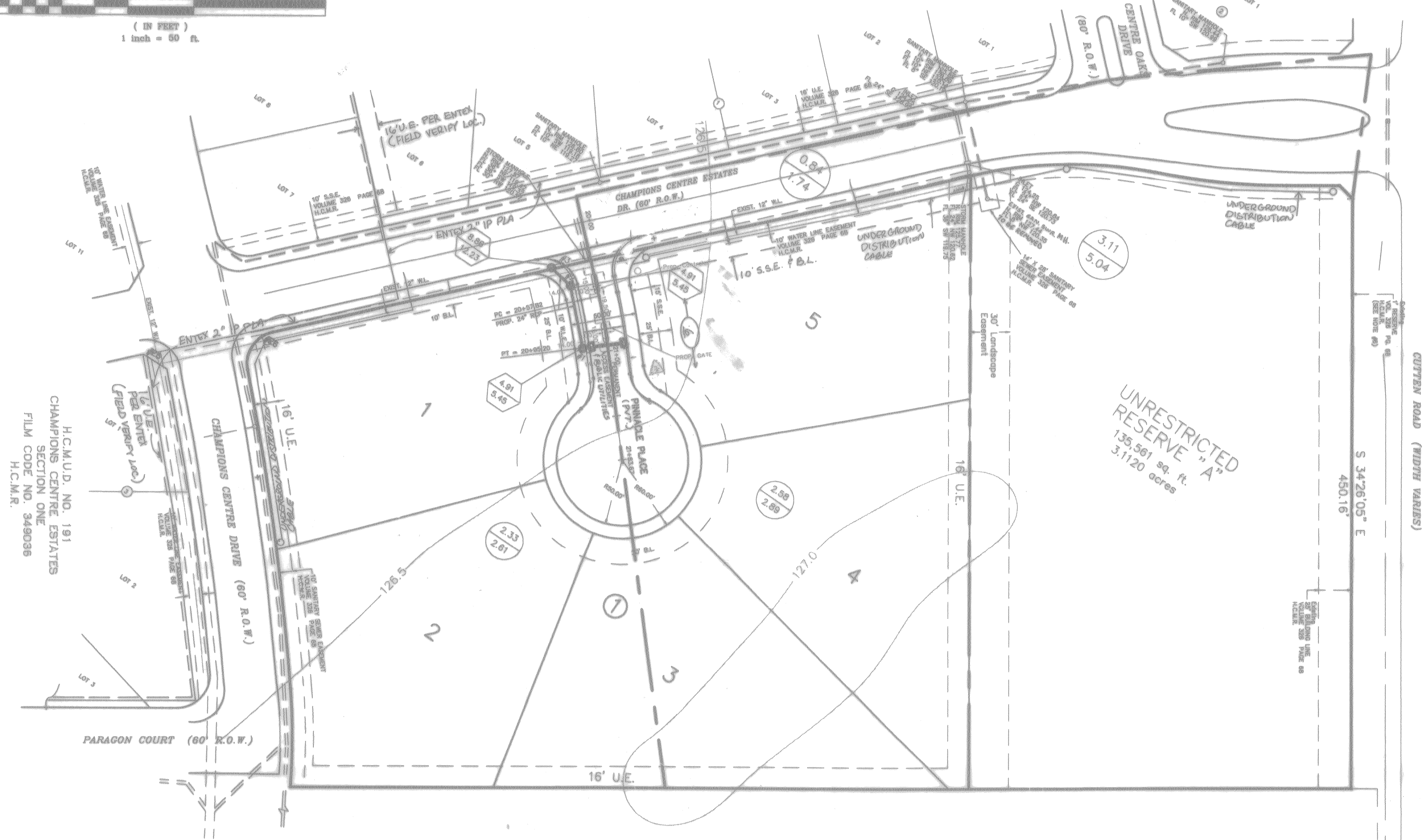


H.C.M.U.D. NO. 191
 CHAMPIONS CENTRE ESTATES
 SECTION ONE
 FILM CODE NO. 349036
 H.C.M.R.



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H.C.M.U.D. NO. 191
 ACREAGE

STORM SEWER DESIGN

PROJECT: THE PINNACLE AT CHAMPIONS CENTRE
 CITY OF HOUSTON CURVE: #4 Single Family Residential

LINE	TO MH	FROM MH	AREA ac	TOTAL AREA ac	t	Ci	Q cfs	REACH ft	LINE SIZE	DESIGN SLOPE	FALL	OTHER LOSSES	FLOWLINE UP-STREAM	FLOWLINE DOWN-STREAM	ACT. V fpa	SLOPE INTO GRAD ft	Δ H ft	ELEV. HYD. GRAD. UP-STREAM	ELEV. HYD. GRAD. DOWN-STREAM	TC/ ELEV. Upstream	NAT. GRND. Upstream	
1	MH	1	4.91	4.91	12	1.11	5.40	0	24	0.24	11	3.5	0.01	121.07	121.50	1.7	0.050	0.01	120.17	120.10	120.54	
2	1	2	0	4.91	12	1.11	5.45	48	24	0.24	11	3.5	0.12	121.09	121.44	1.7	0.050	0.03	120.16	120.13	120.55	
3	2	3	0	4.91	12	1.11	5.40	20	24	0.24	11	3.5	0.05	121.44	121.30	1.7	0.050	0.01	120.13	120.12	120.53	
4	3	EXIST #1	3.00	8.91	12	1.11	12.23	225	36	0.18	22	3.2	0.23	121.50	118.16	1.3	0.01	0.02	120.12	120.10	120.27	
5	EXIST #2	EXIST #2	0	8.91	-	-	12.23	75	36	0.18	22	3.2	0.15	118.71	118.56	1.3	0.01	0.01	120.10	120.09	120.17	

* FROM REVISED MUD 191 DRAINAGE CALCULATIONS. SEE SHEET 4 OF 14.

WARNING
 Overhead lines may exist on the property. We have not attempted to mark these lines since they are clearly visible, but you should locate them prior to beginning any construction. Texas law, Section 792, Health & Safety Code, forbids all activities in which persons or things may come within six (6) feet of live overhead high voltage lines. Constructors and owners are legally responsible for safety of construction workers under this law. This law carries both criminal and civil liability. To arrange for lines to be turned off or moved, call RELAP at 228-7400.

FLOOD PLAIN NOTE:
 THIS TRACT IS IN ZONE "X" AS PER FEMA FLOOD INSURANCE RATE MAP PANEL NO. 48201C0000G, HARRIS COUNTY, TX REVISED SEPT. 28, 1990. ZONE "X" IS DESCRIBED AS BEING OUTSIDE THE 500 YEAR FLOOD PLAIN.

BENCH MARK
 BENCH MARK: NGS DISK STAMPED 11214 1973
 BRASS DISK AT CENTERLINE OF H.L.A.P. TOWER
 157 YARDS NORTH OF F.M. 1590
 ELEVATION 125.09 1973 ADA.

LEGEND

- UNDERGROUND DISTRIBUTION CABLE
- TERMINAL POLE
- STREET LIGHT ON STEEL STANDARD
- UNDERGROUND STREET LIGHT CABLE
- Exist. Contours
- Exist. Water Line
- Exist. Gate Valve & Box
- Exist. Flushing Valve
- Exist. Plug & Blowoff
- Exist. Sanitary Sewer Line & Manhole
- Exist. Storm Sewer Line & Manhole
- Exist. Inlet
- R1-1 (STOP SIGN)
- SHEET REFERENCE
- PROP. STORM SEWER LINE & MANHOLE
- PROP. INLET
- DRAINAGE AREA DIVIDE
- AREA AT INLET IN ACRES
- RUNOFF AT INLET IN C.F.S.
- AREA CONTRIBUTION TO LINE IN ACRES
- RUNOFF CONTRIBUTING TO LINE IN C.F.S.

H.C.M.U.D. NO. 191
 REPLAT OF CHAMPIONS PARK
 VOLUME 290 PAGE 101

Rev.	Date	Description	App.
8-13-96		ADDED ENTRANCE GATE	
PRIVATE UTILITY LINES SHOWN			
		Check of Watermain	6/18/96
		ENTEX, INC.	
		Southwestern Bell Telephone Co.	6-18-96
		Valid for One Year Only	
		Houston Lighting & Power Co.	7-29-96
		Approval Only for Crossing Underground	
		Ductiles Unless Noted. Valid at Time of Review Only.	

CITY OF HOUSTON
 DEPARTMENT OF PUBLIC WORKS & ENGINEERING
 ENGINEERING, CONSTRUCTION AND REAL ESTATE GROUP

SECTION APPROVALS

WATER ENGINEERING	TRAFFIC AND SIGNAL ENGINEERING
WASTEWATER ENGINEERING	STREET, BRIDGE AND RIGHT-OF-WAY ENGINEERING
STORM SEWER ENGINEERING	CONSTRUCTION

OTHER DEPARTMENTS

PLANNING AND DEVELOPMENT	SPONSOR DEPARTMENT
--------------------------	--------------------

CITY ENGINEER: [Signature] DATE: 5/16/96
 DIRECTOR OF PUBLIC WORKS AND ENGINEERING: [Signature] DATE: 5/16/96

SUBMITTED: _____	DESIGNED BY: TIM
SCALE: 1" = 50'	DRAWN BY: TIM
DATE: MARCH 1996	SHEET NO. 3 OF 14 SHEETS
SURVEY BY: _____	CITY DWG. NO.
JOB NO: 440-U	



STORM SEWER OVERALL LAYOUT

PEI PROVIDENT ENGINEERS, INC.
 12200 N.W. FRWY, Suite 210
 Houston, Texas 77092