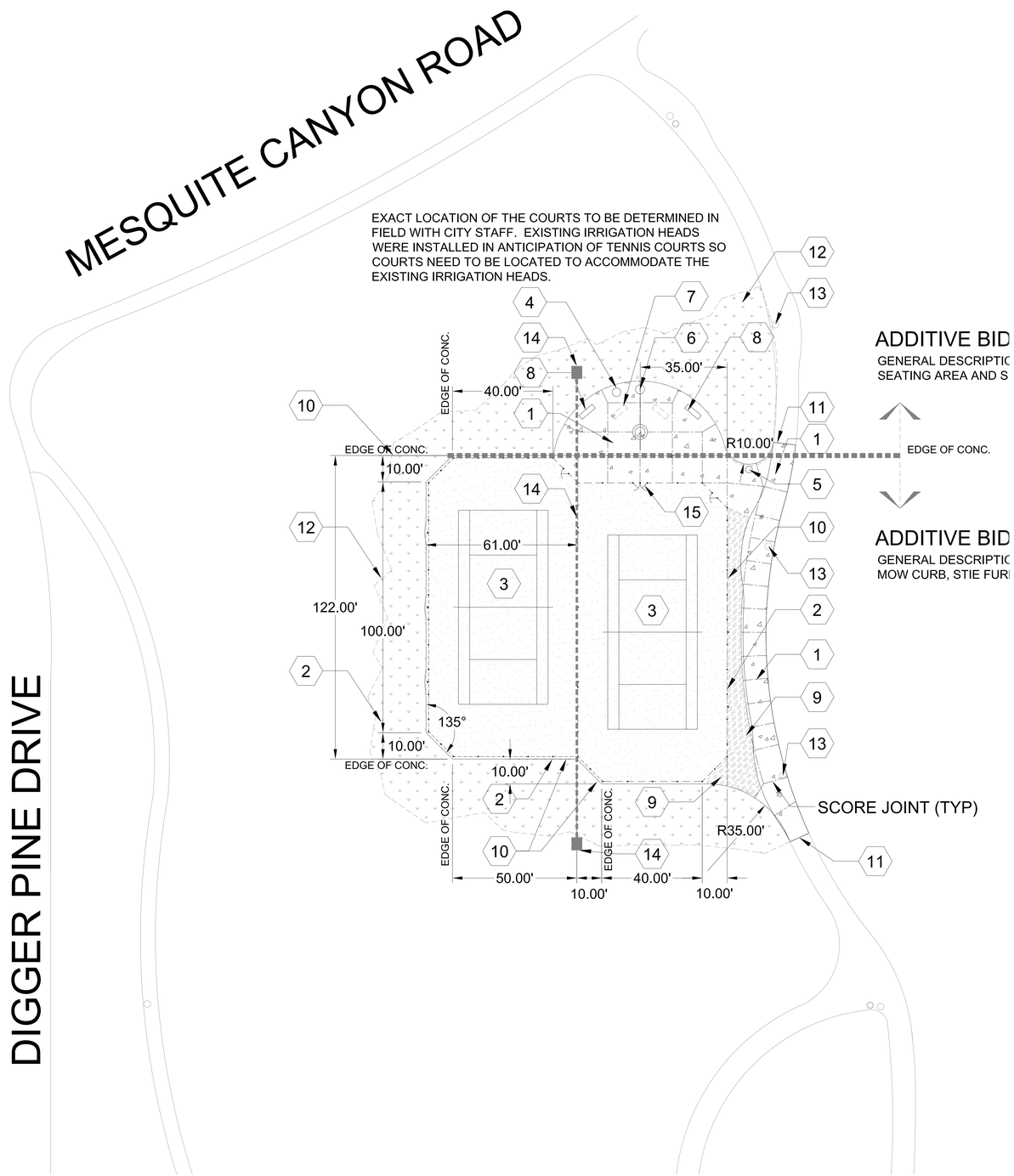


SYM.	QTY.	DESCRIPTION	REMARKS/DETAIL	SUPPLIER
1	3,801 SF	CONSTRUCT 6" THICK CONCRETE PAVING COLOR AND FINISH TO MATCH EXISTING PAVING, TYP.	DETAILS 'D', SHEET CD-1	N.A.
2		INSTALL 12" MOW CURB AROUND COURTS		
3	14,100 SF	CONSTRUCT TENNIS COURTS INSTALL EXPANSION JOINT BETWEEN COURTS	DETAILS 'A', 'B', & 'E', SHEET CD-1	N.A.
4	1 EA	INSTALL WALKWAY LIGHT. CONNECT POWER TO NEAREST EXISTING WALKWAY LIGHT. CONTRACTOR TO DESIGN/BUILD FOR STRUCTURAL; PROVIDE STRUCTURAL CALCS., AND OBTAIN PERMIT FOR LIGHT POLE FOUNDATION.	DETAIL 'G', SHEET CD-1	N.A.
5	1 EA	INSTALL WASTE CONTAINER BY 'QUICKCRETE', MODEL #QS-PS2532W-C1-T2 LID STYLE: D-BLUE	ATTACH TO PAVING WITH 5/8" x 8" 'J'-BOLT. SET 'J'-BOLT IN CONCRETE PAVING DURING POUR & BOLT W.C. THROUGH DRAIN HOLE.	QUICKCRETE PRODUCTS 909-737-6240
6	1 EA	INSTALL DRINKING FOUNTAIN BY 'MOST DEPENDABLE FOUNTAINS' MODEL #440SSDB	DETAIL 'G', SHEET CD-2	MOST DEPENDABLE FOUNTAINS 800-552-6331
7		ALTERNATE BID ITEM: FOUR (4) BACKLESS BENCHES DUMOR REDWOOD SLATS WITH BLUE POST; DIRECT BURIAL, SEE SPECS.		
8	2 EA	INSTALL BENCH BY 'QUICKCRETE' MODEL #Q1-SB-84B-C1-T2	DETAIL 'F', SHEET CD-2	QUICKCRETE PRODUCTS 909-737-6240
9		PLANT RHAPHIOLEPIS INDICA "BALLERINA" TRIANGULAR SPACED ON 36" O.C. AND COVER PLANTING AREA WITH 3" LAYER OF TREE MULCH. CONTRACTOR TO PROVIDE IRRIGATION AND PLANTING DESIGN FOR CITY APPROVAL.		
10	515 LF	10' HIGH CHAIN LINK TENNIS COURT FENCE	DETAILS 'F', SHEET CD-1	N.A.
11	LS	MEET AND MATCH EXISTING CONCRETE PAVING. REMOVE AND REPLACE FULL PANELS AS REQ'D TO MEET ADA COMPLIANCE WITH (N) WALKWAYS.	DETAILS 'C', SHEET CD-1	N.A.
12	ALL DISTURBED TURF AREA	PLANT SOD TURF PER SPECS OVER SEED WITH 5 WAY MIX PER SPECS.	N.A.	N.A.
13	LS	EXISTING LIGHT TO REMAIN PROTECT IN PLACE	N.A.	N.A.
14	CONDUIT	INSTALL 1" CONDUIT TO NORTH AND SOUTH END OF TENNIS COURTS. TERMINATE IN PULL TWO PULL BOXES WITH CAST IRON LIDS. ROPE PULL IN 1" CONDUIT 15"X25"X12"D		N.A.
15	1 EA	12' WIDE VEHICLE ACCESS DOUBLE GATES @ 10' HT.		

NOTE: TENNIS COURTS TO SLOPE TO DRAIN LESS THAN 2%. BLEND SURROUNDING GRADES WITH NEW WORK AND ADJUST IRRIGATION.

0' 20' 40' 60'

THUNDERSKY PARK

PROJECT:
THUNDERSKY PARK
TENNIS COURTS
20440 THUNDERSKY CIRCLE, RIVERSIDE, CA 92508

ORANGE TERRACE COMMUNITY PARK
STORAGE BUILDING & TRASH ENCLOSURE
20010 ORANGE TERRACE PARKWAY, RIVERSIDE, CA 92508

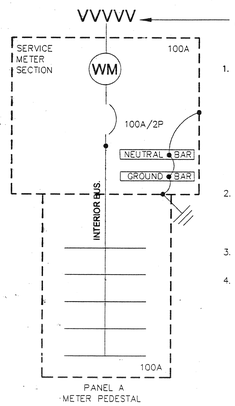
REVISIONS	DATE	BY

LICENSED LANDSCAPE ARCHITECT
DOUGLAS GROVE, NO. 2799
Signature
11/26/08
Renewal Date
Date
STATE OF CALIFORNIA

SHEET TITLE
CONSTRUCTION PLAN

DESIGNED	DSG
DRAWN	LM
CHECKED	DSG
DATE	6/17/08
SCALE	REFER TO PLAN
JOB NO.	08122

SHEET
CP-1
SHEET 1 of 4



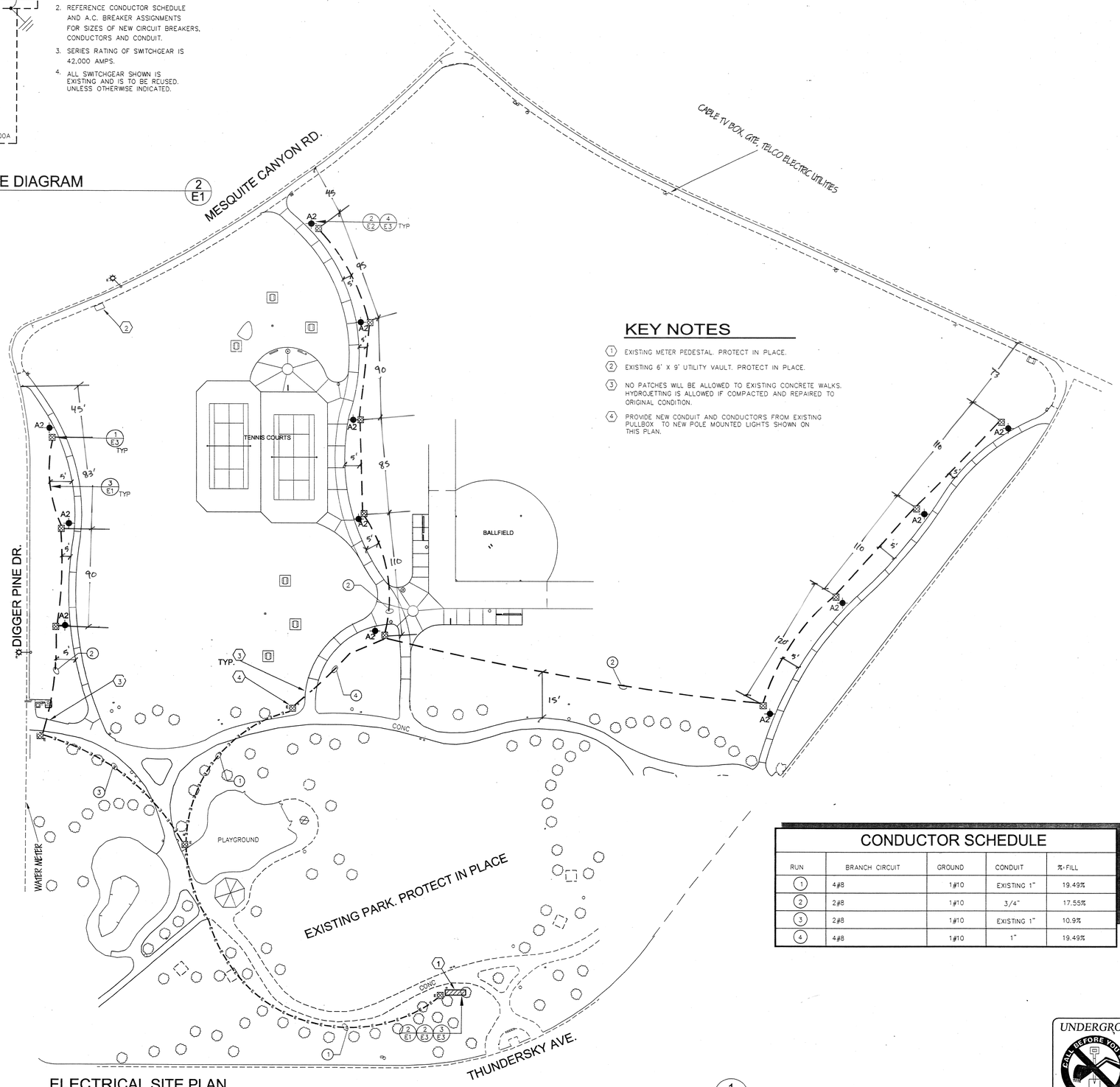
NOTE:

1. NEUTRAL BUS, GROUNDING BUS AND SERVICE RACEWAY ARE TO BE BONDED AND CONNECTED TO DRIVEN GROUND ROD & TO NEAREST AVAILABLE METALIC WATER PIPE. SIZE OF GROUNDING CONDUCTOR TO BE #6. USE #6 COPPER CONDUCTORS FOR BONDING. IF THIS GROUNDING AND BONDING METHOD, IS NOT EXISTING THEN E.C. IS TO PROVIDE, REF. DETAIL 3/E3.
2. REFERENCE CONDUCTOR SCHEDULE AND A.C. BREAKER ASSIGNMENTS FOR SIZES OF NEW CIRCUIT BREAKERS, CONDUCTORS AND CONDUIT.
3. SERIES RATING OF SWITCHGEAR IS 42,000 AMPS.
4. ALL SWITCHGEAR SHOWN IS EXISTING AND IS TO BE REUSED. UNLESS OTHERWISE INDICATED.

A.C. SINGLE LINE DIAGRAM

NO SCALE

2 / E1



ELECTRICAL SITE PLAN

SCALE - 1" = 40'-0"

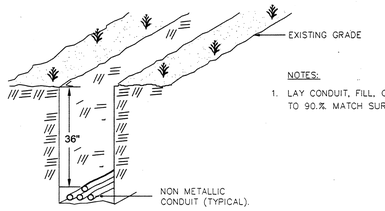
1 / E1

KEY NOTES

1. EXISTING METER PEDESTAL. PROTECT IN PLACE.
2. EXISTING 6' X 9' UTILITY VAULT. PROTECT IN PLACE.
3. NO PATCHES WILL BE ALLOWED TO EXISTING CONCRETE WALKS. HYDROJETTING IS ALLOWED IF COMPACTED AND REPAIRED TO ORIGINAL CONDITION.
4. PROVIDE NEW CONDUIT AND CONDUCTORS FROM EXISTING PULLBOX TO NEW POLE MOUNTED LIGHTS SHOWN ON THIS PLAN.

CONDUCTOR SCHEDULE

RUN	BRANCH CIRCUIT	GROUND	CONDUIT	%-FILL
1	4#8	1#10	EXISTING 1"	19.49%
2	2#8	1#10	3/4"	17.55%
3	2#8	1#10	EXISTING 1"	10.9%
4	4#8	1#10	1"	19.49%



NOTES:

1. LAY CONDUIT, FILL, COMPACT TO 90.% MATCH SURROUNDING.

BRANCH CIRCUIT TRENCH DETAIL

NO SCALE

3 / E1

ELECTRICAL NOTES AND SYMBOLS

1. ALL WORK TO BE DONE IN ACCORDANCE WITH NATIONAL ELECTRICAL CODE 1996 EDITION.
2. ALL UNDERGROUND OUTSIDE BRANCH CIRCUIT AND FEEDER CIRCUITS ARE TO BE RUN IN NONMETALLIC CONDUIT SCHEDULE 40.
3. ALL ELECTRICAL SYMBOLS PER ANSI Y32.9 1972. REAFFIRMED 1989.
4. ALL ELECTRICAL CONDUCTORS ARE TO BE COPPER. INSULATION FOR #12 TO #1 SHALL BE THWN, #1/0 THROUGH #4/0 SHALL BE TYPE XHHW [55mils], AND #250 MCM AND LARGER SHALL BE TYPE XHHW [65mils]. GROUNDING CONDUCTOR SHALL BE THWN.
5. UTILITIES AND LIGHTING EQUIPMENT ARE DRAWN DIAGRAMMATICALLY. SCALED DIMENSIONS ARE APPROXIMATE ONLY. BEFORE PROCEEDING WITH WORK, CAREFULLY CHECK AND VERIFY DIMENSIONS. IMMEDIATELY NOTIFY ENGINEER OF DISCREPANCIES BETWEEN DRAWINGS OR SPECIFICATIONS AND ACTUAL CONDITIONS. ALTHOUGH SIZES AND LOCATIONS OF EQUIPMENT ARE DRAWN TO SCALE, WHEREVER POSSIBLE, IT IS NOT WITHIN SCOPE OF THE DRAWINGS TO SHOW NECESSARY OFFSETS, OBSTRUCTIONS, OR SITE CONDITIONS. THE CONTRACTOR WILL BE RESPONSIBLE TO INSTALL WORK IN SUCH A MANNER THAT IT WILL CONFORM TO SITE CONDITIONS, COMPLETE AND IN GOOD WORKING ORDER.
6. ALL BRANCH CIRCUITS AND FEEDERS CIRCUITS SHALL HAVE A GROUNDING CONDUCTOR PULLED WITH THEM. REF A.C. BREAKER ASSIGNMENTS & LIGHT. AND POWER LAYOUTS FOR SIZE OF GROUNDING CONDUCTOR. THIS COPPER GROUNDING CONDUCTOR SHALL BE TERMINATED TO GROUNDING TERMINALS OF ALL RECEPTACLES & ALL NONCURRENT-CARRYING CONDUCTIVE SURFACES OF FIXED ELECTRIC EQUIPMENT LIKELY TO BECOME ENERGIZED THAT ARE SUBJECT TO PERSONAL CONTACT.
7. 1 / E1 — INDICATES DETAIL # / INDICATES SHEET #
8. E — EXISTING STREET LIGHT. REF. SITE PLAN.
9. CONDUCTORS W/GROUND RUN UNDERGROUND. REF. SITE PLAN FOR SIZES OF CONDUCTORS AND CONDUITS.
10. CONDUCTORS W/GROUND RUN EXPOSED. REF. SITE PLAN FOR SIZES OF CONDUCTORS AND CONDUITS.
11. UNDERGROUND CONCRETE PULLBOX #3-1/2 (17.5"X12.5" X12.5") UNLESS OTHERWISE INDICATED. PREFAB CONCRETE W/TRAFFIC COVER WHERE SUBJECT TO VEHICULAR TRAFFIC.
12. E — EXISTING UNDERGROUND CONCRETE PULLBOX #3-1/2 (17.5"X12.5"X12.5") UNLESS OTHERWISE INDICATED.
13. A2 — PROPOSED WALKWAY LUMINAIRE. REFERENCE LUMINAIRE SCHEDULE FOR PART NUMBER.
14. EXISTING METER PEDESTAL TO BE REUSED.

ABBREVIATIONS:

EXIST.	EXISTING TO BE REUSED	E.C.	ELECTRICAL CONTRACTOR
PROV.	TO BE PROVIDED NEW, BY E.C.	TYP.	TYPICAL.

VOLTAGE DROP CALCULATIONS

A2 LIGHTS EAST

FROM – TO	QTY	VOLTS AMPS	VOLT	AMPS	CONDR SIZE	Rac	DIST.	VOLT DROP	VOLT %
PAN – A2	4	698	240	2.91	#8	0.7800	1075	4.87	2.03%
A2 – A2	3	523	240	2.18	#8	0.7800	120	0.41	0.17%
A2 – A2	2	349	240	1.45	#8	0.7800	120	0.27	0.11%
A2 – A2	1	174	240	0.73	#8	0.7800	120	0.14	0.06%
					TOTALS		1435	5.69	2.37%

A2 LIGHTS WEST

FROM – TO	QTY	VOLTS AMPS	VOLT	AMPS	CONDR SIZE	Rac	DIST.	VOLT DROP	VOLT %
PAN – PBOX	8	1,395	240	5.81	#8	0.7800	340	3.08	1.28%
PBOX – A2	5	872	240	3.63	#8	0.7800	360	2.04	0.85%
A2 – A2	4	698	240	2.91	#8	0.7800	120	0.54	0.23%
A2 – A2	3	523	240	2.18	#8	0.7800	100	0.34	0.14%
A2 A2	2	349	240	1.45	#8	0.7800	100	0.23	0.09%
A2 A2	1	174	240	0.73	#8	0.7800	80	0.09	0.04%
					TOTALS		1100	6.32	2.64%

David Neault Associates
landscape architecture
planning
golf course architecture
41877 enterprise circle north
temecula, california
92590
909 699.5071
fax: 909 676.2793
e.mail dna_aila@msn.com

THUNDERSKY PARK 8.7 ACRE ADDITION ELECTRICAL SITE PLAN

ORANGECREST COUNTRY
Communities Southwest
181 old springs road
anaheim, california 92808
1 714 279.6555 fax 1714 279.6556
contact: Mary Rauschenburg

north

date:	12/1/99
drawn:	JMN
checked:	DEH 3/18/00
project no:	9912041
file name:	tskyrke?

sheet

E-1

of sheets

REFERENCE SHEET

DRAWING NUMBER

PLAN HOLD CORPORATION • IRVINE, CALIFORNIA
REFERENCE NUMBER 1010-001

UNDERGROUND SERVICE ALERT

CALL BEFORE YOU DIG

Section 4216/4217 of the Government Code requires a DIG ALERT Identification Number be issued before a "Permit to Excavate" will be valid. For your Dig Alert I.D. Number Call Underground Service Alert.

TOLL FREE 1-800-422-4133

Two working days before you dig

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DREAM Engineering Incorporated
Consulting Electrical Engineers
APPLE VALLEY (760)242-3369 dreamjoe@earthlink.net
FAX (760)242-1092
PALM DESERT (760)773-4478 dreamjoe@aol.com

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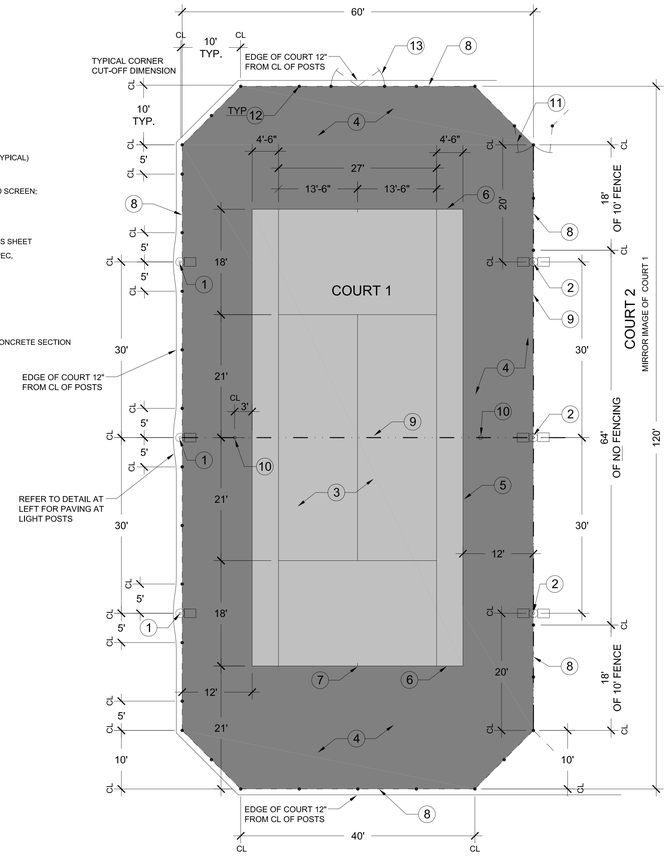
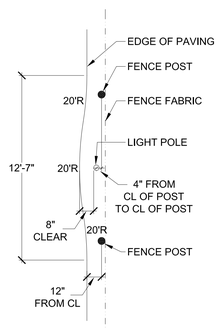
REGISTERED PROFESSIONAL ENGINEER JOSEPH M. NOVAK NO E 9333 EXP: SEP 30 2001 ELECTRICAL STATE OF CALIFORNIA

P & R APPROVED 6.19.00

1. FUTURE SINGLE TENNIS COURT LIGHT
2. FUTURE TWIN TENNIS COURT LIGHT
3. PLEXIPAVE COURT SURFACING - DARK GREEN COLOR (TO BE APPROVED BY CITY PRIOR TO INSTALLATION)
4. PLEXIPAVE COURT SURFACING - CALIFORNIA RED COLOR (TO BE APPROVED BY CITY PRIOR TO INSTALLATION)
5. 2" WIDE WHITE PLEXICOLOR LINE STRIPES
6. 4" WIDE WHITE PLEXICOLOR (OR EQUAL) SERVICE LINE (TYPICAL)
7. WHITE PLEXICOLOR (OR EQUAL) CENTER MARK
8. 10' HIGH CHAIN LINK FENCING TO BE DESIGNED FOR WIND SCREEN; WIND SCREEN TO BE INSTALLED AT FUTURE TIME.
9. EXPANSION JOINT PER TENNIS COURT PAVING DETAIL THIS SHEET
10. NET / POST PER TENNIS COURT PARKS & RECREATION SPEC.
11. 4' GATE PER DETAIL THIS SHEET
12. FENCE POST
13. 10' HIGH DOUBLE SECURITY GATE

NOTE: COURT DIMENSIONS AND STRIPPING PER USTA
REFER TO TENNIS COURT PAVING DETAIL (LEFT) FOR CONCRETE SECTION

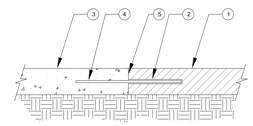




PAVING EDGE AT LIGHT POLE
SCALE: 1"=4'

E TENNIS COURT LAYOUT

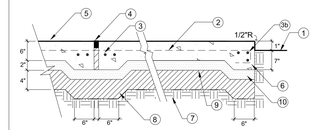
SCALE: 1"=10'



1. EXISTING CONCRETE PAVING TO REMAIN
2. CORE DRILL 5/8" HOLE IN EXISTING CONCRETE PAVING
3. NEW CONCRETE PAVING
4. #4 REBAR AT 18" O.C. WRAP PORTION INSERTED INTO EXISTING PAVING WITH TAR PAPER.
5. COLD JOINT

C PAVING CONNECTION

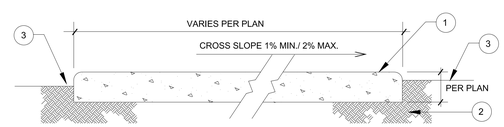
SCALE: N.T.S.



1. FINISH GRADE
2. #4 BAR 24" O.C. BOTH WAYS
3. #4 BAR CONT. (2 EACH)
3b. #4 BAR CONT. (3 EACH)
4. 1/2" FOAM EXPANSION JOINT W/MASTIC PER PLAN
5. COURT FINISH (REFER TO PLAN & SPECIFICATIONS)
6. CONCRETE PAVING
7. 95% COMPACTED SUBSOIL
8. 95% COMPACTED CLASS II AGGREGATE BASE
9. 30 MIL. VISQUEEN VAPOR BARRIER
10. 95% COMPACTED SAND BASE

A TENNIS COURT PAVING

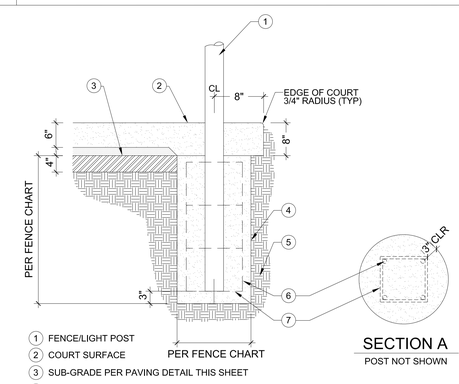
SCALE: N. T. S.



1. CONCRETE PAVING
APPLY 1/2" TOOLED RADIUS AT ALL EDGES AND JOINTS
MEDIUM BROOM FINISH, W/ 6" SHINER @ ALL EXPANSION AND SCORE JOINTS AND EDGES OF PAVING, COLOR NATURAL GREY
2. COMPACT SUBGRADE TO 90%
RELATIVE DENSITY PER SOILS REPORT
3. FINISH GRADE
2" BELOW TOP OF WALK IN GROUNCOVER AREAS.
1" BELOW TOP OF WALK IN TURF AREAS.

D CONCRETE PAVING

SCALE: N.T.S.

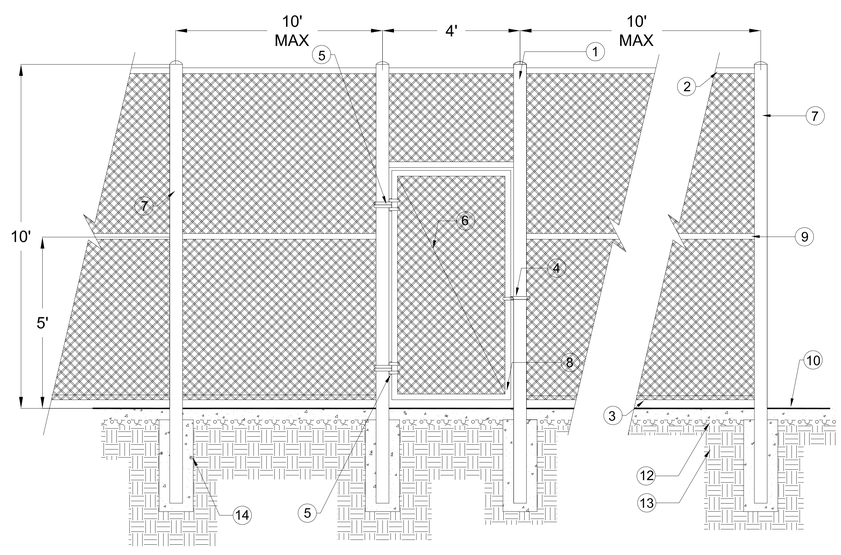


1. FENCE/LIGHT POST
2. COURT SURFACE
3. SUB-GRADE PER PAVING DETAIL THIS SHEET
4. 2,800 PSI CONCRETE FOOTING
5. 95% COMPACTED SUB-GRADE
6. #8 VERTICAL REBAR
7. #3 TIES @ 12" O.C. (3 MIN)

NOTE: MOWCURB AROUND PERIMETER IS A SEPARATE POUR FROM COURT.

B TENNIS COURT FENCE POST

SCALE: N. T. S.



1. CORNER POST FENCING, STEEL TUBING POSTS SPACED @ 10' O.C. MAX. CAPPED
2. TOP RAIL
3. BOTTOM RAIL
4. SELF LATCHING LATCH FORK TYPE W LEVER
5. SELF CLOSING HINGES - 8.5 LBS MAX FORCE (TYP)
6. DIAGONAL BRACE
7. LINE POST SPACED AT 10'-0" O.C. MAX.
8. GATE FRAME
9. MID RAIL
10. COURT SURFACE PER SPECS & DETAILS ABOVE
11. TENNIS COURT FENCING SHALL BE SIZED FOR USE OF WIND SC WIND SCREEN SHALL BE INSTALLED AT A FUTURE TIME.
12. BASE PER PAVING DETAIL THIS SHEET
13. COMPACTED SUBGRADE (REFER TO SOILS REPORT)
14. CHAIN LINK FENCE POST CONCRETE FOOTING PER DETAIL THIS SHEET (REFER TO CHART BELOW FOR DEPTH)

CHAIN LINK FENCE TENNIS COURTS			
POST SIZE		FOOTING	
POSTS & RAILS	ACTUAL PIPE DIA.	FTG. DEPTH	FTG. DIA.
10' LINE	4.5" O.D.	3'-6"	30"
10' END	4.5" O.D.	3'-6"	30"
10' CORNER	4.5" O.D.	3'-6"	30"
TOP, MIDDLE BOTTOM RAILS	1.660" O.D.	-	-

CHAIN LINK FENCE MATERIALS

CHAIN LINK FABRIC-1 3/4" MESH, 9 GA. GALV. ASTM A392, CLASS 2

TRUSS RODS-3/8" GALV.

STRETCHER BAR-1/4"x3/4" GALV.

NOTES:
1. ALL CHAIN LINK FABRIC TO BE KNUCKLED SELVAGE TOP & BOT.
2. NOT USED
3. TACK WELD ALL FASTENERS

ALL FENCE POSTS, GATE FRAMES, CHAIN LINK FABRIC & ALL STEEL PARTS SHALL BE HOT DIPPED GALV.

F TENNIS COURT FENCE

Underground Service Alert
CALL BEFORE YOU DIG
CALL:TOLL FREE
1-800
422-4133
TWO WORKING DAYS BEFORE YOU DIG

PROJECT:
THUNDERSKY PARK
TENNIS COURTS
20440 THUNDERSKY CIRCLE, RIVERSIDE, CA 92508
ORANGE TERRACE COMMUNITY PARK
STORAGE BUILDING & TRASH ENCLOSURE
20010 ORANGE TERRACE PARKWAY, RIVERSIDE, CA 92508

REVISIONS	DATE	BY

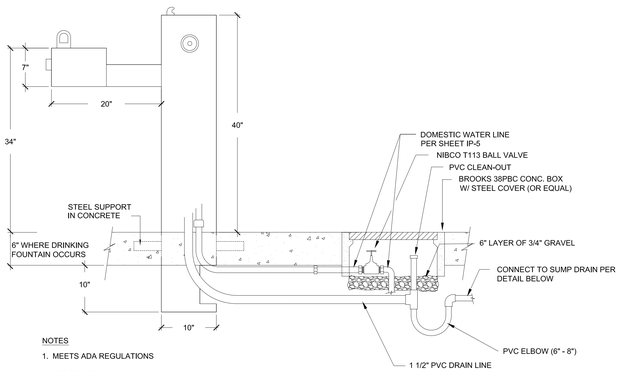
LICENSED LANDSCAPE ARCHITECT
SHARAD GROVE NO. 3291
Signature
11/30/08
Renewal Date
Date
STATE OF CALIFORNIA

SHEET TITLE
CONSTRUCTION DETAILS

DESIGNED	DSG
DRAWN	LM
CHECKED	DSG
DATE	6/17/08
SCALE	REFER TO PLAN
JOB NO.	08122

SHEET
CD-1
SHEET 3 of 4

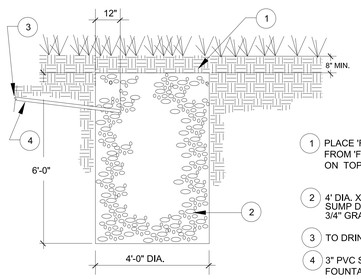
M.D.F.
MOST DEPENDABLE FOUNTAINS



NOTES

1. MEETS ADA REGULATIONS
2. NOT TO SCALE
3. INSTALL ACCORDING TO MANUFACTURERS SPECIFICATIONS.

DRINKING FOUNTAIN



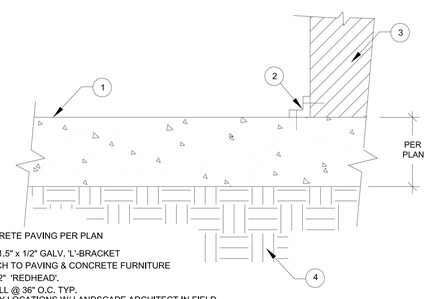
1. PLACE 'FIBAR FELT' FABRIC, AVAILABLE FROM 'FIBAR SYSTEMS' AT (800) 342-2721, ON TOP AND ON ALL SIDES OF SUMP
2. 4' DIA. X 6' DEEP GRAVEL SUMP DRAIN FILL WITH 3/4" GRAVEL
3. TO DRINKING FOUNTAIN
4. 3" PVC SCH 40 DRAIN LINE FROM DRINKING FOUNTAIN (1% MIN. SLOPE)

COORDINATE LOCATION OF DRINKING FOUNTAIN AND DRAINAGE SYSTEM WITH CITY

SUMP

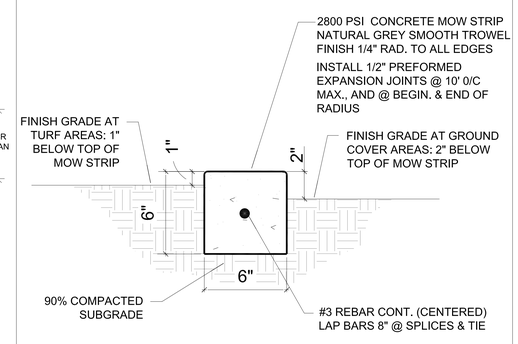
G DRINKING FOUNTAIN & SUMP SCALE: 1"=10'

D TRASH ENCLOSURE SCALE: N.T.S.



1. CONCRETE PAVING PER PLAN
2. 1.5" x 1.5" x 1/2" GALV. 'L'-BRACKET ATTACH TO PAVING & CONCRETE FURNITURE WITH 2" 'REDHEAD'. INSTALL @ 36" O.C. TYP. VERIFY LOCATIONS W/ LANDSCAPE ARCHITECT IN FIELD
3. CONCRETE FURNITURE (TABLE, TRASH CAN, ETC.)
4. 90% RELATIVE COMPACTION SUB-GRADE

F TABLE & BENCH ANCHOR SCALE: N.T.S.



E CONCRETE MOW CURB SCALE: N.T.S.

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TWO WORKING DAYS BEFORE YOU DIG

PROJECT:
THUNDERSKY PARK
TENNIS COURTS
20440 THUNDERSKY CIRCLE, RIVERSIDE, CA 92508
ORANGE TERRACE COMMUNITY PARK
STORAGE BUILDING & TRASH ENCLOSURE
20010 ORANGE TERRACE PARKWAY, RIVERSIDE, CA 92508

REVISIONS	DATE	BY

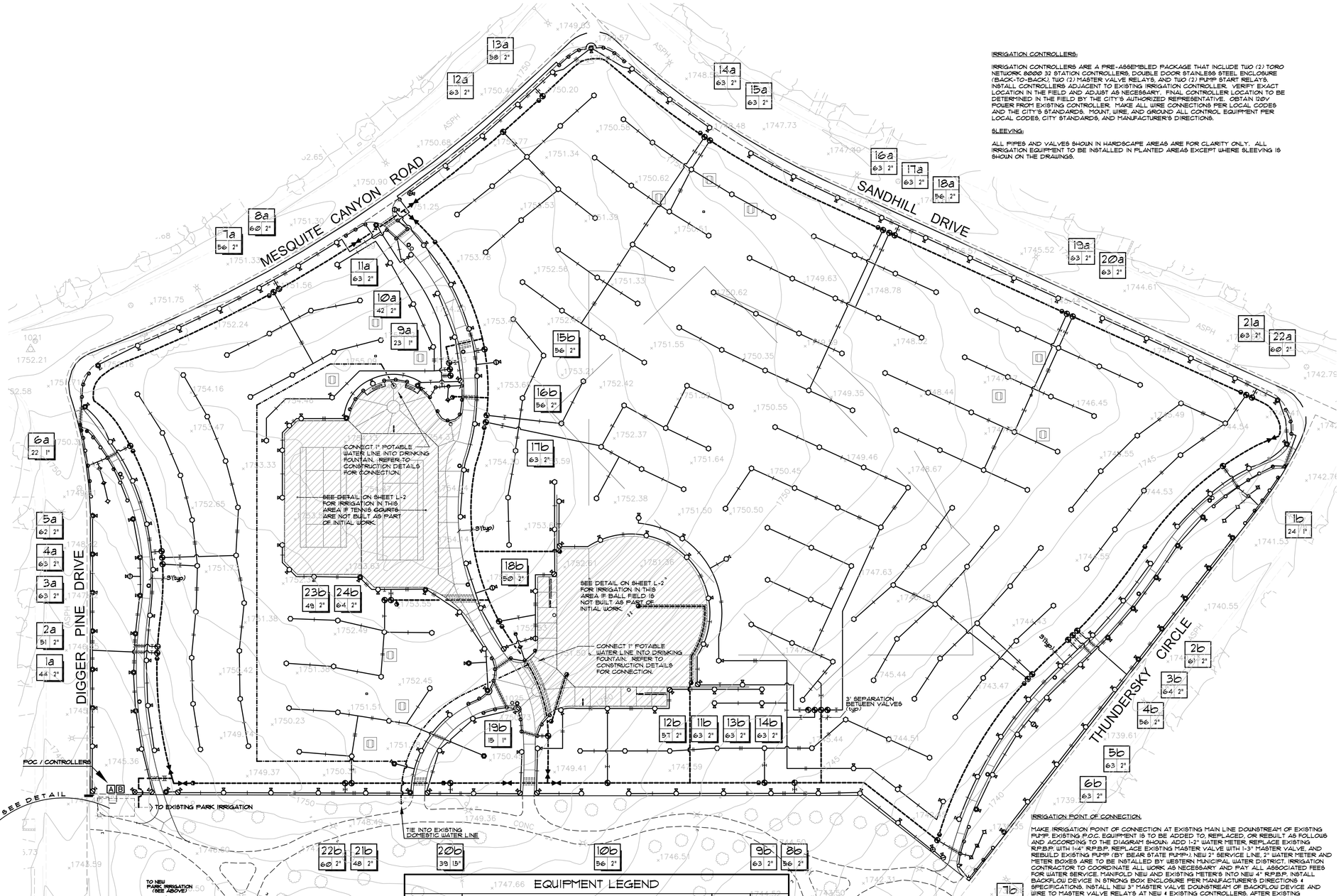
LICENSED LANDSCAPE ARCHITECT
DOUGLAS GRIVE No. 2577
Signature
11/30/08
Renewal Date
Date
STATE OF CALIFORNIA

SHEET TITLE CONSTRUCTION DETAILS

DESIGNED	DSG
DRAWN	LM
CHECKED	DSG
DATE	6/17/08
SCALE	REFER TO PLAN
JOB NO.	08122

SHEET CD-2

SHEET 4 of 4



IRRIGATION CONTROLLERS:

IRRIGATION CONTROLLERS ARE A PRE-ASSEMBLED PACKAGE THAT INCLUDE TWO (2) TORO NETWORK 8000 32 STATION CONTROLLERS, DOUBLE DOOR STAINLESS STEEL ENCLOSURE (BACK-TO-BACK), TWO (2) MASTER VALVE RELAYS, AND TWO (2) PUMP START RELAYS. INSTALL CONTROLLERS ADJACENT TO EXISTING IRRIGATION CONTROLLER. VERIFY EXACT LOCATION IN THE FIELD AND ADJUST AS NECESSARY. FINAL CONTROLLER LOCATION TO BE DETERMINED IN THE FIELD BY THE CITY'S AUTHORIZED REPRESENTATIVE. OBTAIN 120V POWER FROM EXISTING CONTROLLER. MAKE ALL WIRE CONNECTIONS PER LOCAL CODES AND THE CITY'S STANDARDS. MOUNT, WIRE, AND GROUND ALL CONTROL EQUIPMENT PER LOCAL CODES, CITY STANDARDS, AND MANUFACTURER'S DIRECTIONS.

SLEEVING:

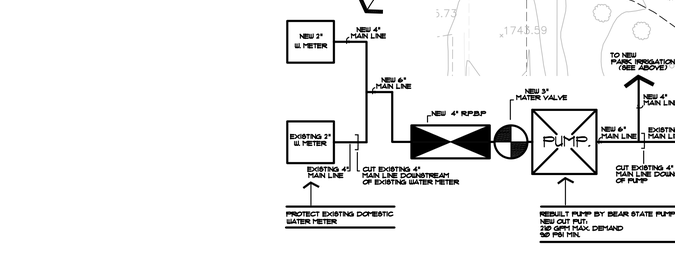
ALL PIPES AND VALVES SHOWN IN HARDSCAPE AREAS ARE FOR CLARITY ONLY. ALL IRRIGATION EQUIPMENT TO BE INSTALLED IN PLANTED AREAS EXCEPT WHERE SLEEVING IS SHOWN ON THE DRAWINGS.

IRRIGATION POINT OF CONNECTION:

MAKE IRRIGATION POINT OF CONNECTION AT EXISTING MAIN LINE DOWNSTREAM OF EXISTING PUMP. EXISTING P.O.C. EQUIPMENT IS TO BE ADDED TO, REPLACED, OR REBUILT AS FOLLOWS AND ACCORDING TO THE DIAGRAM SHOWN. ADD 1-2" WATER METER. REPLACE EXISTING RPBFP WITH 1-4" RPBFP. REPLACE EXISTING MASTER VALVE WITH 1-3" MASTER VALVE, AND REBUILD EXISTING PUMP (BY BEAR STATE PUMPS). NEW 2" SERVICE LINE, 2" WATER METER AND METER BOXES ARE TO BE INSTALLED BY WESTERN MUNICIPAL WATER DISTRICT. IRRIGATION CONTRACTOR TO COORDINATE ALL WORK AS NECESSARY AND PAY ALL ASSOCIATED FEES FOR WATER SERVICE. MANIFOLD NEW AND EXISTING METER'S INTO NEW 4" RPBFP. INSTALL BACKFLOW DEVICE IN STRONG BOX ENCLOSURE PER MANFACTURER'S DIRECTIONS & SPECIFICATIONS. INSTALL NEW 3" MASTER VALVE DOWNSTREAM OF BACKFLOW DEVICE AND WIRE TO MASTER VALVE RELAYS AT NEW & EXISTING CONTROLLERS. AFTER EXISTING BOOSTER PUMP IS REBUILT WIRE TO BOOSTER PUMP RELAYS AT NEW & EXISTING CONTROLLERS. INSTALL ALL POINT OF CONNECTION EQUIPMENT PER MANUFACTURER'S DIRECTIONS, CITY STANDARDS, AND ALL LOCAL CODES. STATIC PRESSURE AT METERS IS +/- 67 PSI. MAXIMUM DEMAND ON SYSTEM 210 GPM. PRESSURE AT DISCHARGE OF PUMP TO BE 90 PSI MIN.

DOMESTIC WATER LINE:

TIE INTO EXISTING DOMESTIC WATER LINES EXTEND 1" SCH 40 PVC TO TWO (2) DRINKING FOUNTAINS AS SHOWN. USE MARKING TAPE TO CLEARLY IDENTIFY WATER LINE AS 'POTABLE'.



EQUIPMENT LEGEND

SYMBOL	MANUFACTURER/MODEL *	SIZE	DETAIL
M	IRRIGATION WATER METER - INSTALLED BY WMWD - SEE NOTE	2"	N/A
	FEBCO 825 YD SERIES REDUCED PRESSURE BACKFLOW PREVENTER	4"	'C', L-2
	GRISWOLD 2000 SERIES REMOTE CONTROL ELECTRIC MASTER VALVE	3"	'D', L-2
	RAINBIRD 33DLRC SERIES QUICK COUPLING VALVE @ 150' MAX	3/4"	'E', L-2
	NIBCO T-585 SERIES BALL VALVE - 2" AND SMALLER - OR EQUAL	UP TO 2"	'F', L-2
	NIBCO T-113 SERIES GATE VALVE - LARGER THAN 2" - OR EQUAL	3" AND UP	'G', L-2
	GRISWOLD 2000 SERIES REMOTE CONTROL ELECTRIC VALVE	PLAN SIZE	'H', L-2
A B	TORO NETWORK 8000W ABANDON EX PHONE LINK CONCENTRATOR PROVIDE NEW TORO "PHONE MODEM KIT" # 93568 & "UNIVERSAL MODEM" # 88.7191 (VERIFY PART #'S)	32 STA.	'I', L-2
NOT SHOWN	UF RATED CONTROL WIRE - INSTALL WITH MAINLINE WHERE POSSIBLE 12 GA COMMON SEPARATE COLOR EACH CONTROLLER/ PROVIDE SPARE EACH CONTROLLER	14 GA	'J', L-2
	CLASS 315 PVC IRRIGATION MAINLINE - 3" UNLESS OTHERWISE NOTED	3"	'K', L-2
	CLASS 200 PVC NON-PRESSURE LATERAL LINE	PLAN SIZE	'K', L-2
	SCH 40 PVC IRRIGATION PIPE / WIRE SLEEVE	PLAN SIZE	'L', L-2
	SCH 40 PVC POTABLE WATER LINE - MARK WITH TAPE	1"	'K', L-2

* CONTACT TOM LANG @ BEAR STATE PUMP (800) 350-1660/ (909) 923-9812

SPRINKLER LEGEND

SYMBOL	MANUFACTURER/MODEL *	NOZZLE	RAD.	PSI	FLOW (GPM) Q	T	H	F			DETAIL
TURF POP-UP SPRAY HEADS											
	TORO 570Z-4P-8-PC-COM	Q/T/H/F	7'-8'	30	.22	.29	.44	.88			'A', L-2
	TORO 570Z-4P-10-PC-COM	Q/T/H/F	9'-10'	30	.33	.44	.66	1.3			'A', L-2
	TORO 570Z-4P-12-PC-COM	Q/T/H/F	11'-12'	30	.48	.64	.96	1.9			'A', L-2
	TORO 570Z-4P-15-PC-COM	Q/T/H/F	13'-15'	30	.75	1.0	1.5	3.0			'A', L-2
TURF POP-UP ROTOR HEADS											
	TORO 5100C-PC-30/45-SA	*3.0 / *4.5	35'-37'	40	3.12 / 3.71						'A', L-2
	TORO 5100C-PC-60/75-SA	*6.0 / *7.5	35'-37'	40	5.50 / 6.94						'A', L-2
	TORO 5100C-FC-60/75-SA	*6.0 / *7.5	35'-37'	40	5.50 / 6.94						'A', L-2

PIPE SIZING CHART

	3/4" PIPE
	1" PIPE
	1 1/4" PIPE
	1 1/2" PIPE
	2" PIPE
	2 1/2" PIPE
	3" PIPE
	4" PIPE
	6" PIPE
	8" PIPE

CONTROLLER STATION *

FLOW (GPM)	VALVE SIZE

SCH 40 PVC SLEEVING CHART

1 1/4" SLEEVE	1-4 WIRES	1/2" PIPE
1 1/2" SLEEVE	5-10 WIRES	3/4" PIPE
2" SLEEVE	11-20 WIRES	1" PIPE
2 1/2" SLEEVE	21-30 WIRES	1 1/4" PIPE
3" SLEEVE	31-40 WIRES	1 1/2" PIPE
4" SLEEVE	41-60 WIRES	2" PIPE
6" SLEEVE	61-99 WIRES	2 1/2"/3" PIPE
8" SLEEVE	100+ WIRES	4" PIPE
10" SLEEVE	N/A	6" PIPE

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909 296.3430
fax: 909 296.3431
e-mail dnala@aol.com

THUNDERSKY PARK
8.7 ACRE ADDITION
IRRIGATION PLAN

ORANGECREST COUNTRY
Communities Southwest
181 old springs road
anaheim, california 92808
1 714 279.6555 fax 1714 279.6556
contact: Mary Rauschenburg

north

date: 5/5/2000
drawn: fhd
checked: dsn
scale: 1" - 30'-0"

sheet
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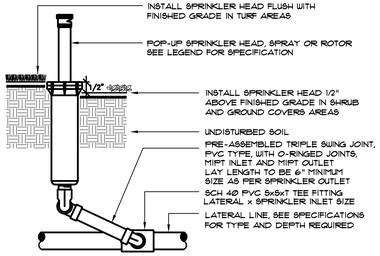
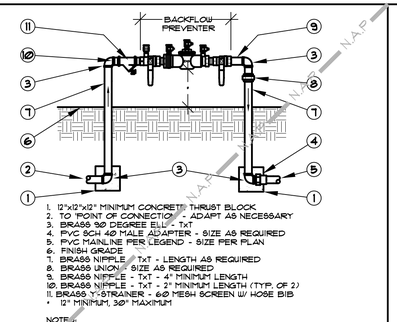
of 2 sheets



NOTE:
INSTALL SPRINKLER HEADS 6" FROM PAVING EDGE IN GROUND COVER AREAS.
INSTALL SPRINKLER HEADS 4" FROM PAVING EDGE IN TURF AREAS.
INSTALL SPRINKLER HEADS PLUMB. ADJUST SPRAYS OR NOZZLE STREAM TO COVER LANDSCAPE AREA WITHOUT OVERSPRAY ONTO PAVING, FENCES, WALLS OR BUILDINGS.

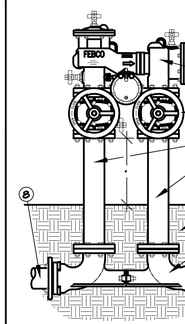
A POP-UP TURF HEAD



1. 12"x12"x12" MINIMUM CONCRETE THRUST BLOCK
2. TO POINT OF CONNECTION - ADAPT AS NECESSARY
3. BRASS 90 DEGREE ELL - TxT
4. PVC SCH 40 MALE ADAPTER - SIZE AS REQUIRED
5. PVC MAINLINE PER LEGEND - SIZE PER PLAN
6. FINISH GRADE
7. BRASS NIPPLE TxT - LENGTH AS REQUIRED
8. BRASS UNION - SIZE AS REQUIRED
9. BRASS NIPPLE - TxT - 4" MINIMUM LENGTH
10. BRASS NIPPLE - TxT - 2" MINIMUM LENGTH (TYP. OF 2)
11. BRASS Y-STRAINER - 60 MESH SCREEN W/ HOSE BIB
* 12" MINIMUM, 30" MAXIMUM

NOTE:
INSTALL BACKFLOW PREVENTER PER LOCAL CODES, HEALTH DEPARTMENT STANDARDS, AND MANUFACTURER'S DIRECTIONS. VERIFY LOCAL REQUIREMENTS PRIOR TO INSTALLATION. WHERE BACKFLOW DEVICE SIZE IS SMALLER THAN MAINLINE, ENTIRE APPARATUS TO BE SIZE OF MAINLINE. BUSH DOWN ONLY AT THE BACKFLOW DEVICE. FINAL LOCATION OF DEVICE TO BE DETERMINED IN THE FIELD. SCREEN WITH SHRUBS AS POSSIBLE.

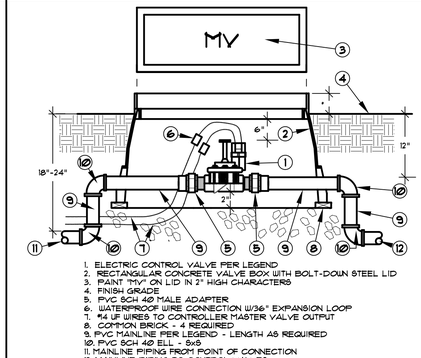
B DOMESTIC BACKFLOW PREVENTER



1. FEBCO 825 'YD' SERIES REDUCED PRESSURE BACKFLOW PREVENTER (SIZE PER PLAN)
2. SHUT-OFF VALVE AS SUPPLIED BY MANUFACTURER WITH R/P DEVICE
3. FLANGED CAST IRON NIPPLE LENGTH AS REQUIRED
4. FINISH GRADE
5. 'VALVE SETTER' BY FEBCO - SIZE PER R/P DEVICE. CONNECTION TYPES AS NECESSARY
6. NATIVE SOIL - COMPACT AS NECESSARY
7. MAINLINE FROM POC - ADAPT AS NECESSARY
8. MAINLINE TO SYSTEM - ADAPT AS NECESSARY
* 12" MIN, 30" MAX.

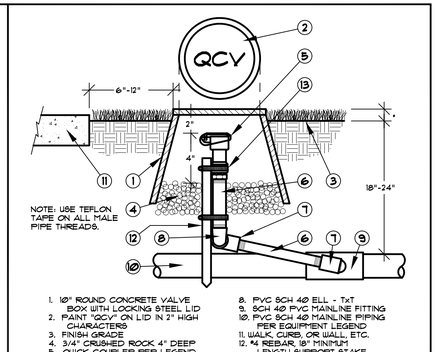
NOTE: INSTALL BACKFLOW PREVENTER AS REQUIRED BY LOCAL CODES, HEALTH DEPARTMENT STANDARDS, AND MANUFACTURER'S DIRECTIONS. CONTRACTOR SHALL VERIFY LOCAL REQUIREMENTS PRIOR TO INSTALLATION. FINAL BACKFLOW PREVENTER LOCATION TO BE DETERMINED IN THE FIELD. WHERE POSSIBLE, SCREEN BACKFLOW DEVICE WITH SHRUBS.

C IRRIGATION BACKFLOW PREVENTER



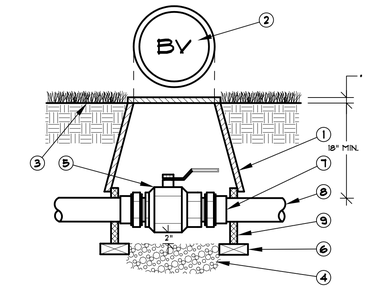
1. ELECTRIC CONTROL VALVE PER LEGEND
2. RECTANGULAR CONCRETE VALVE BOX WITH BOLT-DOWN STEEL LID
3. PAINT "MV" ON LID IN 2" HIGH CHARACTERS
4. FINISH GRADE
5. PVC SCH 40 MALE ADAPTER
6. WATERPROOF WIRE CONNECTION W/36" EXPANSION LOOP
7. #4 UF WIRES TO CONTROLLER FROM MASTER VALVE OUTPUT
8. COMMON BRICK - 4 REQUIRED
9. PVC MAINLINE PER LEGEND - LENGTH AS REQUIRED
10. PVC SCH 40 ELL - 6x6
11. MAINLINE PIPING FROM POINT OF CONNECTION
12. MAINLINE PIPING TO CONTROL VALVES
* 1/2" IN TURF AREAS, 2" IN SHRUB AREAS

D MASTER VALVE



1. Ø" ROUND CONCRETE VALVE BOX WITH LOCKING STEEL LID
2. PAINT "QCV" ON LID IN 2" HIGH CHARACTERS
3. FINISH GRADE
4. 3/4" CRUSHED ROCK 4" DEEP
5. QUICK COUPLER PER LEGEND
6. PVC SCH 80 NIPPLE LENGTH AS REQUIRED
7. PVC SCH 40 STREET ELL TxT
8. PVC SCH 40 ELL - TxT
9. SCH 40 PVC MAINLINE FITTING
10. PVC SCH 40 MAINLINE PIPING PER EQUIPMENT LEGEND
11. WALK, CURB, OR WALL, ETC.
12. #4 REBAR, 18" MINIMUM LENGTH SUPPORT STAKE
13. STAINLESS STEEL CLAMP - 2
* 1/2" IN TURF AREAS 2" IN SHRUB AREAS.

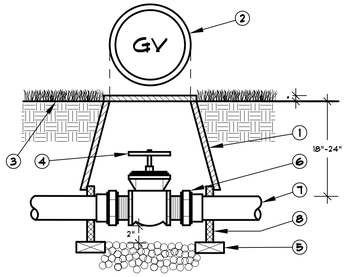
E QUICK COUPLING VALVE



1. 'JUMBO' RECTANGULAR CONCRETE VALVE BOX W/LOCKING STEEL LID
2. PAINT "BV" ON LID IN 2" HIGH CHARACTERS
3. FINISH GRADE
4. 3/4" CRUSHED ROCK - 4" DEPTH
5. BALL VALVE PER IRRIGATION PLAN
6. COMMON BRICK - 4 REQUIRED
7. SCH 40 PVC MALE ADAPTER - 2 REQUIRED
8. MAINLINE PIPING PER IRRIGATION PLAN
9. VALVE BOX EXTENSION(S) AS REQUIRED
* 1/2" IN TURF AREAS AND 2" IN SHRUB AREAS

NOTE:
USE TEFLON TAPE ON ALL MALE PIPE THREADS.

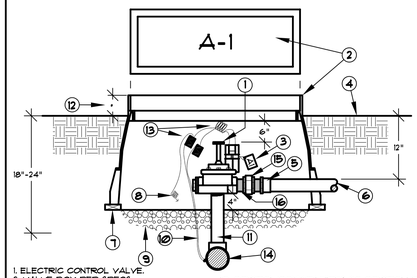
F BALL VALVE



1. Ø" ROUND CONCRETE VALVE BOX WITH LOCKING STEEL LID
2. PAINT "GV" ON LID IN 2" HIGH CHARACTERS
3. FINISH GRADE
4. GATE VALVE PER LEGEND W/ SQUARE OP. NUT
5. COMMON BRICK - 4 REQUIRED
6. SCH 40 PVC MALE ADAPTER - 2 REQUIRED
7. MAINLINE PIPING PER LEGEND
8. VALVE BOX EXTENSIONS AS REQUIRED
* 1/2" IN TURF AREAS, 2" IN SHRUB AREAS

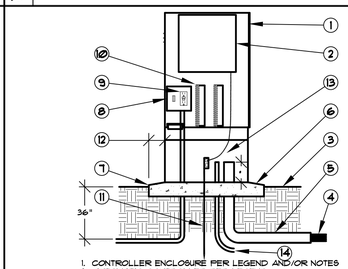
NOTES:
USE TEFLON TAPE ON ALL MALE PIPE THREADS.

G GATE VALVE



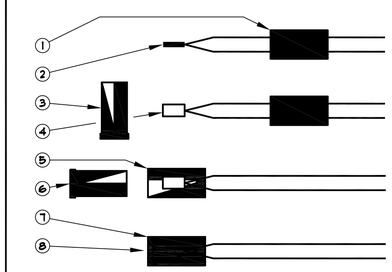
1. ELECTRIC CONTROL VALVE.
2. VALVE BOX PER SPECS.
3. CHRISTY'S I.D. TAG-NUMBERED TO MATCH DRAWINGS.
4. FINISH GRADE.
5. PVC MALE ADAPTER (TYP).
6. TO SPRINKLERS-ANGLE PIPE TO SPECIFIED DEPTHS WITH 45 DEGREE ELLS.
7. COMMON BRICK (4 REQUIRED).
8. COMMON WIRE TO OTHER VALVES ON SAME CONTROLLER.
9. NATIVE SOIL.
10. CONTROL/COMMON WIRES TO CONTROLLER.
11. PVC SCHEDULE 80 PIPE.
12. * 2" IN SHRUB AREAS, FLUSH IN LAWN AREAS.
13. WIRE CONNECTORS AND 30" EXPANSION LOOP OF EACH WIRE.
14. MAIN LINE FITTING WITH SOLVENT WELD OUTLET.
15. BRASS UNION.
16. BRASS NIPPLE.

H ELECTRIC CONTROL VALVE



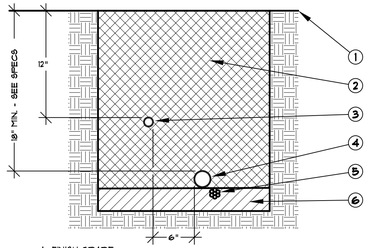
1. CONTROLLER ENCLOSURE PER LEGEND AND/OR NOTES
2. AUTOMATIC CONTROLLER PER LEGEND
3. FINISH GRADE
4. DIRECT BURIAL CONTROL WIRES TO VALVES
5. 3" PVC SWEEP ELL - EXTEND BEYOND EDGE OF BASE
6. 6" THICK MIN. POURED CONCRETE BASE
7. SLOPE EDGE OF BASE 1% TO DRAIN AWAY FROM ENCLOSURE
8. 120V AC POWER IN CONDUIT W/ 15 AMP BREAKER
9. 120V ON-OFF SWITCH WITH CONVENIENCE OUTLET
10. TERMINAL STRIPS FOR CONTROL WIRES
11. 5/8" x 9' MIN. LENGTH COPPER GROUNDING ROD
12. EXTEND EDGE OF BASE 6"MIN. BEYOND EDGE OF ENCLOSURE
13. GROUND CONTROLLER PER MANUFACTURER
* EXTEND 4" ABOVE TOP OF BASE
14. TWO 1" PVC SWEEPS FOR COMUNICATION CABLES (2X NEED 1-IN, 1-OUT TO ADJACENT CONTROLLER).

I CONTROLLER



1. SLIP BASE SOCKET OVER END OF WIRES
2. STRIP WIRES APPROX. 5/8" FROM ENDS - TWIST TOGETHER
3. APPLY SEALER TO OUTSIDE OF SEALING PLUG AND FILL CAVITY WITH SEALER
4. PUT CRIMP END OVER WIRE ENDS - CRIMP SLEEVE AND CUT OFF EXCESS WIRE
5. PULL BASE SOCKET OVER END OF WIRES AS FAR AS POSSIBLE
6. PUSH SEALING PLUG INTO BASE SOCKET
7. PUSH WIRES TO END OF BASE SOCKET TO INSURE COMPLETE SEALING OF CONNECTION
8. COMPLETED WATERPROOF WIRE CONNECTION

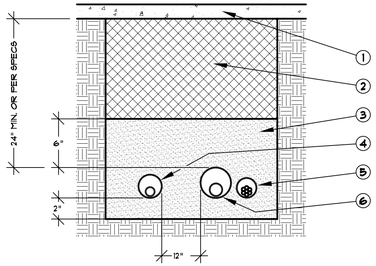
J WIRE CONNECTOR SEE SPECS



1. FINISH GRADE
2. CLEAN BACKFILL - 90% COMPACTION REQUIRED - SEE SPECS
3. NON-PRESSURE LATERAL LINE PER LEGEND
4. PRESSURE SUPPLY LINE PER LEGEND
5. CONTROL WIRES - INSTALL BELOW PRESSURE SUPPLY LINE
6. PROVIDE 2" OF CLEAN SAND BELOW PRESSURE MAINLINE

NOTES:
BUNDLE AND TAPE WIRES AT 12' O.C. PIGTAIL AND LOOP CONTROL WIRES AT ALL 90 DEGREE CHANGES IN DIRECTION. SPLICING OF WIRE RUNS IS NOT ALLOWED UNLESS APPROVED BY THE CITY. 36" MIN. COVER IS REQUIRED FOR RECLAIMED WATER MAINLINE (WHERE APPLICABLE). INSTALL 1'x1'x1' THRUST AT ALL CHANGES IN DIRECTION OF PRESSURE MAINLINE AND AT ALL TERMINAL POINTS OF MAINLINE.

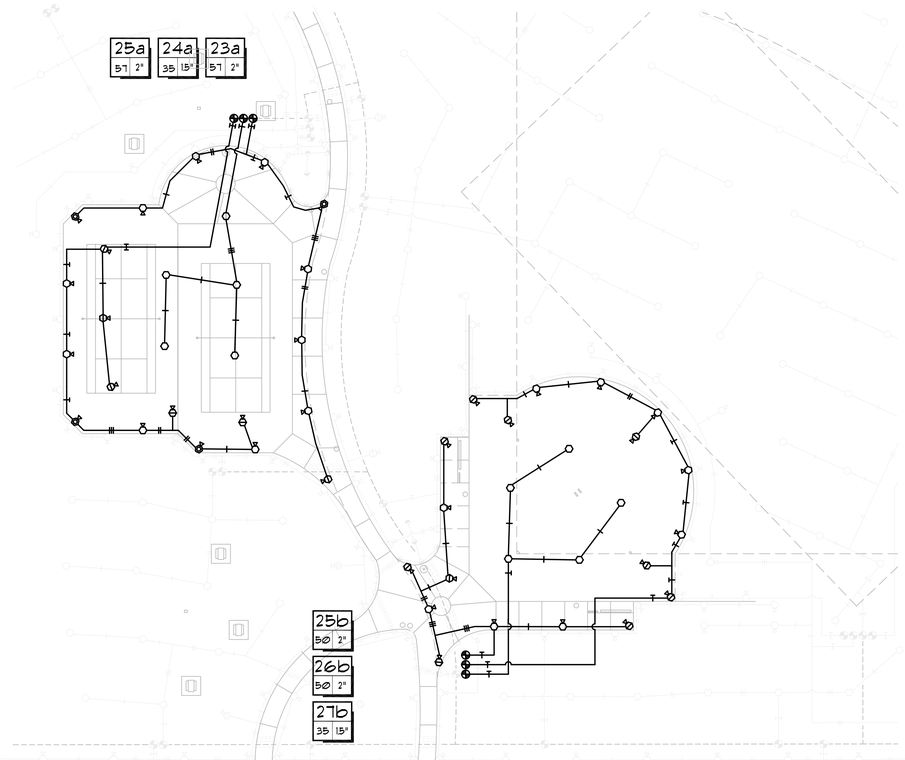
K TRENCHING



1. HARDSCAPE (TYPICAL)
2. CLEAN BACKFILL - 90% COMPACTION REQUIRED - SEE SPECS
3. SAND (TYPICAL)
4. NON-PRESSURE LATERAL LINE / SLEEVE (SIZE PER CHART)
5. CONTROL WIRE SLEEVE ADJACENT TO MAINLINE SLEEVE (SIZE PER CHART)
6. PRESSURE SUPPLY LINE / SLEEVE (SIZE PER CHART)

NOTES:
ALL SLEEVES TO BE SCH 40 PVC. SIZE ALL SLEEVES PER SLEEVING CHART ON PLANS. EXTEND SLEEVES 12" BEYOND EDGE OF HARDSCAPE ON BOTH ENDS. RECLAIMED WATER SLEEVES TO BE MINIMUM 42"-48" DEEP (OR PER WATER DISTRICT STANDARDS) WHERE APPLICABLE.

L SLEEVING



O ALTERNATIVE IRRIGATION LAYOUTS 1" = 30'-0"

M

N

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golf course architecture
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909 296.3430
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e.mail dnala@aol.com

THUNDERSKY PARK
8.7 ACRE ADDITION
IRRIGATION DETAILS

ORANGECREST COUNTRY
Communities Southwest
181 old springs road
anaheim, california 92808
1 714 279.6555 fax 1714 279.6556
contact: Mary Rauschenburg

David S. Neault
No. 2884
Exp.06-31-00
STATE OF CALIFORNIA

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date: 5/5/2000
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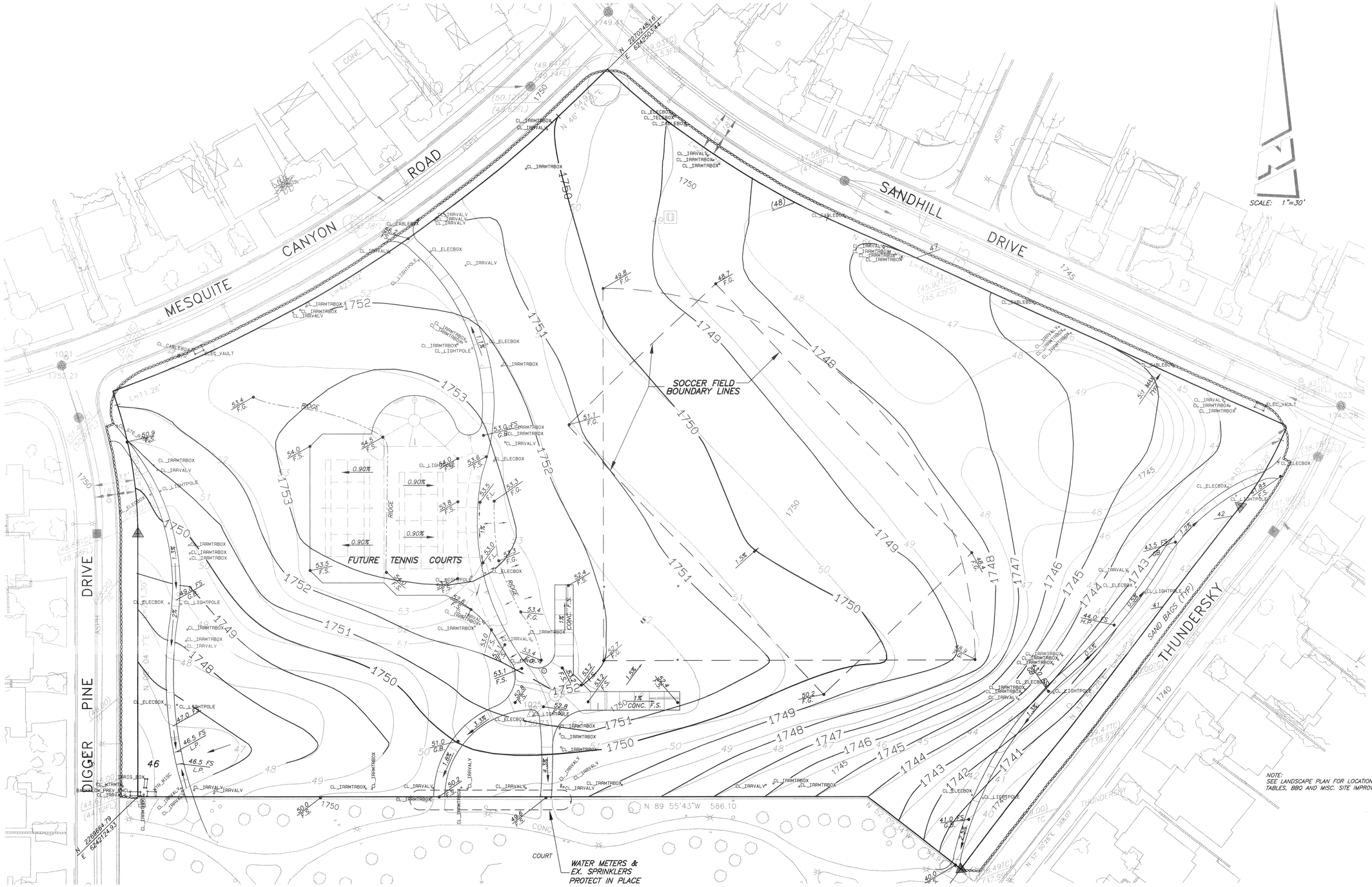

NOTE:
SEE LANDSCAPE PLAN FOR LOCATION OF TABLES, BBQ AND MISC. SITE IMPROVEMENTS.

NOTE:
ALL HARD SCAPE, TENNIS COURTS, SIDE WALKS, PICINIC TABLES, LIGHTS, BBQS AND BIKE RACKS TO BE DONE BY OTHERS.

LEGEND :

1750 — AS-BUILT CONTOURS PER FIELD SURVEY, 8/3/00 & 9/15/00

40 — PROP. CONTOURS PER APPROVED GRADING PLAN, 6/10/00

"AS - BUILT"

6-6-01

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PRIVATE ENGINEERING NOTE

CONSTRUCTION CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONSTRUCTION CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS, AND CONSTRUCTION CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY AND HOLD DESIGN PROFESSIONAL HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF DESIGN PROFESSIONAL.

BENCHMARK

RIVERSIDE COUNTY BENCHMARK, STAMPED VBB-64 AT SOUTHWEST CORNER OF PLUMMER ROAD AND VAN BUREN BOULEVARD. 259.0 FEET SOUTH OF VAN BUREN BOULEVARD. 205.0 FEET WEST OF PLUMMER ROAD, ON THE TOP OF A 4.0 FOOT x 10.0 FOOT GRANITE BOULDER A BRASS DISK FLUSH AND MARKED.
ELEV. 1638.123

REGISTERED PROFESSIONAL ENGINEER
RICHARD N. YALE
NO. 040023
Exp. 12/31/01
CIVIL
STATE OF CALIFORNIA

The Keith Companies TKC
22650 Cactus Avenue, Suite 300 Moreno Valley, CA 92553-9024 (909) 653-0234

APPROVED BY: Richard N. Yale
RICHARD N. YALE R.C.E. NO. 40023
REGISTRATION EXP. 12/31/01
DATE: 6-6-01
CITY BUSINESS TAX CERTIFICATE NO. 033595, EXP. DATE 4/2/00

MARK	REVISIONS:	APPR.	DATE

DESIGNED BY DPH DRAWN BY MAG CHECKED BY TEB

CITY OF RIVERSIDE
PLANNING DEPARTMENT

PLANNING REVIEW
APPROVED BY _____ DATE _____

"AS - BUILT"
ROUGH GRADING PLAN
LOT "D" - TRACT 22551

HORIZ. SCALE: AS SHOWN VERT. SCALE:

ACCOUNT NO. 31586.005

SHEET 2 OF 3

David Neault Associates
landscape architecture
planning
golf course architecture
41877 enterprise circle north suite 120a temecula, california 92590
909 699.5071
fax: 909 676.2793
e.mail dna_asia@msn.com

THUNDERSKY PARK
8.7 ACRE ADDITION
GRADING PLAN

ORANGECREST COUNTRY
Communities Southwest
181 old springs road
anaheim, california 92808
1 714 279.6555 fax 1714 279.6556
contact: Mary Rauschenburg

north

date: 12-1-99 / 8-11-00
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scale: 1"=30'-0"
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G-2
of 3 sheets

DRAWING NUMBER
PLAN HOLD CORPORATION • IRVINE, CALIFORNIA
REGISTER BY NUMBER 07541