

**LAS VEGAS VALLEY WATER DISTRICT NOTES**

- NO WORK SHALL BEGIN ON THE WATER PLANS UNTIL THEY HAVE BEEN RELEASED FOR CONSTRUCTION BY THE LVVWD. FOLLOWING APPROVAL OF THE PLANS, NOTICE SHALL BE GIVEN TO THE LVVWD CUSTOMER SERVICE DEPARTMENT (870-4194), 48 HOURS PRIOR TO ACTUAL CONSTRUCTION AND 24 HRS PRIOR TO INSPECTION.
- CALL BEFORE YOU DIG 1-800-227-2600.
- ALL WORK SHALL CONFORM TO LVVWD LATEST STANDARD PLATES, DRAWINGS AND SPECIFICATIONS.
- ALL WORK, EXCEPT AS MODIFIED HEREON OR BY NOTE 3, SHALL BE DONE IN ACCORDANCE WITH THE MOST CURRENT DRAFT OR EDITION OF THE UNIFORM STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION OFFSITE IMPROVEMENTS, CLARK COUNTY AREA.
- DISTRICT APPROVED SERVICE SADDLES OR TAPPED COLLARS WILL BE REQUIRED ON ALL 3/4" AND 1" SERVICE LATERALS. SERVICE SADDLES ONLY SHALL BE PERMITTED ON 1-1/2" AND 2" SERVICE LATERALS. DOUBLE TAPPED COLLARS ARE NOT PERMITTED.
- COPPER SERVICE LATERALS: ALL 3/4" TO 2" SERVICE LATERALS SHALL BE OF COPPER TUBING IN ACCORDANCE WITH THE DISTRICT'S SPECIFICATIONS AND STANDARD PLATES.
- THE MAXIMUM ALLOWABLE JOINT DEFLECTION FOR ACP AND DUCTILE IRON PIPE SHALL BE AS FOLLOWS:

PIPE SIZES	ACP	DUCTILE IRON SLIP JOINT	DUCTILE IRON MECHANICAL JOINT
6 INCH	2.5 DEGREES	2.5 DEGREES	3.5 DEGREES
8-12 INCH	2.5 DEGREES	2.5 DEGREES	2.5 DEGREES
14-16 INCH	2.0 DEGREES	1.5 DEGREES	1.5 DEGREES
18-24 INCH	N/A	1.5 DEGREES	1.5 DEGREES

ON PVC PIPE, THE MAXIMUM OFFSET FOR A 20' LENGTH OF FACTORY BELLED PIPE SHALL BE 16 INCHES FOR 6" PIPE, 12 INCHES FOR 8" PIPE AND 9 INCHES FOR 10" AND 12" PIPE.

IF THESE OFFSETS CONFLICT WITH THE PIPE MANUFACTURERS RECOMMENDATION, THE MORE STRINGENT REQUIREMENT SHALL APPLY.

- ALL WATER METER BOXES SHALL BE LOCATED OUTSIDE OF DRIVEWAY AREAS.
- ALL VALVES SHALL BE LOCATED OUTSIDE OF DRIVEWAYS AND VALLEY GUTTERS.
- DETECTOR TAPE SHALL BE REQUIRED IN ACCORDANCE WITH STANDARD PLATE NO. 27 WHERE INDICATED, AND AS FOLLOWS:
  - OVER ALL MAINS NOT INSTALLED 6 FEET FROM BACK OF CURB
  - OVER ALL SERVICE LATERALS NOT INSTALLED AT RIGHT ANGLES TO MAIN
- ALL WATER MAINS SHALL BE PRESSURE TESTED AT 200 PSI FOR A CONTINUOUS TWO HOUR PERIOD, IN ACCORDANCE WITH DISTRICT STANDARDS.
- ALL WATER MAINS AND LATERALS SHALL BE DISINFECTED, FLUSHED AND AN ACCEPTABLE HEALTH SAMPLE OBTAINED, PRIOR TO THE CONNECTION OF THE WATER MAIN(S) AND/OR LATERAL(S) TO THE DISTRICT'S SYSTEM.
- CONTRACTOR TO OBTAIN ALL METERS 2" OR SMALLER FROM LVVWD CENTRAL STORES, TELEPHONE NUMBER 258-3152, FORTY-EIGHT (48) HOURS PRIOR TO PICKUP.

**CITY OF LAS VEGAS FIRE DEPARTMENT NOTES**

- ALL WORK SHALL BE DONE IN STRICT ACCORDANCE WITH THE CITY OF LAS VEGAS FIRE DEPARTMENT "HYDRANT SPECIFICATIONS", "HYDRANT INSTALLATION SPECIFICATIONS" AND ORDINANCE #3677.
- AUTHORIZED HYDRANTS FOR THIS PROJECT ARE:
  - A - KENNEDY GUARDIAN
  - B - MUELLER A-423 CENTURIAN
  - C - CLOW MODEL 2546 MEDALLION
- ON ANY NEW HOME OR BUILDING INSTALLATION, ACCESSIBLE FIRE HYDRANTS SHALL BE INSTALLED BEFORE COMBUSTIBLE CONSTRUCTION COMMENCES AND SAID FIRE HYDRANTS SHALL BE IN GOOD WORKING ORDER WITH AN ADEQUATE WATER SUPPLY.
- CONTRACTOR SHALL PLACE A BLUE REFLECTIVE MARKER AT CENTERLINE OF STREET ADJACENT TO FIRE HYDRANTS AS REQUIRED IN ORDINANCE #3677 TO IDENTIFY FIRE HYDRANT LOCATIONS.
- CALL THE LAS VEGAS BUILDING DEPARTMENT AT 229-2071 FOR UNDERGROUND INSPECTION, PRESSURE AND FLUSH VERIFICATION OF ALL FIRE HYDRANTS AND FIRE LINES BEFORE COVERING.
- PAINTING OF THE CURBS AND HYDRANT AND ANY WORK NECESSARY FOR PROTECTION OF HYDRANTS FROM PHYSICAL DAMAGE PER ORDINANCE #3677 SHALL BE COMPLETED BEFORE APPROVAL BY THE CITY OF LAS VEGAS FIRE DEPARTMENT.
- A PERMIT IS REQUIRED FROM THE FIRE DEPARTMENT FOR ON-SITE WATER LINE AND FIRE HYDRANT. THE PERMIT AND CONTRACTOR'S MATERIAL AND TEST CERTIFICATE FOR UNDERGROUND PIPING FORM SHALL BE OBTAINED FROM THE FIRE PROTECTION ENGINEER PRIOR TO ANY WORK BEGINNING.
- A FLOW TEST MUST BE WITNESSED BY THE FIRE DEPARTMENT PRIOR TO OCCUPANCY FOR VERIFICATION OF REQUIRED ON-SITE WATER SUPPLY.
- ALL ON-SITE FIRE MAIN MATERIALS MUST BE U.L. LISTED AND A.W.W.A. APPROVED.
- FIRE HYDRANT SPACING:
  - RESIDENTIAL - 500 FEET UNSPRINKLERED, 600 FEET SPRINKLERED
  - COMMERCIAL, INCLUDING MULTI-FAMILY - 300 FEET UNSPRINKLERED, 400 FEET SPRINKLERED
- NO FIRE HYDRANT SHALL BE LOCATED WITHIN THE REQUIRED RADIUS OF A CURB-LESS JAC OR WITHIN 20 FEET OF THE PERIMETER OF THE RADIUS OF THE CURB-LESS JAC.
- NO FIRE HYDRANT SHALL BE LOCATED WITHIN 6 FEET OF ANY CURB RETURN, LAWNWAY, POWER POLE, STREET LIGHT OR ANY OTHER OBSTRUCTION.
- NOT MORE THAN 2 HYDRANTS CAN BE OUT OF SERVICE DUE TO A SINGLE MAIN BREAK.
- THE TURNING RADIUS FOR ANY APPARATUS ACCESS ROAD AND/OR FIRE LANE, PUBLIC OR PRIVATE SHALL BE NOT LESS THAN 45 FEET OUTSIDE RADIUS AND 22 FEET INSIDE RADIUS.
- A FIRE APPARATUS ROAD SHALL BE REQUIRED WHEN ANY PORTION OF AN EXTERIOR WALL OF THE FIRST STORY IS LOCATED MORE THAN 150 FEET FROM A FIRE DEPARTMENT VEHICLE ACCESS. (SEE EXHIBIT "B" IN THE PLAN, SECTION 10.2.1.1)
- ALL DEAD END FIRE APPARATUS ACCESS ROADS AND/OR FIRE LANES SHOULD BE PRIVATE IN EXCESS OF 100 FEET IN LENGTH SHALL BE PRIVATE WITH AN APPROVED TURNAROUND AREA. (SEE ORDINANCE #3677)

**BENCHMARK**

C.L.V. BENCHMARK #1V10554  
 RIVET & PLATE IN TOP OF CURB, NW RETURN OF DESERT INN ROAD AND CRYSTAL WATER WAY.  
 ELEVATION = 2677.406

PROJECT NAME: **LAGUNA BAY TOWNHOME ESTATES**  
 THIS PROJECT WATER PLAN COMPLIES WITH THE LAS VEGAS VALLEY WATER DISTRICT'S TECHNICAL REQUIREMENTS. HOWEVER, THIS WATER PLAN IS NOT APPROVED FOR CONSTRUCTION AT THIS TIME AND THIS SIGNATURE DOES NOT PROVIDE OR IMPLY A WATER GUARANTEE.

**CITY OF LAS VEGAS FIRE DEPARTMENT**

FIRE FLOW REQUIREMENT IS 1500 GALLONS PER MINUTE AT 20 POUNDS PER SQUARE INCH RESIDUAL BASED ON:  
 AREA SEPARATION FIRE WALLS MUST BE IDENTIFIED:  
 SQUARE FOOTAGE: 3,158 S.F.  
 LAZIEST AREA BETWEEN AREA SEPARATION WALLS: 3,158 S.F.  
 HEIGHT: 2 STORY (12')  
 TYPE OF CONSTRUCTION: TYPE V (1 HR.)  
 EXPOSURES:  
 SPRINKLER SYSTEM: NO  
 OCCUPANCY:  
 ROOF CONSTRUCTION: TILE OVER WAFER BOARD  
 REVIEWED BY: J. Lopez  
 DATE: 6/10/94  
 1500 GPM REQUIRED WITHIN 200 FEET OF ALL BUILDING AREAS.

**QUANTITY ESTIMATE**

1) FIRE HYDRANT W/ASSEMBLY	3 EA
2) 8" CROSS	1 EA
3) 90° ELBOW	1 EA
4) 45° ELBOW	3 EA
5) 2L" ELBOW	1 EA
6) 6" GATE VALVE	3 EA
7) 8" X 6" REDUCER	3 EA
8) 6" CAP W/1/2" BLOWOFF	3 EA
3/4" METER BY LVVWD	31 EA
1 1/2" IRRIGATION METER	1 EA
3/4" SERVICE	31 EA
R.P.P.A. 1 1/2"	1 EA
8" WATER MAIN	515 LF
R.P.P.A. 3/4"	1 EA
6" WATER MAIN	433 LF

NOTE: THESE QUANTITIES ARE ONLY ESTIMATES. CONTRACTOR TO VERIFY.

**NOTE**

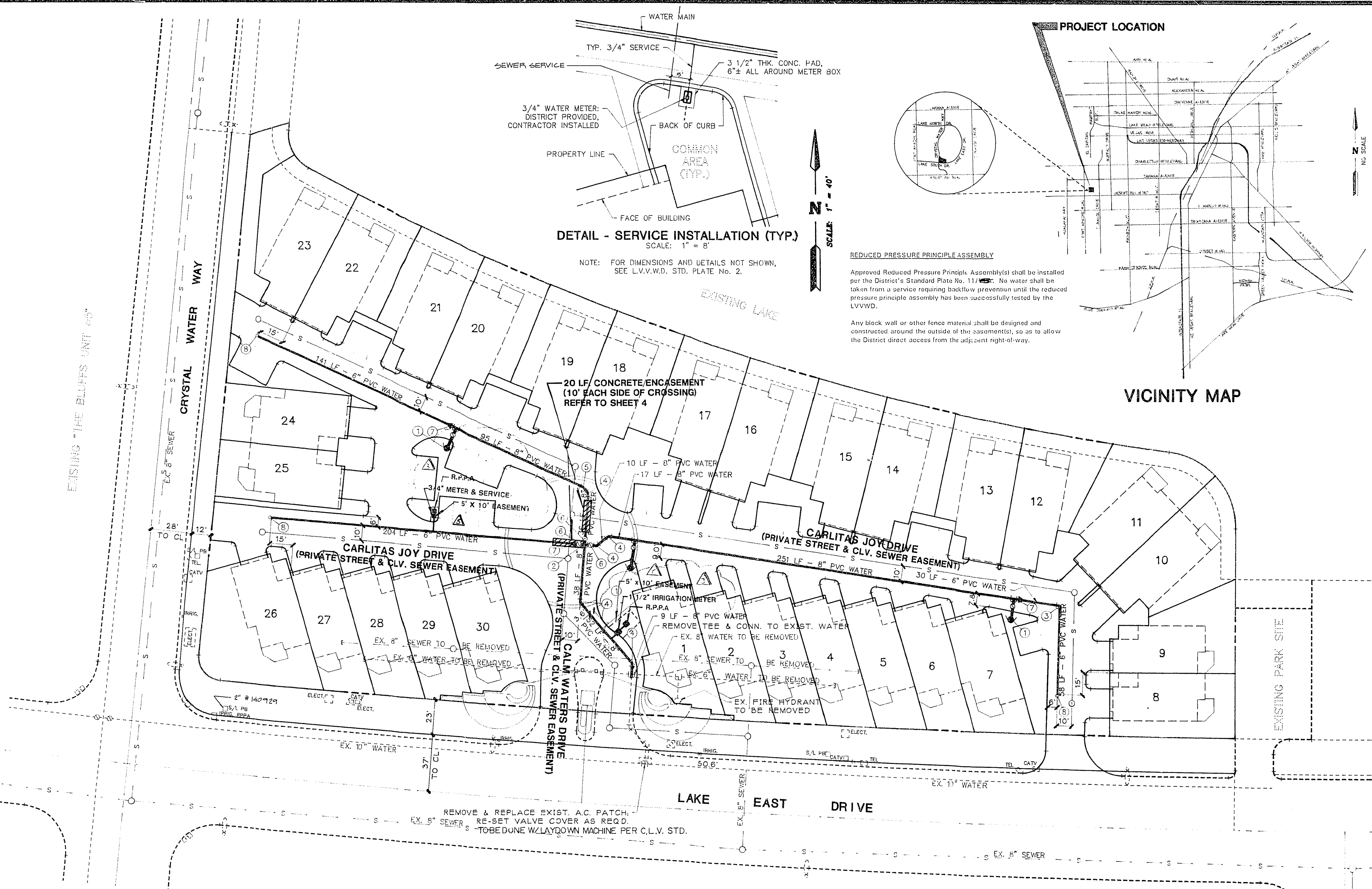
EXISTING UTILITY LOCATIONS SHOWN HEREIN ARE APPROXIMATE ONLY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXACT VERTICAL AND HORIZONTAL LOCATION OF ALL EXISTING UNDERGROUND UTILITIES PRIOR TO COMMENCING CONSTRUCTION. NO REPRESENTATION IS MADE THAT ALL EXISTING UTILITIES ARE SHOWN HEREON. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR UTILITIES NOT SHOWN OR UTILITIES NOT SHOWN IN THEIR PROPER LOCATION.

**APPROVAL**

Signature: J. Lopez  
 LAS VEGAS VALLEY WATER DISTRICT  
 Signature: J. Lopez  
 CLV FIRE DEPARTMENT

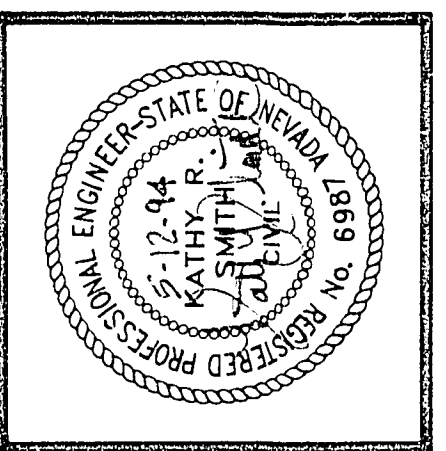
Call before you Dig.  
 1-800-227-2600  
 UNDERGROUND SERVICE (USA)

6-10-94 DATE  
 6/10/94 DATE



APPROVAL	DATE	REVISION
BY: J. Lopez	6/10/94	1
BY: J. Lopez	6/10/94	2

MASTER WATER PLAN  
 LAGUNA BAY TOWNHOME ESTATES



ESI ENGINEERS AND SURVEYORS INC.  
 W.O. # : 755 - 8910  
 BY: J. Lopez / DSR  
 DATE: APR 1994  
 SHEET 5 OF 5  
 SCALE: 1" = 40'