THE SEASONS
TRACT NO. 6444 - PHASE 1
SEWER & STORM DRAIN PLANS

RECORD DRAWING
MATTHEW K. VOVILLA
RCE 43130 EXPIRES 3-31-08
DATE 5-11-07

REVIEWED BY:

ASSISTANT PUBLIC WORKS DIRECTOR, CITY OF BAKERSFIELD — DATE 3/1/06

APPROVED BY:

PUBLIC WORKS DIRECTOR, CITY OF BAKERSFIELD — DATE 3/6/06
RAUL M. ROJAS R.C.E. 39880 (EXP. 12/31/05)

SHEET No. INDEX

MATERIALS LIST

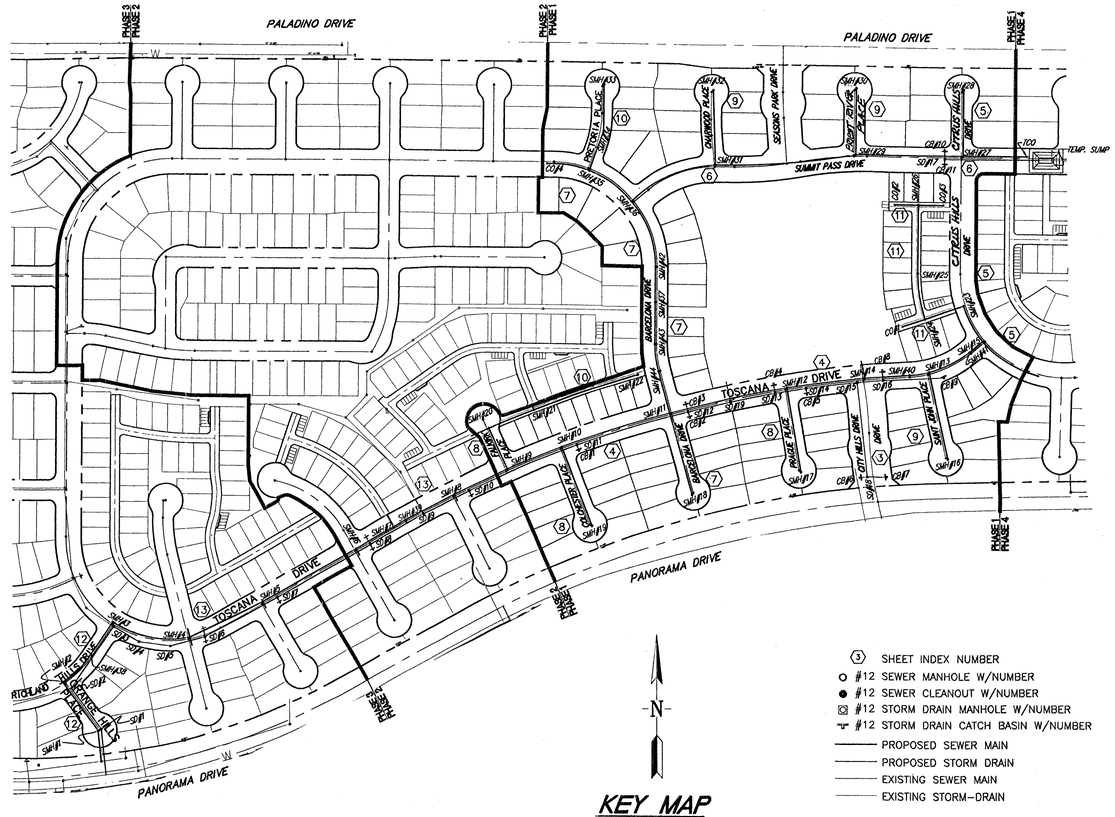
ESTIMATED QUANTITIES, NOT TO BE USED FOR BIDDING PURPOSES

SEWER (ONSITE)	
6" SEWER MAIN	2,290 L.F.
8" SEWER MAIN	3,285 L.F.
4" SEWER LINE (LATERALS)	4,571 L.F.
SEWER MANHOLES	34 EA.
STANDARD CLEANOUTS	4 EA.
STORM–DRAIN (ONSITE)	
24" R.C.P. STORM–DRAIN	550 L.F.
18" R.C.P. STORM–DRAIN	1,525 L.F.
12" P.V.C. STORM–DRAIN	60 L.F.
TYPE "A" CATCH–BASINS	10 EA.
STORM–DRAIN MANHOLES	9 EA.
SEWER (OFFSITE)	
8" SEWER MAIN	1,820 L.F.
6" SEWER MAIN	100 L.F.
SEWER MANHOLES	10 EA.
STORM–DRAIN (OFFSITE)	
36" R.C.P. STORM–DRAIN	465 L.F.
30" R.C.P. STORM–DRAIN	1,065 L.F.
24" R.C.P. STORM–DRAIN	260 L.F.
18" R.C.P. STORM–DRAIN	175 L.F.
STORM–DRAIN MANHOLES	10 EA.

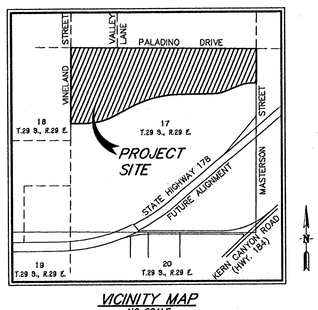
THESE PLANS AND SPECIFICATIONS WERE PREPARED BY ME OR UNDER MY DIRECTION AND TO THE BEST OF MY KNOWLEDGE ARE IN CONFORMANCE WITH CITY OF BAKERSFIELD ORDINANCES, STANDARDS AND DESIGN CRITERIA, AND INCLUDE ALL IMPROVEMENT REQUIREMENTS OF THE ADVISORY AGENCY OR OTHER REVIEW BOARD.

ANY ERRORS, OMISSIONS OR OTHER VIOLATIONS OF THOSE ORDINANCES, STANDARDS OR DESIGN CRITERIA ENCOUNTERED DURING CONSTRUCTION SHALL BE CORRECTED AND CORRECTIONS REFLECTED ON CORRECTED PLANS SUBMITTED TO THE CITY ENGINEER.

REGISTERED PROFESSIONAL ENGINEER * MATTHEW K. VOVILLA * RCE 43130 Exp. 3-31-06 * CIVIL * STATE OF CALIFORNIA



KEY MAP
SCALE: 1"=200'



VICINITY MAP
NO SCALE

LEGEND

③	SHEET INDEX NUMBER
○ #12	SEWER MANHOLE W/NUMBER
● #12	SEWER CLEANOUT W/NUMBER
⊠ #12	STORM DRAIN MANHOLE W/NUMBER
⊬ #12	STORM DRAIN CATCH BASIN W/NUMBER
———	PROPOSED SEWER MAIN
———	PROPOSED STORM DRAIN
———	EXISTING SEWER MAIN
———	EXISTING STORM–DRAIN

T.M.H.	TOP OF MANHOLE ELEVATION
T.C.O.	TOP OF CLEANOUT ELEVATION
INV.	PIPE INVERT ELEVATION
(E,S,N,W,)	(EAST, SOUTH, NORTH, WEST)
P.V.C.	POLYVINYL CHLORIDE
±	= APPROXIMATE LENGTHS, CONTRACTOR SHALL VERIFY ALL LENGTHS PRIOR TO BIDDING THIS PROJECT
R.C.P.	REINFORCED CONCRETE PIPE
R.G.J.	RUBBER GASKET JOINT
EX.	EXISTING
C.B.	CATCH–BASIN
FL	FLOWLINE

BENCHMARK USED:

U.S.G.S. Y–292, ELEVATION=782.57 B.C. IN 9" CONC. PAD 14.5' N.W. OF STREET SIGN AND 51.50' FROM CENTERLINE OF HIGHWAY 178 AND LENE PLACE.

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Matthew K. Vovilla RCE 43130 EXP. 3/31/06

REVISIONS	DATE

TRACT NO. 6444 - PHASE 1
SEWER & STORM DRAIN PLANS
K. HOVNANIAN
BAKERSFIELD, CALIFORNIA

JOB No.:	04-158
DWG NO.:	04-158SWRBM01
DATE:	11/21/05
DRAWN BY:	MJS/JV
CHECKED BY:	MKV
SHEET	1 OF 13 SHEETS

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CITY OF BAKERSFIELD
SEWER SPECIFICATIONS

SEWER NOTES

1. GENERAL CONTRACTOR WILL FURNISH ALL MATERIALS, TOOLS, LABOR, EQUIPMENT AND SUPERVISION NECESSARY TO COMPLETE INSTALLATION.

2. VCP INSTALLATION:

   A. MATERIALS: THE PIPE AND FITTINGS SHALL BE EXTRA STRENGTH VITRIFIED CLAY CONFORMING TO CURRENT ASTM DESIGNATION C-700, AND SHALL BE INSTALLED IN CONFORMANCE WITH THE PROVISIONS OF OF SECTIONS 71 OF THE STANDARD SPECIFICATIONS OF THE STATE OF CALIFORNIA, DEPARTMENT OF TRANSPORTATION, CURRENT EDITION AND THE CURRENT ASTM DESIGNATION C-12.

   B. JOINTS:

      1. THE PIPE AND FITTINGS SHALL HAVE A SOCKET END AND A SPIGOT END WITH COMPRESSION JOINTS CONFORMING WITH THE CURRENT ASTM DESIGNATION C-425.

      2. THE PIPE FITTINGS FOR 6", 8", 10", AND 12" SANITARY SEWER MAINS MAY BE PLAIN-END WITH COMPRESSION COUPLINGS CONFORMING WITH THE CURRENT ASTM DESIGNATION C-425. EXCEPTING THAT A STAINLESS STEEL SHEAR RING AS MANUFACTURED BY MISSION CLAY PRODUCTS CORPORATION FOR THEIR "MAINLINE" BAND-SEAL COMPRESSION COUPLING, OR APPROVED EQUAL, SHALL BE REQUIRED.

      3. THE PIPE AND FITTINGS FOR PRIVATE SANITARY SEWER HOUSE OR BUILDING LATERALS MAY BE PLAIN-END WITH COMPRESSION COUPLINGS CONFORMING WITH THE CURRENT ASTM DESIGNATION C-425. (STAINLESS STEEL SHEAR RINGS ARE NOT REQUIRED).

3. ABS PIPE INSTALLATION:

   A. MATERIALS: PIPE AND FITTINGS SHALL MEET THE REQUIREMENTS OF ASTM SPECIFICATIONS D 2680 AND D 2751. PIPE AND FITTINGS SHALL BE HOMOGENEOUS THROUGHOUT AND FREE FROM CRACKS, HOLES, FOREIGN INCLUSIONS OR OTHER INJURIOUS DEFECTS. FITTINGS SHALL BE INJECTION MOLDED AND SHALL BE INSTALLED IN LINE ON NEW PIPELINES; CUT-IN FITTINGS ARE NOT PERMITTED.

   B. JOINTS: USE ONLY SOLVENT WELDED JOINTS. THE ASSEMBLY OF JOINTS SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. WHERE ABS PIPE CONNECTS TO VCP, USE COUPLINGS APPROVED BY THE CITY OF BAKERSFIELD.

   C. INSTALLATION: PIPE AND FITTINGS SHOULD BE INSTALLED IN ACCORDANCE WITH ASTM D 2321. ONLY CLASS 1, II OR III EMBEDMENT MATERIALS WILL BE CONSIDERED SUITABLE.

4. PVC PIPE INSTALLATION:

   A. MATERIALS: PIPE AND FITTINGS SHALL MEET THE REQUIREMENTS OF ASTM SPECIFICATIONS D 3034 AND SDR 35. PIPE AND FITTINGS SHALL BE HOMOGENEOUS THROUGHOUT AND FREE FROM CRACKS, HOLES, FOREIGN INCLUSIONS OR OTHER INJURIOUS DEFECTS. FITTINGS SHALL BE INJECTION MOLDED AND SHALL BE INSTALLED IN LINE ON NEW PIPELINES; CUT-IN FITTINGS ARE NOT PERMITTED.

   B. JOINTS: USE ONLY ELASTOMERIC GASKET JOINTS. THE ASSEMBLY OF JOINTS SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. WHERE PVC PIPE CONNECTS TO VCP, USE COUPLINGS APPROVED BY THE CITY OF BAKERSFIELD.

   C. INSTALLATION: PIPE AND FITTINGS SHOULD BE INSTALLED IN ACCORDANCE WITH ASTM D 2321. ONLY CLASS I OR II EMBEDMENT MATERIALS WILL BE CONSIDERED SUITABLE.

5. SYSTEM TESTING:

   INSTALLED PIPE SHALL BE TESTED IN ACCORDANCE WITH CHAPTER 1.3 OF THE SUBDIVISION DESIGN MANUAL AND WITH THE RECOMMENDATIONS OF THE MANUFACTURER AND ACCEPTABLE TO THE CITY OF BAKERSFIELD. 24 HOURS NOTICE WILL BE REQUIRED FOR TEST AND INSPECTION.

6. WYE-FITTINGS SHALL BE INJECTION MOLDED IN-LINE AND SHALL BE USED FOR ALL LATERAL CONNECTIONS AND SHALL BE ROTATED A MINIMUM OF 23° AND A MAXIMUM OF 45° ABOVE THE HORIZONTAL PLANE RUNNING THROUGH THE CENTERLINE OF THE MAIN. WYE FITTINGS ONLY SHALL BE USED FOR VCP. ALL SEWER STUBS SHALL BE CLOSED WITH A STANDARD PLASTIC PLUG (SOLVENT WELDED).

7. THE MANHOLES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CITY OF BAKERSFIELD DRAWING S-7 AND S-8 AND SECTION 70-1.02H AND 71-1.07 OF THE STANDARD SPECIFICATIONS OF THE STATE OF CALIFORNIA, DEPARTMENT OF TRANSPORTATION, LATEST EDITION. THE CLEANOUTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CITY OF BAKERSFIELD STANDARD DRAWINGS S-20.

8. ALL SEWER LATERALS TO BE 4" IN DIAMETER EXCEPT AS NOTED ON PLANS AND EXTEND 4 FEET BEYOND PROPERTY LINE.

9. SURFACE MARKERS FOR SEWER LATERALS SHALL BE INSTALLED PER CITY OF BAKERSFIELD DRAWING SW-1.

10. 24 HOUR NOTICE IS REQUIRED FOR TESTING AND INSPECTION.

11. FOR CURVED PIPE: IDENTIFICATION TAPE DESIGNED FOR USE ON SEWERS SHALL BE PLACED ON TOP OF SEWER MAIN ALONG ITS ENTIRE LENGTH. IDENTIFICATION TAPE SHALL ALSO BE PLACED ON SEWER LATERALS EXTENDING 1 FOOT ABOVE SEWER MAIN TO RIGHT-OF-WAY LINE.

NOTE TO CONTRACTOR

ALL MANHOLES AND CLEANOUTS WITHIN TRACT, INCLUDING EXISTING MANHOLES, SHALL BE ADJUSTED TO FINISH GRADE IN ACCORDANCE WITH CITY STANDARDS. EXISTING MANHOLES MAY REQUIRE REMOVAL OF EXISTING CONE, AND REMOVAL OR "CHANGE OUT" OF BARREL RINGS.

GENERAL NOTES:

1. CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS BEFORE START OF CONSTRUCTION. A PERMIT SHALL BE OBTAINED FROM CITY PUBLIC WORKS DEPARTMENT FOR WORK TO BE DONE IN THE CITY STREET RIGHT-OF-WAY.

2. ANY TRENCHING TO BE CONDUCTED WITHIN THIS PROJECT SHALL BE BACKFILLED AND COMPACTED PER CITY STANDARD DETAIL ST-22.

3. THE CONTRACTOR SHALL REMOVE OR RELOCATE ALL OBSTRUCTIONS AS DIRECTED BY THE CITY ENGINEER.

4. CONTRACTOR AGREES THAT HE SHALL 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 APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNER AND THE ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR THE ENGINEER.

5. IF A PROBLEM SHOULD ARISE DURING THE COURSE OF CONSTRUCTION, IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE ENGINEER IMMEDIATELY PRIOR TO ANY FURTHER WORK.

6. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH CITY OF BAKERSFIELD STANDARDS AND STATE OF CALIFORNIA, DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS, LATEST ADDITION.

7. PRIOR TO THE START OF ANY PHASE OF CONSTRUCTION, THE CITY CONSTRUCTION INSPECTION DEPARTMENT SHALL BE GIVEN 24 HOURS NOTICE (661) 326-3049.

8. ALL EXISTING IMPROVEMENTS (CURB, GUTTER, SIDEWALK, CROSS-GUTTER, FENCING, ETC.) THAT ARE REMOVED, DAMAGED, OR UNDERCUT SHALL BE REPAIRED OR REPLACED AS DIRECTED BY THE CITY ENGINEER.

9. THE LOCATIONS OF EXISTING UTILITIES AND UNDERGROUND PIPELINES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION AND DEPTH OF ALL EXISTING UTILITIES AND UNDERGROUND PIPELINES BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY HIS FAILURE TO EXACTLY LOCATE, PRESERVE AND PROTECT ANY AND ALL UNDERGROUND UTILITIES AND PIPELINES. THE CONTRACTOR SHALL CALL U.S.A. (UNDERGROUND SERVICE ALERT) 1-800-227-2600 TWO WORKING DAYS PRIOR TO ANY CONSTRUCTION OR EXCAVATION.

10. IF THE CONTRACTOR IS IN DOUBT AS TO THE MEANING OF ANY PART OF THE PLAN AND SPECIFICATIONS OR FINDS DISCREPANCIES IN OR OMISSIONS FROM THE DRAWINGS, HE SHALL SUBMIT A WRITTEN REQUEST FOR AN INTERPRETATION OR A CORRECTION THEREOF, PRIOR TO FILING HIS BID PRICE FOR THE PROJECT.

11. IN THE EVENT CONSTRUCTION STAKING BASED ON CONSULTANT'S PLANS, DRAWINGS OR OTHER DOCUMENTS IS ACCOMPLISHED BY OTHER THAN THE CONSULTANT, CLIENT AGREES TO HOLD CONSULTANT HARMLESS AND RELEASE CONSULTANT FROM ALL LIABILITY ARISING FROM THE USE OF SAID PLANS, DRAWINGS OR OTHER DOCUMENTS.

12. ALL EXISTING PAVING AND SURFACING REMOVED, DAMAGED OR UNDERCUT SHALL BE REPLACED IN ACCORDANCE WITH CITY OF BAKERSFIELD DRAWING S-6.

13. COMPACTION TESTS SHALL BE THE RESPONSIBILITY OF THE DEVELOPER. THE NUMBER AND LOCATION OF REQUIRED TESTS SHALL BE DETERMINED BY THE CITY ENGINEER. THE COST OF RETESTING DUE TO FAILED COMPACTION TESTS WILL BE BACKCHARGED TO THE CONTRACTOR.

14. PINNICALE ENGINEERING SHALL NOT BE RESPONSIBLE OR LIABLE FOR UNAUTHORIZED CHANGES TO, OR USES OF, THESE PLANS. ALL CHANGES TO THESE PLANS MUST BE APPROVED IN WRITING BY PINNACLE ENGINEERING.

15. SEE WATER AND STREET IMPROVEMENT PLANS FOR OTHER IMPROVEMENTS THAT ARE PART OF THIS PROJECT.

16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DEWATERING ALL TRENCHES. IF TRENCHES OR PIPING BECOME DAMAGED DUE TO WATER INFILTRATION, IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO REPAIR THE TRENCH AND PIPING TO THE SATISFACTION OF THE ENGINEER AT THE CONTRACTORS EXPENSE.

17. FLOODING OR WATERJETTING SHALL NOT BE USED FOR BACKFILL COMPACTION.

18. DRAWINGS SHOWN ON THIS SHEET ARE FOR REFERENCE ONLY. CONTRACTOR SHALL OBTAIN A COPY OF "CITY OF BAKERSFIELD SUBDIVISION STANDARDS" AND DRAWINGS FOR HIS USE. THESE STANDARD DRAWINGS SHALL BE CONSIDERED A PART OF THESE PLANS.

19. NORMAL CONSTRUCTION STAKING WILL BE SUPPLIED ONE TIME BE THE DEVELOPER. ALL RESTAKING WILL BE BACKCHARGED TO THE CONTRACTOR.

20. CONTRACTOR SHALL VERIFY LOCATIONS AND ELEVATIONS OF EXISTING SEWER LINES THAT THE NEW SYSTEM TIES INTO. ANY DISCREPANCIES SHALL BE REPORTED TO THE ENGINEER SO THAT ANY NECESSARY ADJUSTMENTS CAN BE MADE TO THE PLANS.

21. PRIOR TO FINAL ACCEPTANCE, ALL SEWER LINES SHALL BE INSPECTED WITH VIDEO EQUIPMENT DESIGNED FOR THIS PURPOSE. THE TELEVISION CAMERA SHALL HAVE THE CAPABILITY OF ROTATING 360°, IN ORDER TO VIEW AND RECORD THE TOP AND SIDES OF THE PIPE, AS REQUIRED. THE VIDEO INSPECTION SHALL BE WITNESSED BY THE CITY'S CONSTRUCTION INSPECTOR, WHO WILL ALSO INITIAL AND DATE THE "CHAIN OF CUSTODY" FORM. THE SUBDIVIDER SHALL IMMEDIATELY NOTIFY CITY OF ANY PIPE LOCATIONS REVEALED TO BE NOT IN COMPLIANCE WITH THE SPECIFICATIONS. A RECORDED VIDEO CASSETTE, THE COMPLETED "CHAIN OF CUSTODY" FORM AND A WRITTEN LOG (WHICH INCLUDES THE STATIONING, BASED ON THE STATIONING OF THE APPROVED PLANS, OF ALL CONNECTED LATERALS) OF THE INSPECTION SHALL BE PROVIDED FOR VIEWING, AND SHALL BE APPROVED BY THE CITY ENGINEER PRIOR TO ACCEPTANCE. AFTER ACCEPTANCE, THE VIDEO CASSETTE SHALL BECOME THE PROPERTY OF THE CITY.

22. AN OPEN STREET PERMIT SHALL BE OBTAINED FROM THE CITY OF BAKERSFIELD PUBLIC WORKS DEPARTMENT FOR ANY WORK PERFORMED WITHIN EXISTING ACCEPTED STREET RIGHT-OF-WAY. UNLESS SECURED BY A SUBDIVISION AGREEMENT, SECURITY BASED ON AN APPROVED ENGINEER'S ESTIMATE FOR THE WORK PERFORMED WITHIN THE RIGHT-OF-WAY AND INSURANCE AS REQUIRED SHALL BE PROVIDED PRIOR TO ISSUANCE OF A BUILDING PERMIT.

23. CLASS I BEDDING AND EMBANKMENT IS REQUIRED FOR ALL PLASTIC SEWER PIPE WITHIN THE PIPE ZONE.

24. CONTRACTOR TO VERIFY POSITIVE SLOPE FROM MANHOLE PRIOR TO CONNECTING TO EXISTING STUB. IF THE POSITIVE SLOPE DOES NOT EXIST, REPLACE STUB TO MANHOLE.

CITY OF BAKERSFIELD
STORM DRAIN NOTES

STORM DRAIN PIPE:

UNLESS OTHERWISE SPECIFIED ON THESE PLANS, THE STORM DRAIN PIPE SHALL BE THE FOLLOWING:

REINFORCED CONCRETE PIPE (R.C.P): REINFORCED CONCRETE PIPE SHALL BE CLASS III (ASTM C76) AND SHALL CONFORM TO THE REQUIREMENTS OF SECTION 65 OF THE STANDARD SPECIFICATIONS.

JOINTS SHALL BE RUBBER GASKETED IN CONFORMANCE WITH THE PROVISIONS OF SECTION 651.06 OF THE STANDARD SPECIFICATIONS.

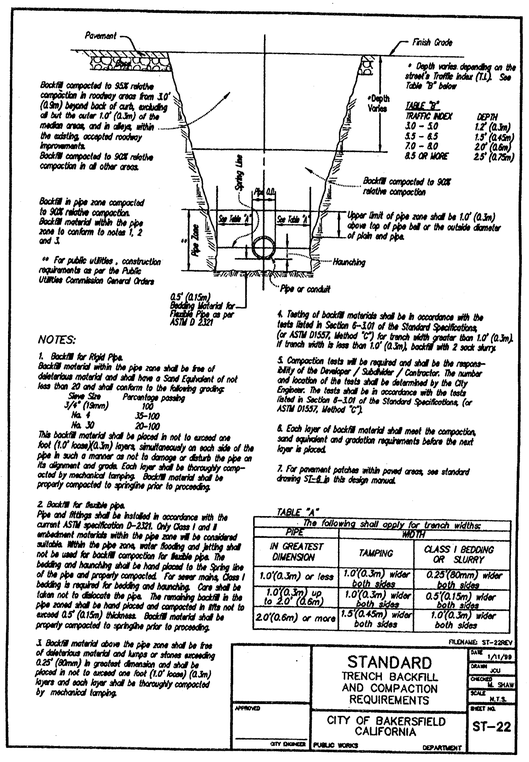
CEMENT MORTAR JOINTS SHALL ONLY BE USED WHEN THE PIPE INVERT ELEVATION IS HIGHER THAN ONE HALF THE DRAINAGE SUMP DESIGN WATER SURFACE DEPTH ELEVATION.

CONCRETE PIPE SHALL BE LAID IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION 65 OF THE STANDARD SPECIFICATIONS.

IN ADDITION TO THE ABOVE REQUIREMENTS, ALL RUBBER GASKETED JOINT RINGS SHALL BE CHECKED WITH A GAUGE ALL THE WAY AROUND THE PIPE AFTER THE JOINT HAS BEEN ASSEMBLED TO DETERMINE THAT THE RING HAS BEEN PROPERLY LOCATED AND SEATED. IMPROPERLY MADE JOINTS SHALL BE PULLED APART AND SATISFACTORILY REMADE.

RECORD DRAWING
Matthew K. Vovilla 5-11-07
MATTHEW K. VOVILLA DATE
RCE 43130 EXPIRES 3-31-08

NOTE CLASS 1 BACKFILL IS NOT REQUIRED IF PIPE SLOPES EXCEEDS 1%



NOTES:

1. Backfill for Rigid Pipe.
Backfill material within the pipe zone shall be free of deleterious material and shall have a Sand Equivalent of not less than 20 and shall conform to the following grading:

Sieve Size	Percentage passing
3/4" (19mm)	100
No. 4	35-100
No. 30	20-100

This backfill material shall be placed in not to exceed one foot (1.0' loose)(0.3m) layers, simultaneously on each side of the pipe in such a manner as not to damage or disturb the pipe on its alignment and grade. Each layer shall be thoroughly compacted by mechanical tamping. Backfill material shall be properly compacted to springline prior to proceeding.

2. Backfill for flexible pipe.
Pipe and fittings shall be installed in accordance with the current ASTM specification D-2321. Only Class I and II embedment materials within the pipe zone will be considered suitable. Within the pipe zone, water flooding and jetting shall not be used for backfill compaction for flexible pipe. The bedding and haunching shall be hand placed to the Spring line of the pipe and properly compacted. For sewer mains, Class I bedding is required for bedding and haunching. Care shall be taken not to dislocate the pipe. The remaining backfill in the pipe zoned shall be hand placed and compacted in lifts not to exceed 0.5' (0.15m) thickness. Backfill material shall be properly compacted to springline prior to proceeding.

3. Backfill material above the pipe zone shall be free of deleterious material and lumps or stones exceeding 0.25' (80mm) in greatest dimension and shall be placed in not to exceed one foot (1.0' loose) (0.3m) layers and each layer shall be thoroughly compacted by mechanical tamping.

4. Testing of backfill materials shall be in accordance with the tests listed in Section 6-1.01 of the Standard Specifications, (or ASTM D1557, Method "C") for trench width greater than 1.0' (0.3m). If trench width is less than 1.0' (0.3m), backfill with 2 sack slurry.

5. Compaction tests will be required and shall be the responsibility of the Developer / Subdivider / Contractor. The number and location of the tests shall be determined by the City Engineer. The tests shall be in accordance with the tests listed in Section 6-1.01 of the Standard Specifications, (or ASTM D1557, Method "C").

6. Each layer of backfill material shall meet the compaction, sand equivalent and gradation requirements before the next layer is placed.

7. For pavement patches within paved areas, see standard drawing ST-8 in this design manual.

TABLE "A"
The following shall apply for trench widths:

PIPE IN GREATEST DIMENSION	WIDTH TAMPING	WIDTH CLASS I BEDDING OR SLURRY
1.0'(0.3m) or less	1.0'(0.3m) wider both sides	0.25'(80mm) wider both sides
1.0'(0.3m) up to 2.0' (0.6m)	1.0'(0.3m) wider both sides	0.5'(0.15m) wider both sides
2.0'(0.6m) or more	1.5'(0.45m) wider both sides	1.0'(0.3m) wider both sides

FILENAME: ST-22REV

STANDARD TRENCH BACKFILL AND COMPACTION REQUIREMENTS

CITY OF BAKERSFIELD CALIFORNIA

APPROVED
CITY ENGINEER
PUBLIC WORKS DEPARTMENT

DATE 1/11/99
DRAWN JCU
CHECKED M. SHAW
SCALE N.T.S.
SHEET NO.
ST-22

THE FOLLOWING CITY OF BAKERSFIELD STANDARD DRAWINGS SHALL BE CONSIDERED A PART OF THESE PLANS. (CONTRACTOR TO OBTAIN LATEST EDITION THEREOF)

	CITY STD. NO.	DESCRIPTION
☒	SW-1	SEWER LATERAL MARKER
☐	SW-2	TRENCH SECTION FOR CONCRETE ENCASED PIPE
☒	SW-3	PAVEMENT PATCHES
☒	SW-4	MANHOLE, TYPE "A" WITH DROP CONNECTION
☒	SW-5	FRAMES & COVER FOR MANHOLES & CLEANOUTS
☒	SW-6	6" CLEAN OUT
☒	SW-7	HOUSE CONNECTION WITH VCP SADDLE
☐	SW-8	INDUSTRIAL SAND TRAP
☐	SW-10	SAND TRAP
☐	SW-11	HOUSE CONNECTION WITH CAST IRON SADDLE
☐	SW-12	SEWER LIFT STATION VALVE BOX
☐	D-1	INTENSITY VS. DURATION CURVES
☐	D-2	RATIONAL METHOD RUNOFF COEFFICIENTS
☐	D-3	CHANNEL PROTECTION
☐	D-4	CHANNEL PROTECTION
☐	D-5	RIGHT OF WAY FOR NATURAL CHANNELS
☐	D-6	LANDSCAPED CONSTRUCTED CHANNELS
☐	D-7	RIGHT OF WAY FOR CONSTRUCTED CHANNELS
☐	D-8	RIGHT OF WAY FOR LINED CONSTRUCTED CHANNELS
☒	D-9	PIPE SADDLE DETAIL
☐	D-10	SIDEWALK UNDERDRAIN
☐	D-11	DRAINAGE BASIN
☐	D-12	CHAIN LINK FENCES
☐	D-13	CHAIN LINK GATES
☒	D-14	CATCH BASIN, TYPE "A"
☐	D-15	CATCH BASIN, TYPE "A-1"
☒	D-16	GUTTER DEPRESSIONS
☐	D-17	JUNCTION BOX
☐	D-18	MANHOLE, TYPE "B"
☐	D-19	DRAINAGE WELL, TYPE "B"
☒	ST-22	TRENCH BACKFILL & COMPACTION

REGISTERED PROFESSIONAL ENGINEER * MATTHEW K. VOVILLA * RCE 43130 Exp. 3-31-06 * CIVIL * STATE OF CALIFORNIA

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Matthew K. Vovilla 11-21-05
MATTHEW K. VOVILLA RCE 43130 EXP. 3/31/06

REVISIONS	DATE

TRACT NO. 6444 - PHASE 1
SEWER & STORM DRAIN PLANS
K. HOVNANIAN
DETAILS - GENERAL NOTES

JOB No.:	04-158
DWG NO.:	04-158SWRBM01
DATE:	11/21/05
DRAWN BY:	MJS
CHECKED BY:	MKV
SHEET	2 OF 13 SHEETS

12-6444 1

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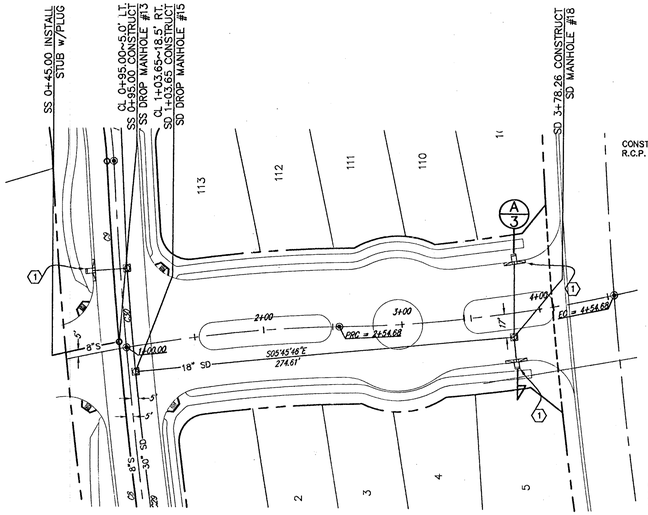
LEGEND

- PROPOSED SEWER MANHOLE w/NUMBER
- 8" S — PROPOSED SEWER LINE w/SIZE
- — — — PROPOSED RIGHT-OF-WAY
- SS — SEWER STATION
- SD — STORMDRAIN STATION

ALL SEWER LATERALS ARE 4" UNLESS OTHERWISE NOTED

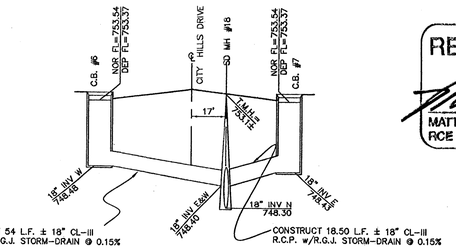
ALL SEWER LATERALS ARE TO HAVE A 4.5' MIN. – 7' MAX. OF COVER AT THE PROPERTY LINE AND A MINIMUM OF 2.5' OF COVER AT GUTTER FLOWLINE.

- ⊠ PROPOSED STORM-DRAIN MANHOLE
- 18" SD — PROPOSED STORM-DRAIN LINE w/SIZE
- (1) CONSTRUCT TYPE "A" CATCH BASIN PER C.O.B. STD. DWG. D-14



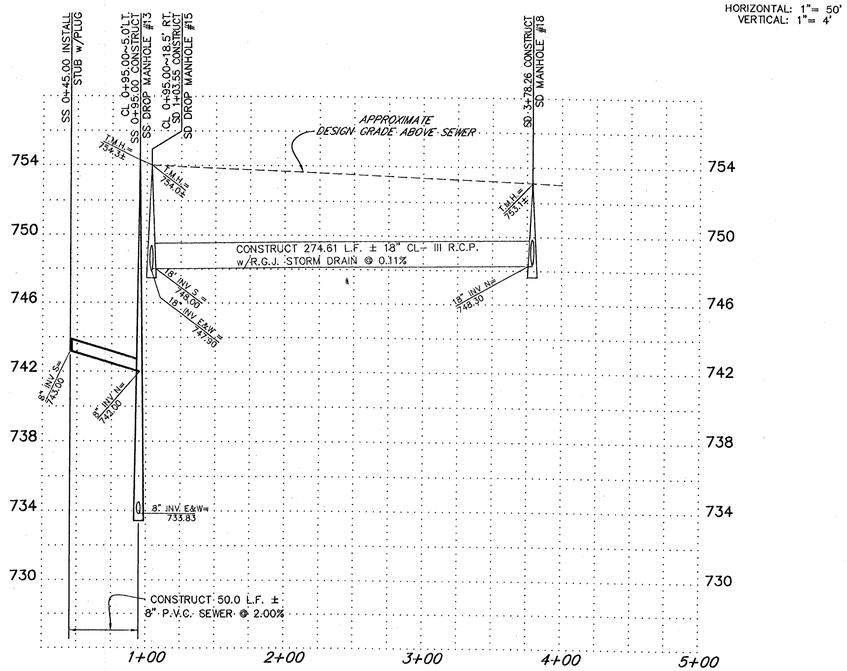
CITY HILLS DRIVE

(PRIVATE)



A/3 STORM-DRAIN SECTION
NO SCALE

HORIZONTAL: 1"= 50'
VERTICAL: 1"= 4'



RECORD DRAWING
MATTHEW K. VOVILLA RCE 43130 EXPIRES 3-31-08
5-11-07 DATE

PINNACLE Civil Engineering, Inc.
1712 19th Street, Suite 101, Bakersfield, CA 93301
Phone: (661) 869-0184 Fax: (661) 328-0607

REGISTERED PROFESSIONAL ENGINEER MATTHEW K. VOVILLA RCE 43130 Exp. 3-31-06 CIVIL STATE OF CALIFORNIA

11-21-05
MATTHEW K. VOVILLA RCE 43130 EXP. 3/31/06

REVISIONS | DATE

TRACT NO. 6444 - PHASE 1
SEWER & STORM DRAIN PLANS
K. HOVNANIAN
BAKERSFIELD, CALIFORNIA

JOB No.:	04-158
DWG NO.:	04-158SWRBM01
DATE:	11/21/05
DRAWN BY:	MJS
CHECKED BY:	MKV
SHEET	3 OF 13 SHEETS

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SCANNED BY DMR

12-6444 1

RECORD DRAWING

MATTHEW K. VOVILLA
RCE 43130 EXPIRES 3-31-08

5-11-07
DATE

CURVE TABLE				
CURVE	LENGTH	RADIUS	TANGENT	DELTA
C25	339.21	3328.00	169.75	5°50'24"
C26	336.60	3328.00	168.45	5°47'42"
C27	126.44	3328.00	63.23	2°10'37"
C28	89.97	3328.00	44.99	1°32'56"
C29	148.30	3328.00	74.16	2°33'12"
C30	75.02	3328.00	37.51	1°17'30"
C31	131.02	3328.00	65.52	2°15'15"

CURVE TABLE				
CURVE	LENGTH	RADIUS	TANGENT	DELTA
C5	170.12	3338.00	85.08	2°55'12"
C6	327.95	3338.00	164.11	5°37'45"
C7	347.14	3338.00	173.72	5°57'31"
C8	225.90	3338.00	112.99	3°52'39"
C9	128.92	3338.00	64.97	2°13'48"
C10	58.02	2955.00	29.11	1°07'11"
C11	132.49	2955.00	67.38	2°34'55"

CONSTRUCT 25 L.F. ± 18" CL-III R.C.P. w/R.G.J. STORM-DRAIN @ 0.12%

CONSTRUCT 15 L.F. ± 18" CL-III R.C.P. w/R.G.J. STORM-DRAIN @ 0.12%

CONSTRUCT 25 L.F. ± 18" CL-III R.C.P. w/R.G.J. STORM-DRAIN @ 0.12%

C/4 STORM-DRAIN SECTION NO SCALE

D/4 STORM-DRAIN SECTION NO SCALE

E/4 STORM-DRAIN SECTION NO SCALE

CONSTRUCT 60 L.F. OF 12" PVC STORM DRAIN @ 0.20%

CONSTRUCT 50 L.F. OF 8" PVC SEWER @ 2.00%

LODGE SITE

TOSCANA DRIVE
SEE SHEET 13

FALKIRK PLACE
SEE SHEET 8

PHASE 2
PHASE 1

COLCHESTER PLACE
SEE SHEET 8

BARCELONA DRIVE
SEE SHEET 7

PRAGUE PLACE
SEE SHEET 8

CITY HILLS DRIVE
SEE SHEET 3

SAINT JOHN PLACE
SEE SHEET 9

CITRUS HILLS DRIVE
SEE SHEET 5

TOSCANA DRIVE
(PRIVATE)

HORIZONTAL: 1"= 50'
VERTICAL: 1"= 4'

REGISTERED PROFESSIONAL ENGINEER
MATTHEW K. VOVILLA
RCE 43130
Exp. 3-31-06
CIVIL
STATE OF CALIFORNIA

PINNACLE Civil Engineering, Inc.
1712 19th Street, Suite 101, Bakersfield, CA 93301
Phone: (661) 869-0184 Fax: (661) 328-0607

Matthew K. Vovilla 11-21-05
MATTHEW K. VOVILLA RCE 43130 EXP. 3/31/06

REVISIONS	DATE
1. UPDATED STREET NAMES	5/16/06

CONSTRUCT 15 L.F. ± 18" CL-III R.C.P. w/R.G.J. STORM-DRAIN @ 0.12%

CONSTRUCT 15 L.F. ± 18" CL-III R.C.P. w/R.G.J. STORM-DRAIN @ 0.12%

A/4 STORM-DRAIN SECTION NO SCALE

B/4 STORM-DRAIN SECTION NO SCALE

CONSTRUCT 60 L.F. ± 12" P.V.C STORM DRAIN 'STUB' @ 0.20% TO NORTH

APPROXIMATE DESIGN GRADE ABOVE SEWER

CONSTRUCT 126.44 L.F. ± 18" CL- III R.C.P. w/R.G.J. STORM DRAIN @ 0.74%

CONSTRUCT 131.02 L.F. ± 18" CL- III R.C.P. w/R.G.J. STORM DRAIN @ 0.75%

CONSTRUCT 148.5 L.F. ± 18" CL- III R.C.P. w/R.G.J. STORM DRAIN @ 0.86%

CONSTRUCT 170.19 L.F. ± 18" CL- III R.C.P. w/R.G.J. STORM DRAIN @ 0.86%

CONSTRUCT 75.02 L.F. ± 18" CL- III R.C.P. w/R.G.J. STORM DRAIN @ 0.86%

CONSTRUCT 89.96 L.F. ± 18" CL- III R.C.P. w/R.G.J. STORM DRAIN @ 0.88%

HYDRAULIC JUMP

APPROXIMATE DESIGN GRADE ABOVE SEWER

CONSTRUCT 336.61 L.F. ± 30" CL- III R.C.P. w/R.G.J. STORM DRAIN @ 1.73%

CONSTRUCT 339.21 L.F. ± 30" CL- III R.C.P. w/R.G.J. STORM DRAIN @ 2.21%

LEGEND

——○——	PROPOSED SEWER MANHOLE w/NUMBER
——8" S——	PROPOSED SEWER LINE w/SIZE
- - - -	PROPOSED RIGHT-OF-WAY
SS	SEWER STATION
SD	STORMDRAIN STATION

ALL SEWER LATERALS ARE 4" UNLESS OTHERWISE NOTED

ALL SEWER LATERALS ARE TO HAVE A 4.5' MIN. – 7' MAX. OF COVER AT THE PROPERTY LINE AND A MINIMUM OF 2.5' OF COVER AT GUTTER FLOWLINE.

DN	NORMAL DEPTH OF FLOW
DC	CRITICAL DEPTH OF FLOW

LEGEND

⊡	PROPOSED STORM-DRAIN MANHOLE
——18" SD——	PROPOSED STORM-DRAIN LINE w/SIZE
(1)	CONSTRUCT TYPE "A" CATCH BASIN PER C.O.B. STD. DWG. D-14

JOB No.:	04-158
DWG NO.:	04-158SWRBM01
DATE:	11/21/05
DRAWN BY:	MJS
CHECKED BY:	MKV
SHEET	4 OF 13 SHEETS

TRACT NO. 6444 - PHASE 1
SEWER & STORM DRAIN PLANS
K. HOVNANIAN
BAKERSFIELD, CALIFORNIA

1.2-6444 1

P:\04-158\PH1-Sewer\04-158SWRBM01.dwg 4 OF 15, 5/16/2006 9:50:13 AM, glh, Oce TDS400

LEGEND

- PROPOSED SEWER MANHOLE w/NUMBER
- 8" S — PROPOSED SEWER LINE w/SIZE
- PROPOSED RIGHT-OF-WAY
- SS — SEWER STATION
- SD — STORMDRAIN STATION

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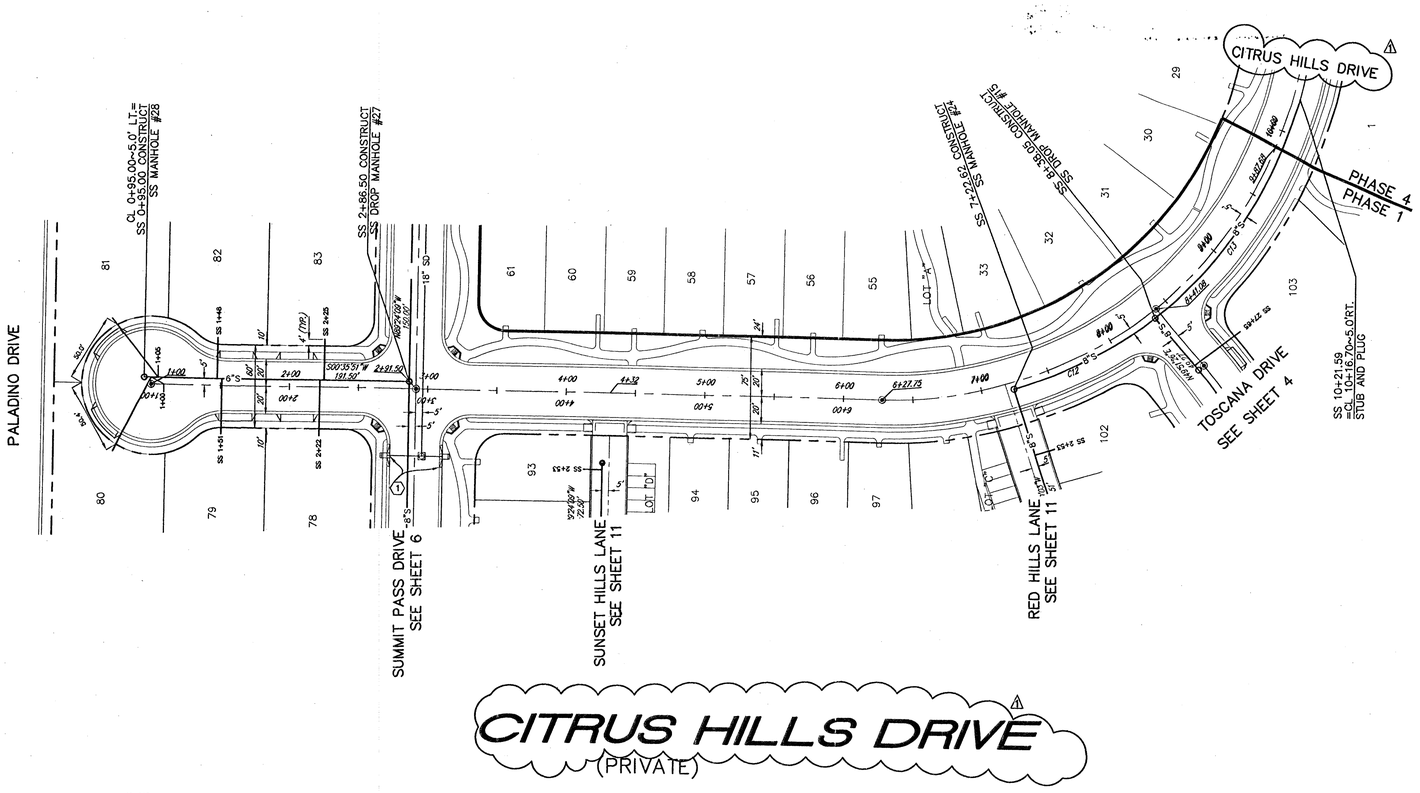
- PROPOSED STORM-DRAIN MANHOLE
- 18" SD — PROPOSED STORM-DRAIN LINE w/SIZE
- (1) CONSTRUCT TYPE "A" CATCH BASIN PER C.O.B. STD. DWG. D-14

CURVE TABLE				
CURVE	LENGTH	RADIUS	TANGENT	DELTA
C12	115.43	305.03	58.41	21°40'55"
C13	183.54	305.00	94.65	34°28'53"



RECORD DRAWING

Matthew K. Vovilla 5-11-07

MATTHEW K. VOVILLA — DATE

RCE 43130 EXPIRES 3-31-08

PINNACLE *Civil Engineering, Inc.*

1712 19th Street, Suite 101, Bakersfield, CA 93301

Phone: (661) 869-0184 Fax: (661) 328-0607

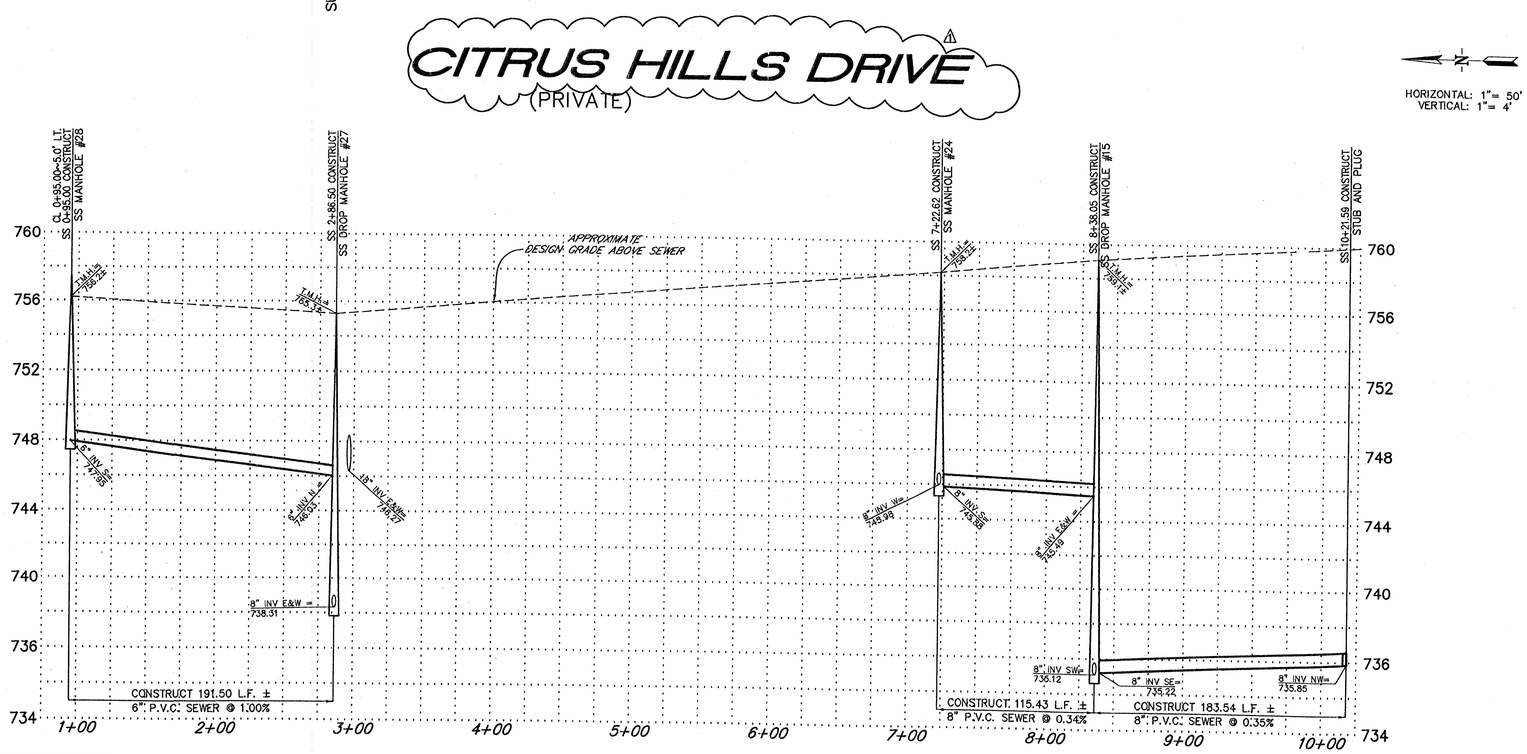
REGISTERED PROFESSIONAL ENGINEER * MATTHEW K. VOVILLA * RCE 43130 Exp. 3-31-06 * CIVIL * STATE OF CALIFORNIA

Matthew K. Vovilla 11-21-05

MATTHEW K. VOVILLA RCE 43130 EXP. 3/31/06

REVISIONS	DATE
1. UPDATED STREET NAMES	5/16/06

HORIZONTAL: 1"= 50'
VERTICAL: 1"= 4'



TRACT NO. 6444 - PHASE 1
SEWER & STORM DRAIN PLANS
K. HOVNANIAN
BAKERSFIELD, CALIFORNIA

SCANNED BY CMH

JOB No.:	04-158
DWG NO.:	04-158SWRBM01
DATE:	11/21/05
DRAWN BY:	MJS
CHECKED BY:	MKV
SHEET	5
	OF 13 SHEETS

12-6444 1

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LEGEND

- PROPOSED SEWER MANHOLE w/NUMBER
- 8" S — PROPOSED SEWER LINE w/SIZE
- PROPOSED RIGHT-OF-WAY
- SS — SEWER STATION
- SD — STORMDRAIN STATION

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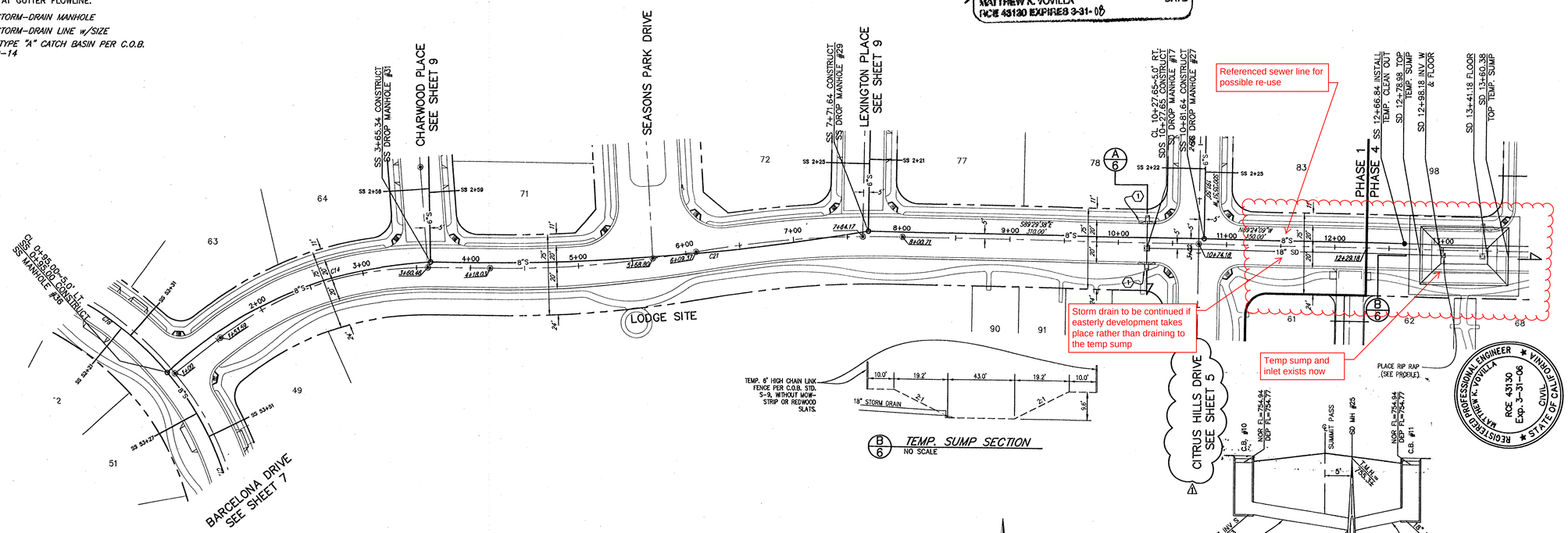
- PROPOSED STORM-DRAIN MANHOLE
- 18" SD — PROPOSED STORM-DRAIN LINE w/SIZE
- (1) CONSTRUCT TYPE "A" CATCH BASIN PER C.O.B. STD. DWG. D-14

RECORD DRAWING
MATTHEW K. VOVILLA
RCE 43130 EXPIRES 3-31-08
DATE 5-11-07

CURVE TABLE				
CURVE	LENGTH	RADIUS	TANGENT	DELTA
C14	270.34	368.14	141.59	42°04'29"
C21	406.30	1963.51	203.88	11°51'21"



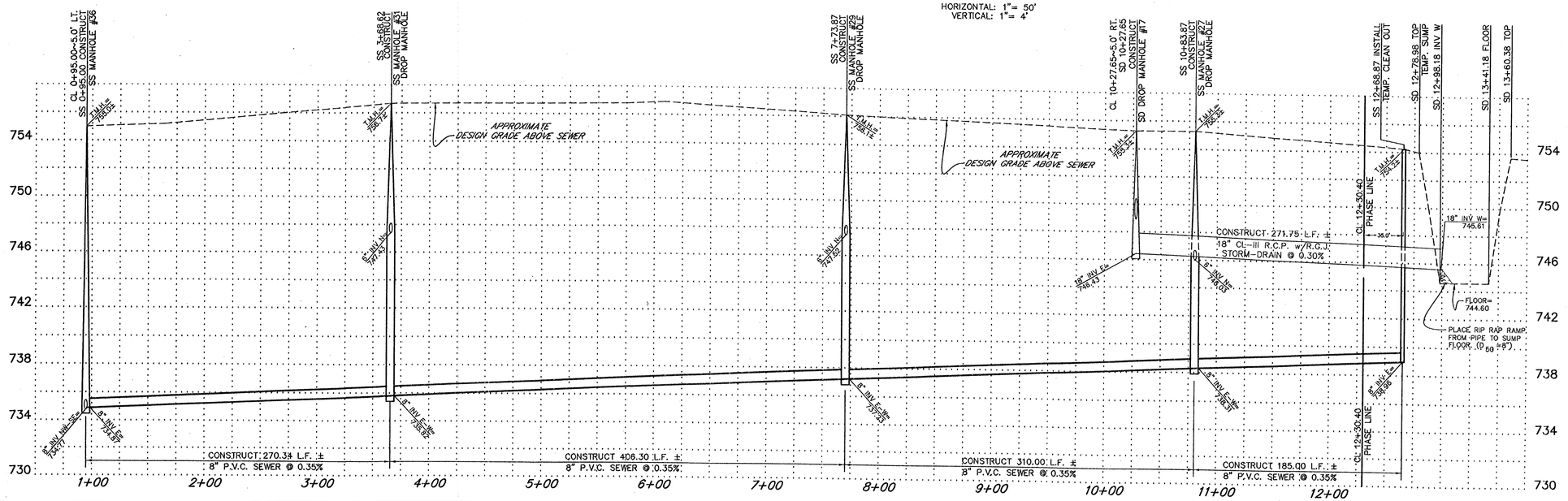
TEMP. 6' HIGH CHAIN LINK FENCE PER C.O.B. STD. S-9, WITHOUT MOW-STRIP OR REDWOOD SLATS.

B/6 TEMP. SUMP SECTION
NO SCALE

A/6 STORM-DRAIN SECTION
NO SCALE

SUMMIT PASS DRIVE
(PRIVATE)

HORIZONTAL: 1"= 50'
VERTICAL: 1"= 4'



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Phone: (661) 869-0184 Fax: (661) 328-0607

MATTHEW K. VOVILLA RCE 43130 EXP. 3/31/06

REVISIONS	DATE
A. UPDATED STREET NAMES	5/16/06

REGISTERED PROFESSIONAL ENGINEER ★ MATTHEW K. VOVILLA ★ RCE 43130 Exp. 3-31-06 ★ CIVIL ★ STATE OF CALIFORNIA

TRACT NO. 6444 - PHASE 1
SEWER & STORM DRAIN PLANS
K. HOVNANIAN
BAKERSFIELD, CALIFORNIA

SCANNED BY DMR

JOB No.:	04-158
DWG NO.:	04-158SWRBM01
DATE:	11/21/05
DRAWN BY:	MJS
CHECKED BY:	MKV
SHEET	6
	OF 13 SHEETS

12-6444 1

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LEGEND

- PROPOSED SEWER MANHOLE w/NUMBER
- 8" S — PROPOSED SEWER LINE w/SIZE
- PROPOSED RIGHT-OF-WAY
- SS — SEWER STATION
- SD — STORMDRAIN STATION

ALL SEWER LATERALS ARE 4" UNLESS OTHERWISE NOTED

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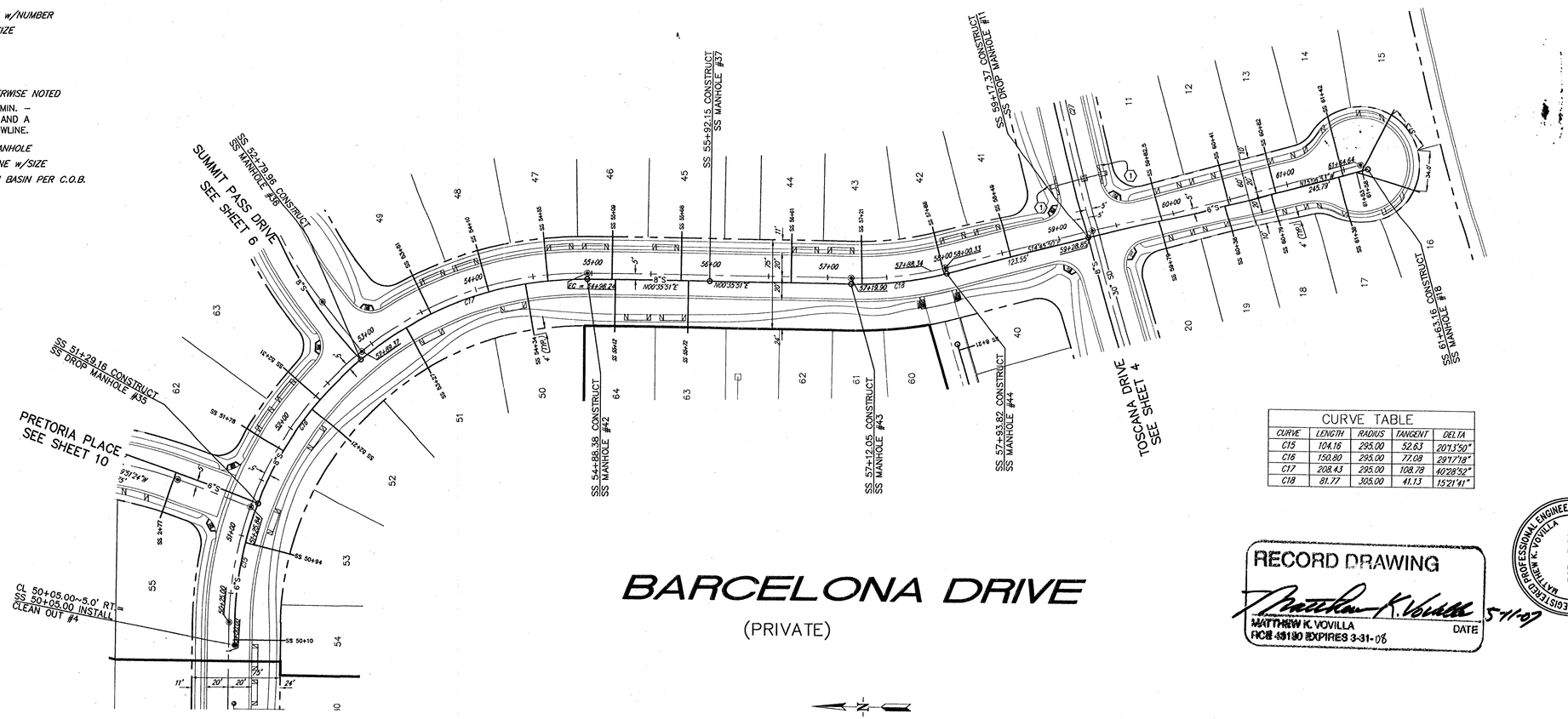
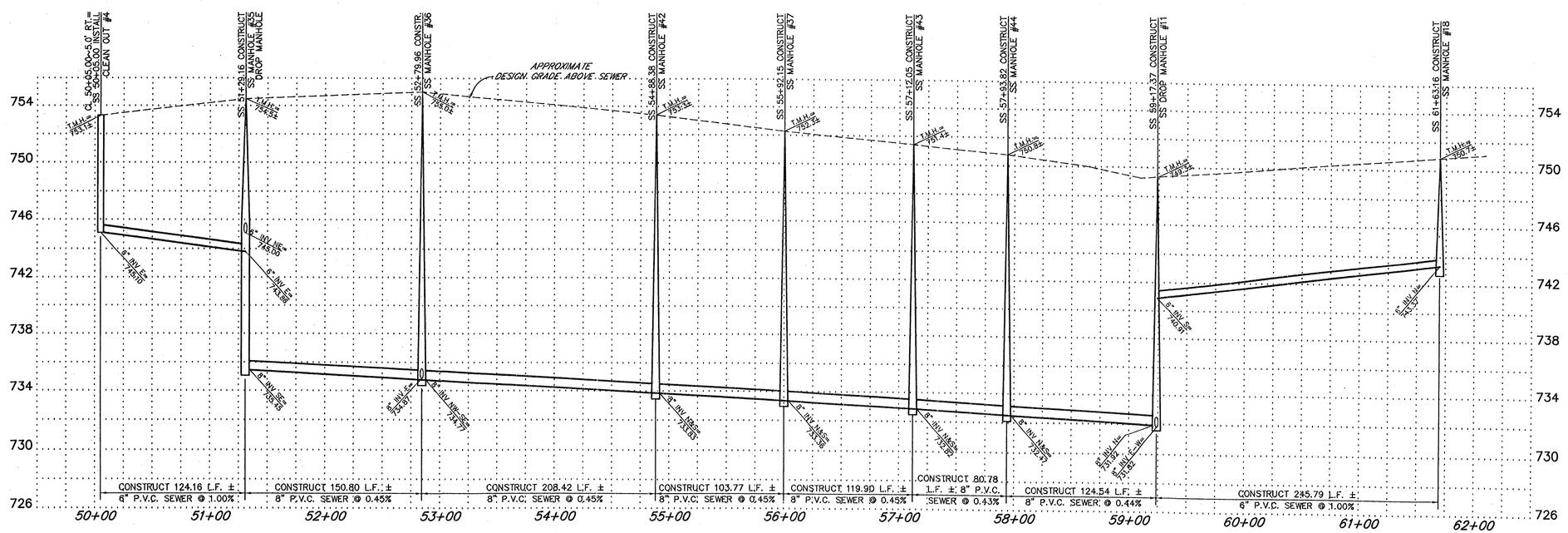
- ⊠ PROPOSED STORM-DRAIN MANHOLE
- 18" SD — PROPOSED STORM-DRAIN LINE w/SIZE
- (1) CONSTRUCT TYPE "A" CATCH BASIN PER C.O.B. STD. DWG. D-14



CURVE TABLE				
CURVE	LENGTH	RADIUS	TANGENT	DELTA
C15	104.16	295.00	52.63	20°13'50"
C16	150.80	295.00	77.08	29°17'18"
C17	208.43	295.00	108.78	40°28'52"
C18	81.77	305.00	41.13	15°21'41"

HORIZONTAL: 1"= 50'
VERTICAL: 1"= 4'



RECORD DRAWING
MATTHEW K. VOVILLA
RCE 43130 EXPIRES 3-31-08
DATE 5-11-07

REGISTERED PROFESSIONAL ENGINEER ★ MATTHEW K. VOVILLA ★ RCE 43130 Exp. 3-31-06 ★ CIVIL ★ STATE OF CALIFORNIA

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MATTHEW K. VOVILLA RCE 43130 EXP. 3/31/06

REVISIONS	DATE

TRACT NO. 6444 - PHASE 1
SEWER & STORM DRAIN PLANS
K. HOVNANIAN
BAKERSFIELD, CALIFORNIA

JOB No.:	04-158
DWG NO.:	04-158SWRBM01
DATE:	11/21/05
DRAWN BY:	MJS
CHECKED BY:	MKV
SHEET	7 OF 13 SHEETS

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1,2-6444 1

LEGEND

- PROPOSED SEWER MANHOLE w/NUMBER
- 8" S — PROPOSED SEWER LINE w/SIZE
- PROPOSED RIGHT-OF-WAY
- SS — SEWER STATION
- SD — STORMDRAIN STATION

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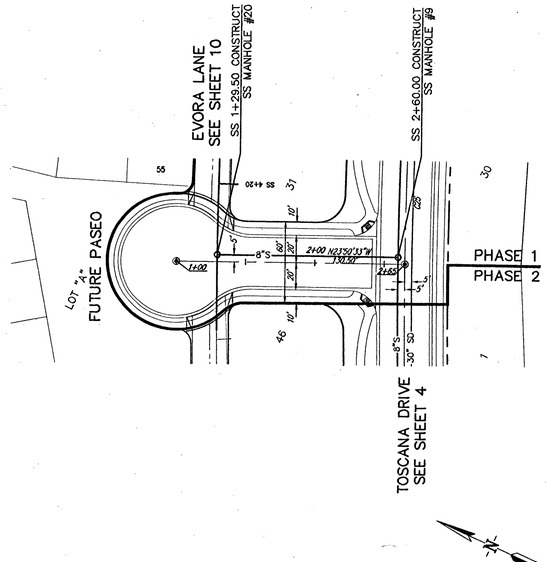
- ⊠ PROPOSED STORM-DRAIN MANHOLE
- 18" SD — PROPOSED STORM-DRAIN LINE w/SIZE
- ① CONSTRUCT TYPE "A" CATCH BASIN PER C.O.B. STD. DWG. D-14

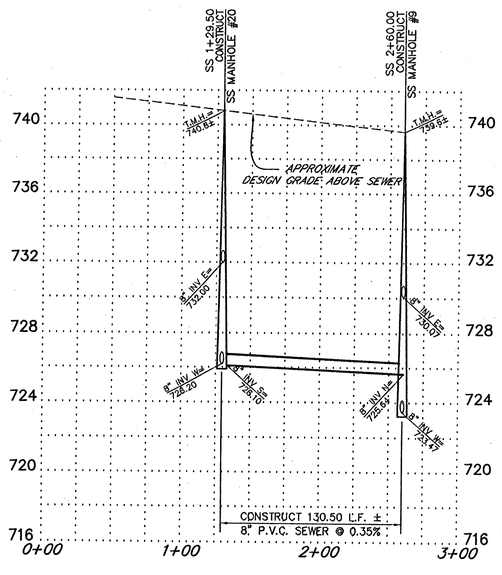
RECORD DRAWING

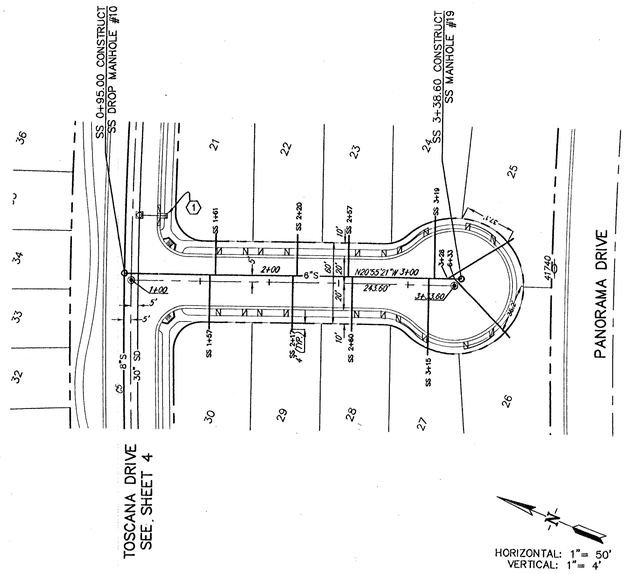
MATTHEW K. VOVILLA RCE 43130 EXPIRES 3-31-08 — DATE 5/1-09



HORIZONTAL: 1"= 50'
VERTICAL: 1"= 4'

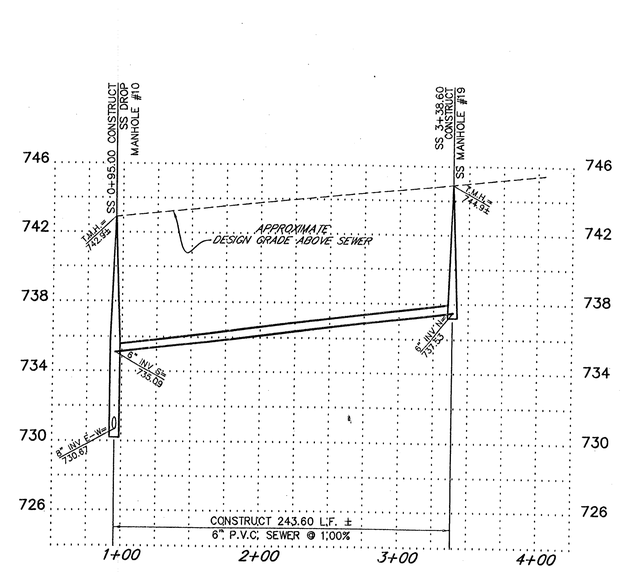
FALKIRK PLACE
(PRIVATE)

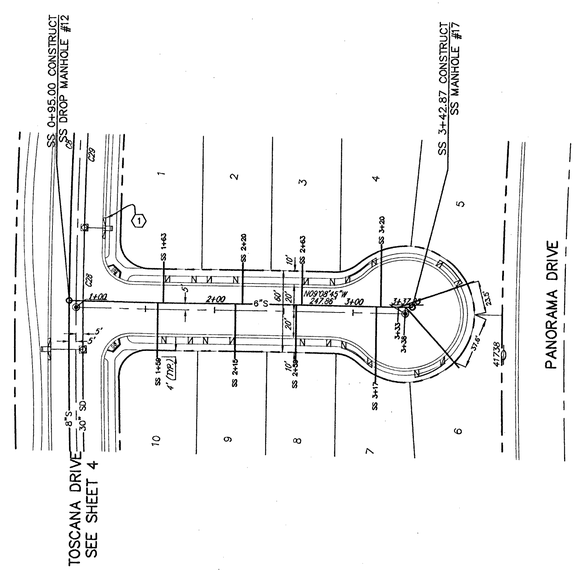




HORIZONTAL: 1"= 50'
VERTICAL: 1"= 4'

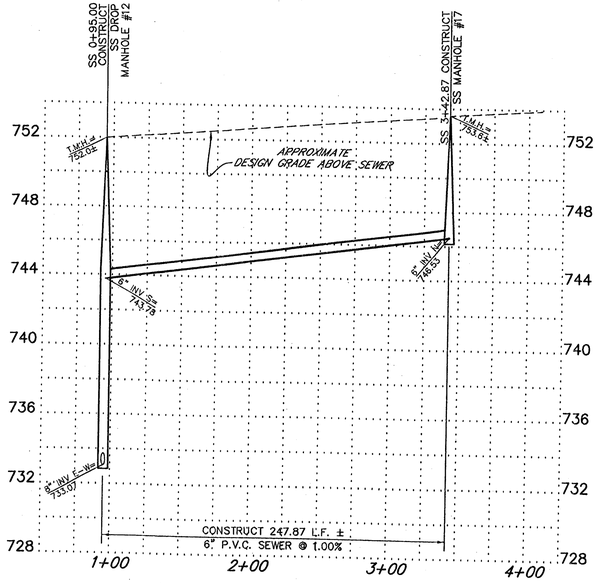
COLCHESTER PLACE
(PRIVATE)





HORIZONTAL: 1"= 50'
VERTICAL: 1"= 4'

PRAGUE PLACE
(PRIVATE)



REGISTERED PROFESSIONAL ENGINEER MATTHEW K. VOVILLA RCE 43130 Exp. 3-31-06 CIVIL STATE OF CALIFORNIA

PINNACLE *Civil Engineering, Inc.*
1712 19th Street, Suite 101, Bakersfield, CA 93301
Phone: (661) 869-0184 Fax: (661) 328-0607

Matthew K. Vovilla RCE 43130 EXP. 3/31/06 — DATE 11-2-05

REVISIONS

TRACT NO. 6444 - PHASE 1
SEWER & STORM DRAIN PLANS
K. HOVNANIAN
BAKERSFIELD, CALIFORNIA

SCANNED BY

JOB No.:	04-158
DWG NO.:	04-158SWRBM01
DATE:	11/21/05
DRAWN BY:	MJS
CHECKED BY:	MKV
SHEET	8 OF 13 SHEETS

12-6444 1

P:\04-158\PH1-Sewer\04-158SWRBM01.dwg, 8 OF 15, 11/21/2005 10:46:34 AM, jev, Oce TDS400

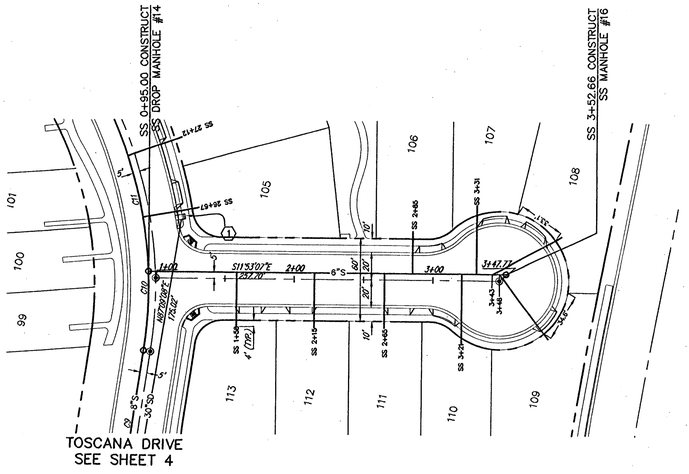
LEGEND

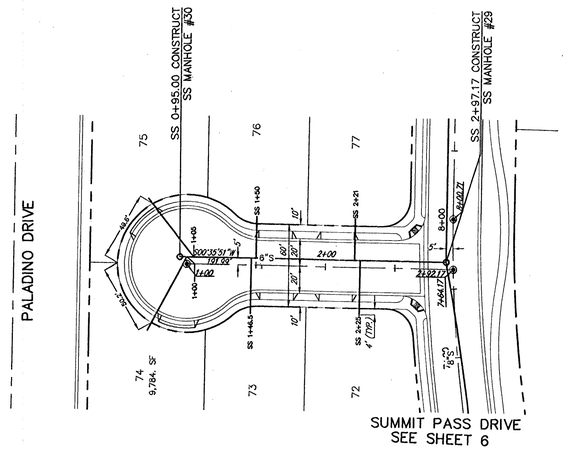
- PROPOSED SEWER MANHOLE w/NUMBER
- 8" S — PROPOSED SEWER LINE w/SIZE
- PROPOSED RIGHT-OF-WAY
- SS — SEWER STATION
- SD — STORMDRAIN STATION

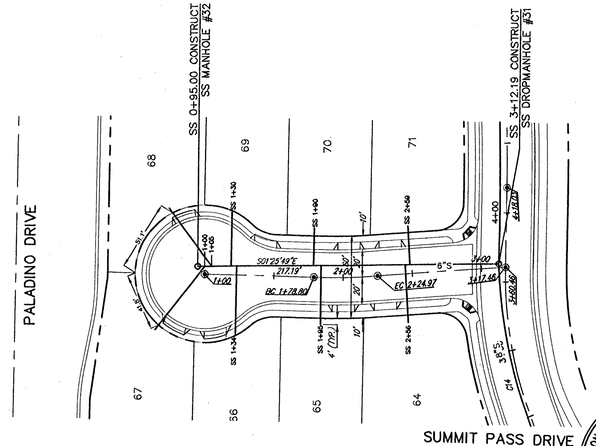
ALL SEWER LATERALS ARE 4" UNLESS OTHERWISE NOTED
ALL SEWER LATERALS ARE TO HAVE A 4.5' MIN. – 7' MAX. OF COVER AT THE PROPERTY LINE AND A MINIMUM OF 2.5' OF COVER AT GUTTER FLOWLINE.

- PROPOSED STORM-DRAIN MANHOLE
- 18" SD — PROPOSED STORM-DRAIN LINE w/SIZE
- (1) CONSTRUCT TYPE "A" CATCH BASIN PER C.O.B. STD. DWG. D-14

RECORD DRAWING
Matthew K. Vovilla 5-1-09
MATTHEW K. VOVILLA DATE
RCE 43130 EXPIRES 3-31-09

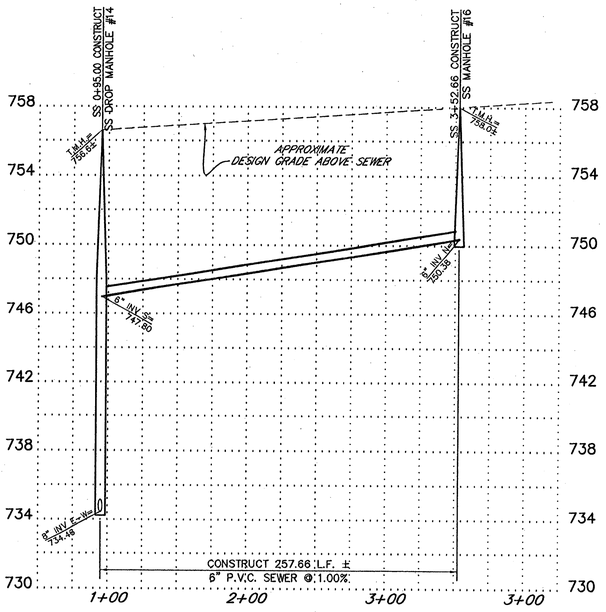






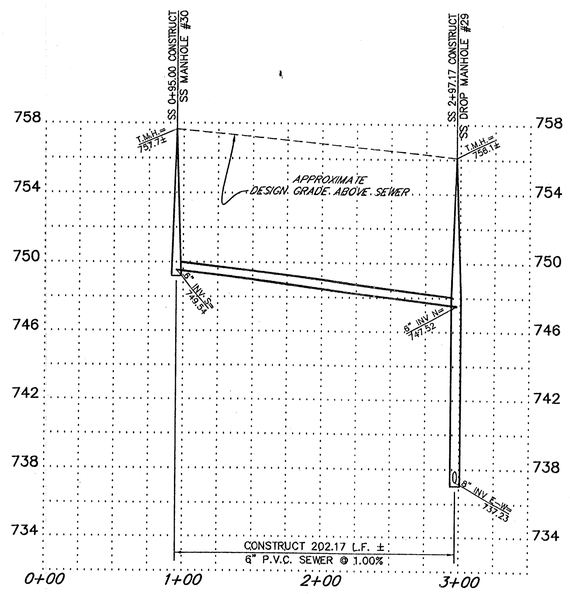
SAINT JOHN PLACE
(PRIVATE)

HORIZONTAL: 1"= 50'
VERTICAL: 1"= 4'



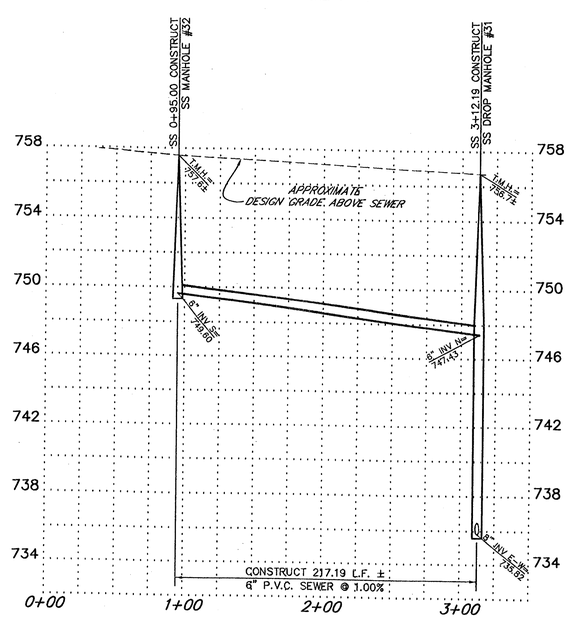
PRIEST RIVER PLACE
(PRIVATE)

HORIZONTAL: 1"= 50'
VERTICAL: 1"= 4'



CHARWOOD PLACE
(PRIVATE)

HORIZONTAL: 1"= 50'
VERTICAL: 1"= 4'



REGISTERED PROFESSIONAL ENGINEER MATTHEW K. VOVILLA RCE 43130 Exp. 3-31-06 CIVIL STATE OF CALIFORNIA

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Matthew K. Vovilla 11-2-05
MATTHEW K. VOVILLA RCE 43130 EXP. 3/31/06

REVISIONS	DATE
⚠ UPDATED STREET NAMES	5/16/06

TRACT NO. 6444 - PHASE 1
SEWER & STORM DRAIN PLANS
K. HOVNANIAN
BAKERSFIELD, CALIFORNIA

SCANNED BY DMH

JOB No.:	04-158
DWG NO.:	04-158SWRBM01
DATE:	11/21/05
DRAWN BY:	MJS
CHECKED BY:	MKV
SHEET	9
OF	13 SHEETS

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1.2-6444 (

LEGEND

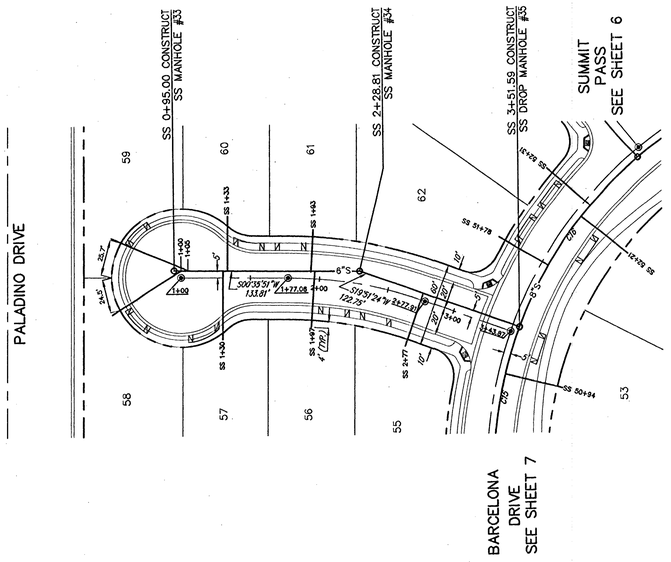
- PROPOSED SEWER MANHOLE w/NUMBER
- 8" S — PROPOSED SEWER LINE w/SIZE
- PROPOSED RIGHT-OF-WAY
- SS — SEWER STATION
- SD — STORMDRAIN STATION

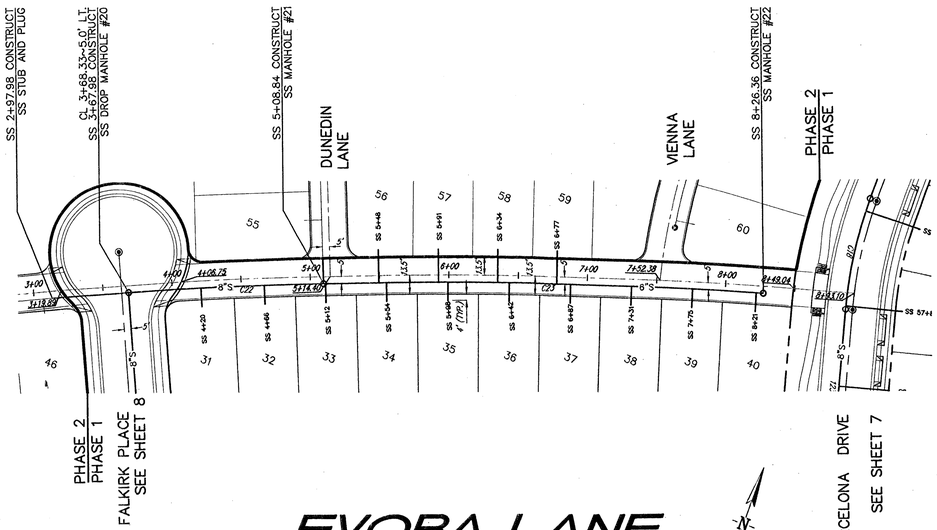
ALL SEWER LATERALS ARE 4" UNLESS OTHERIWISE NOTED
ALL SEWER LATERALS ARE TO HAVE A 4.5' MIN. – 7' MAX. OF COVER AT THE PROPERTY LINE AND A MINIMUM OF 2.5' OF COVER AT GUTTER FLOWLINE.

- PROPOSED STORM-DRAIN MANHOLE
- 18" SD — PROPOSED STORM-DRAIN LINE w/SIZE
- (1) CONSTRUCT TYPE "A" CATCH BASIN PER C.O.B. STD. DWG. D-14

CURVE TABLE				
CURVE	LENGTH	RADIUS	TANGENT	DELTA
C22	140.86	3468.50	70.44	2°19'51"
C23	317.52	3468.50	158.87	5°14'42"

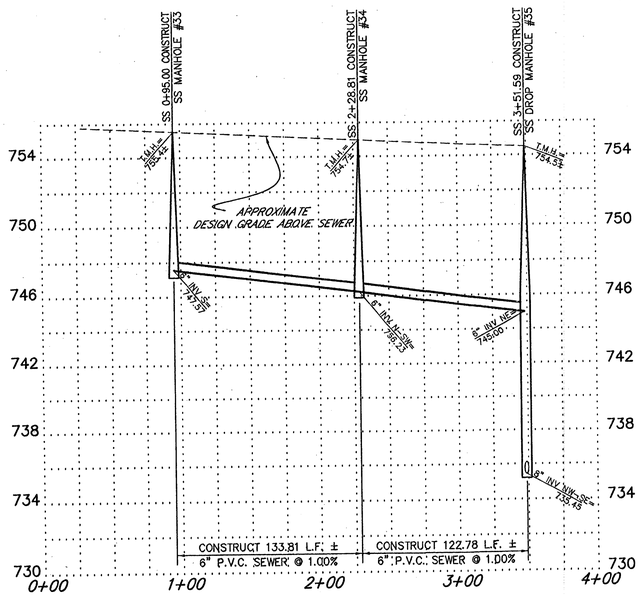
RECORD DRAWING
MATTHEW K. VOVILLA
RCE 43130 EXPIRES 3-31-08
5-11-09 DATE





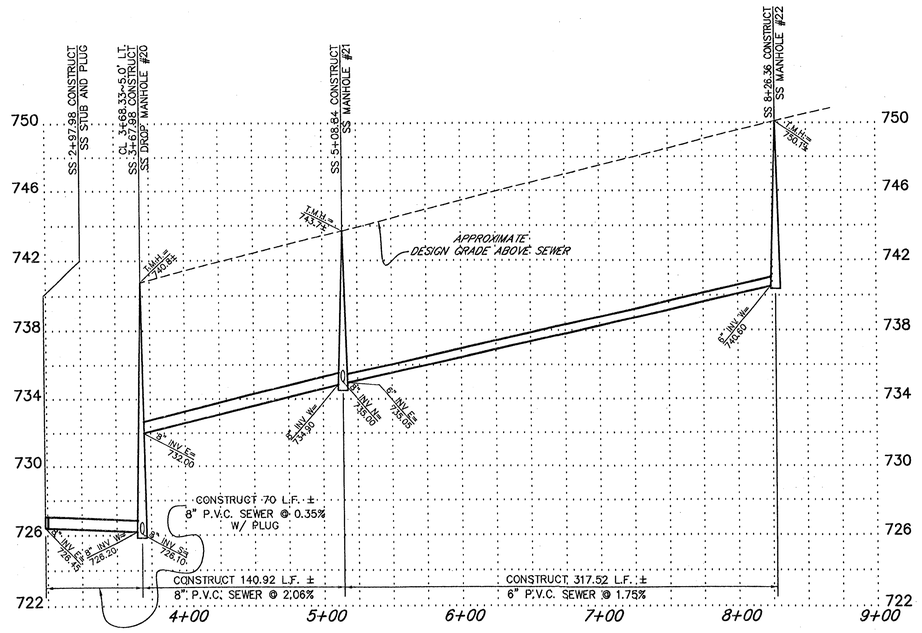
PRETORIA PLACE
(PRIVATE)

HORIZONTAL: 1"= 50'
VERTICAL: 1"= 4'



EVORA LANE
(PRIVATE)

HORIZONTAL: 1"= 50'
VERTICAL: 1"= 4'



PINNACLE Civil Engineering, Inc.
1712 19th Street, Suite 101, Bakersfield, CA 93301
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REGISTERED PROFESSIONAL ENGINEER * MATTHEW K. VOVILLA * RCE 43130 Exp. 3-31-06 * CIVIL * STATE OF CALIFORNIA

DATE	REVISIONS
MATTHEW K. VOVILLA RCE 43130 EXP. 3/31/06	

TRACT NO. 6444 - PHASE 1
SEWER & STORM DRAIN PLANS
K. HOVNANIAN
BAKERSFIELD, CALIFORNIA

JOB No.:	04-158
DWG NO.:	04-158SWRBM01
DATE:	11/21/05
DRAWN BY:	MJS
CHECKED BY:	MKV
SHEET	10
	OF 13 SHEETS

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1.2-6444 1

LEGEND

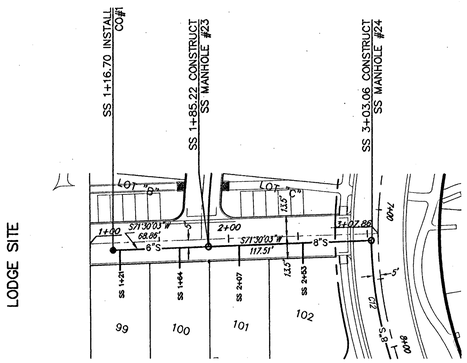
- PROPOSED SEWER MANHOLE w/NUMBER
- 8" S — PROPOSED SEWER LINE w/SIZE
- PROPOSED RIGHT-OF-WAY
- SS — SEWER STATION
- SD — STORMDRAIN STATION

ALL SEWER LATERALS ARE 4" UNLESS OTHERWISE NOTED
ALL SEWER LATERALS ARE TO HAVE A 4.5' MIN. – 7' MAX. OF COVER AT THE PROPERTY LINE AND A MINIMUM OF 2.5' OF COVER AT GUTTER FLOWLINE.

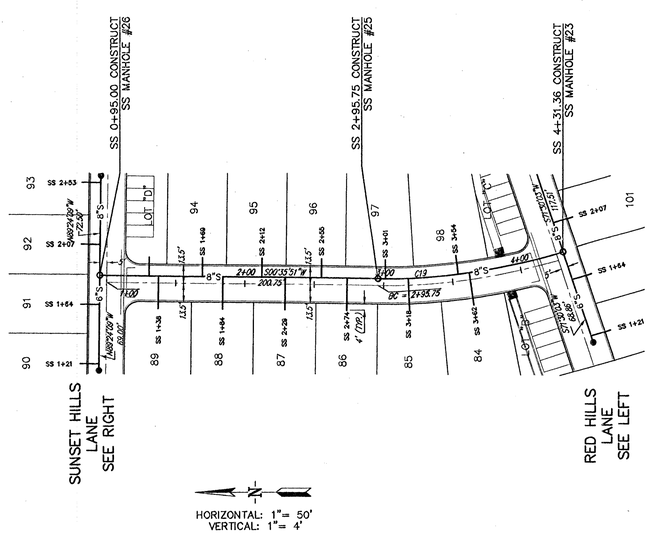
- PROPOSED STORM-DRAIN MANHOLE
- 18" SD — PROPOSED STORM-DRAIN LINE w/SIZE
- (1) CONSTRUCT TYPE "A" CATCH BASIN PER C.O.B. STD. DWG. D-14

CURVE TABLE				
CURVE	LENGTH	RADIUS	TANGENT	DELTA
C19	135.61	422.50	68.39	18°23'23"

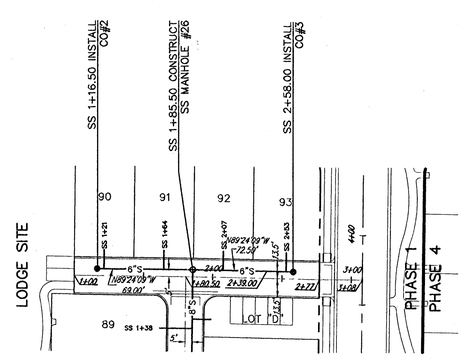
RECORD DRAWING
MATTHEW K. VOVILLA
RCE 43130 EXPIRES 3-31-08
DATE 5-11-07



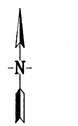
RED HILLS LANE
(PRIVATE)

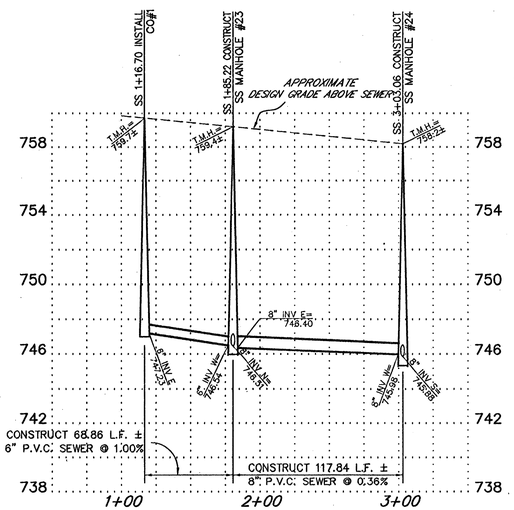


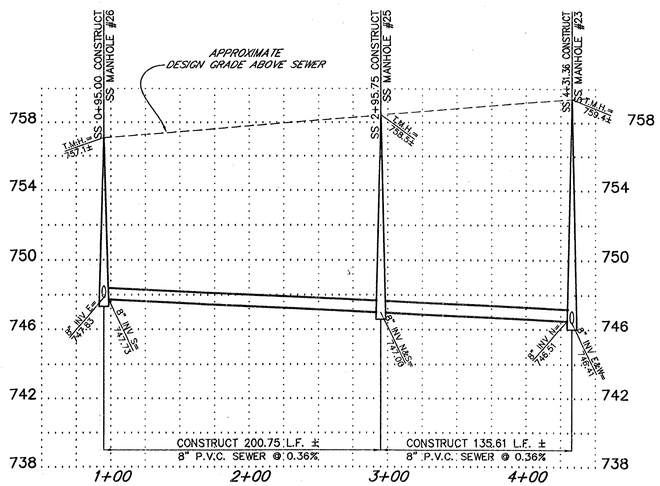
ROLLING HILLS LANE
(PRIVATE)

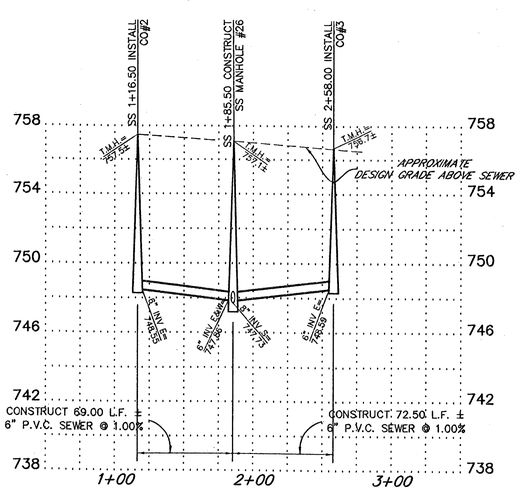


SUNSET HILLS LANE
(PRIVATE)









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REGISTERED PROFESSIONAL ENGINEER MATTHEW K. VOVILLA RCE 43130 Exp. 3-31-08 CIVIL STATE OF CALIFORNIA

MATTHEW K. VOVILLA RCE 43130 EXP. 3/31/08

REVISIONS	DATE
1 UPDATED STREET NAMES	5/16/06

TRACT NO. 6444 - PHASE 1
SEWER & STORM DRAIN PLANS
K. HOVNANIAN
BAKERSFIELD, CALIFORNIA

JOB No.:	04-158
DWG NO.:	04-158SWRBM01
DATE:	11/21/05
DRAWN BY:	MJS
CHECKED BY:	MKV
SHEET	11
	OF 13 SHEETS

1.2-6444 1

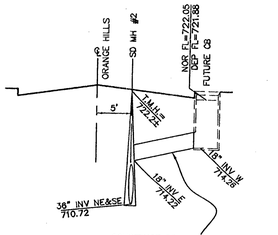
LEGEND

- PROPOSED SEWER MANHOLE w/NUMBER
- 8" S — PROPOSED SEWER LINE w/SIZE
- PROPOSED RIGHT-OF-WAY
- SS — SEWER STATION
- SD — STORMDRAIN STATION

ALL SEWER LATERALS ARE 4" UNLESS OTHERWISE NOTED

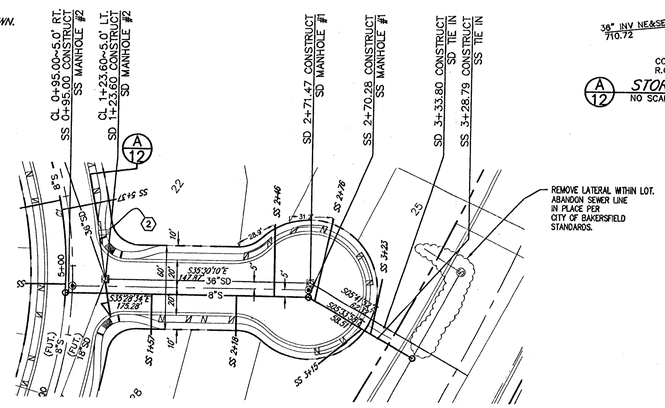
ALL SEWER LATERALS ARE TO HAVE A 4.5' MIN. -- 7' MAX. OF COVER AT THE PROPERTY LINE AND A MINIMUM OF 2.5' OF COVER AT GUTTER FLOWLINE.

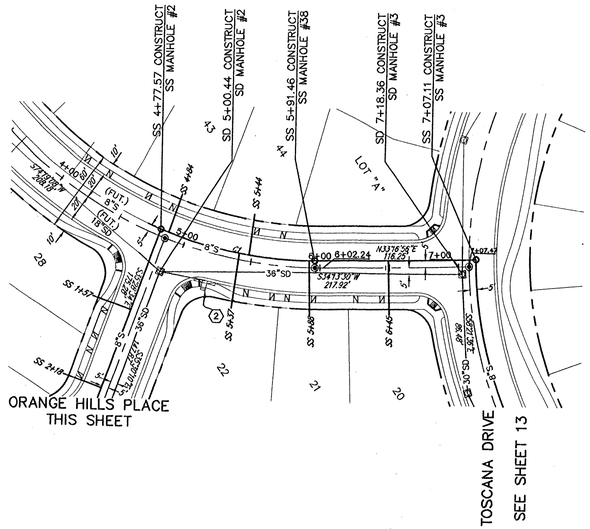
- ⊠ PROPOSED STORM-DRAIN MANHOLE
- 18" SD — PROPOSED STORM-DRAIN LINE w/SIZE
- (1) CONSTRUCT TYPE "A" CATCH BASIN PER C.O.B. STD. DWG. D-14
- (2) CATCH BASIN (WITHIN PHASE 3) TO BE CONSTRUCTED WITH PHASE 3 IMPROVEMENTS(TYP.) LATERALS TO EACH CATCH BASIN TO BE CONSTRUCTED AS SHOWN.



CONSTRUCT 33.5 L.F. ± 18" CL-III R.C.P. w/R.G.J. STORM-DRAIN @ 0.12%

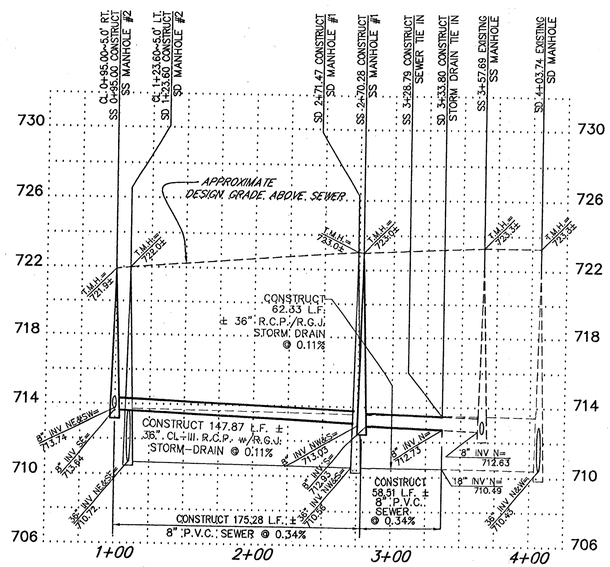
A/12 STORM-DRAIN SECTION
NO SCALE





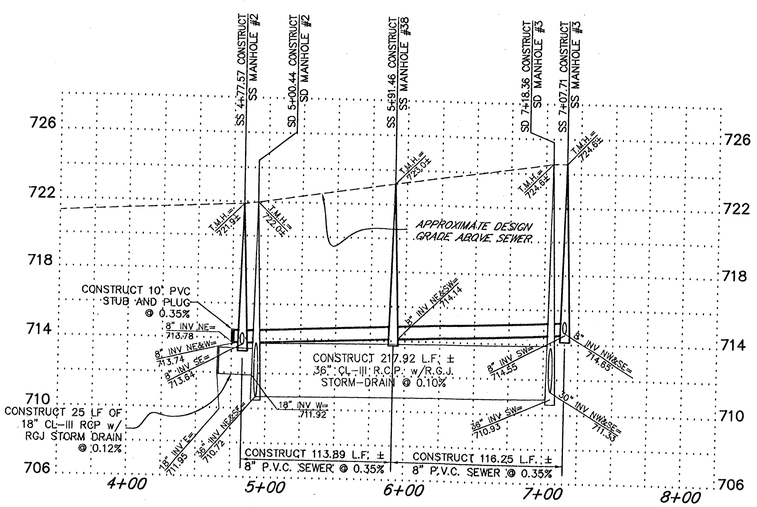
HORIZONTAL: 1"= 50'
VERTICAL: 1"= 4'

ORANGE HILLS PLACE
(PRIVATE)



HORIZONTAL: 1"= 50'
VERTICAL: 1"= 4'

RICHLAND HILLS DRIVE
(PRIVATE)



CURVE TABLE				
CURVE	LENGTH	RADIUS	TANGENT	DELTA
C1	113.90	270.28	57.81	24°08'42"

RECORD DRAWING
MATTHEW K. VOVILLA
RCE 43130 EXPIRES 3-31-08
5-11-07
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MATTHEW K. VOVILLA RCE 43130 EXP. 3/31/06

REVISIONS	DATE

TRACT NO. 6444 - PHASE 1
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K. HOVNANIAN
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JOB No.:	04-158
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DRAWN BY:	MJS
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SHEET	12 OF 13 SHEETS

1.2-6444 1

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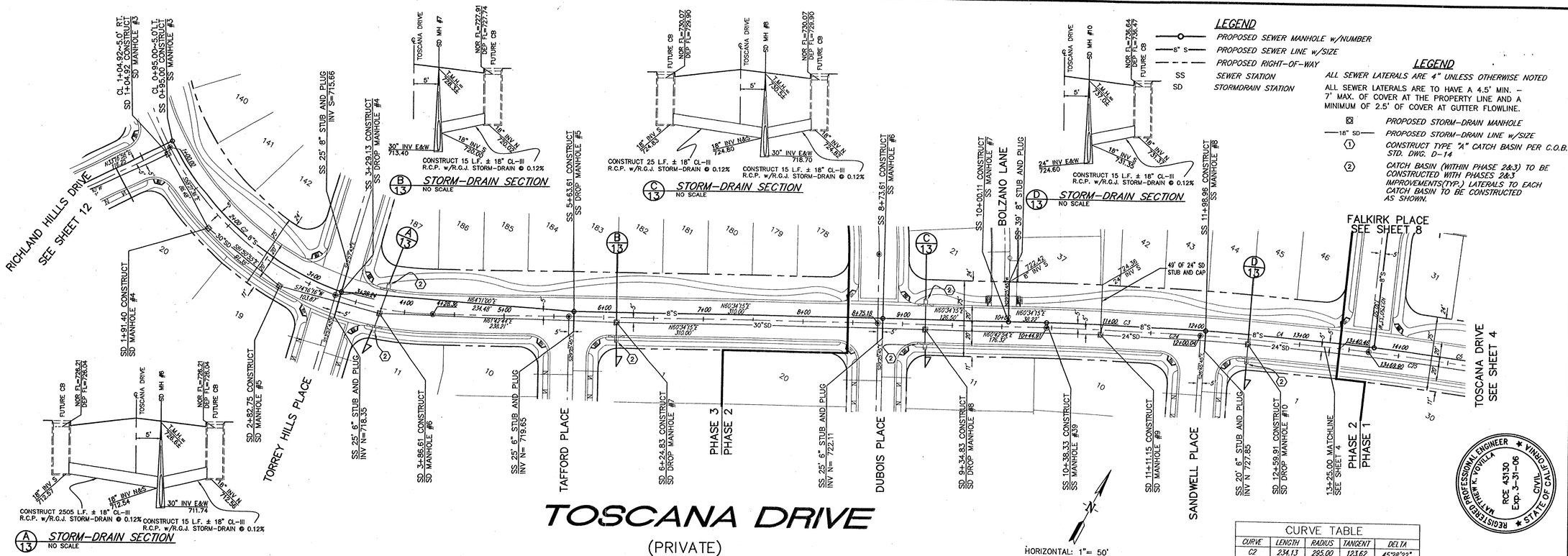

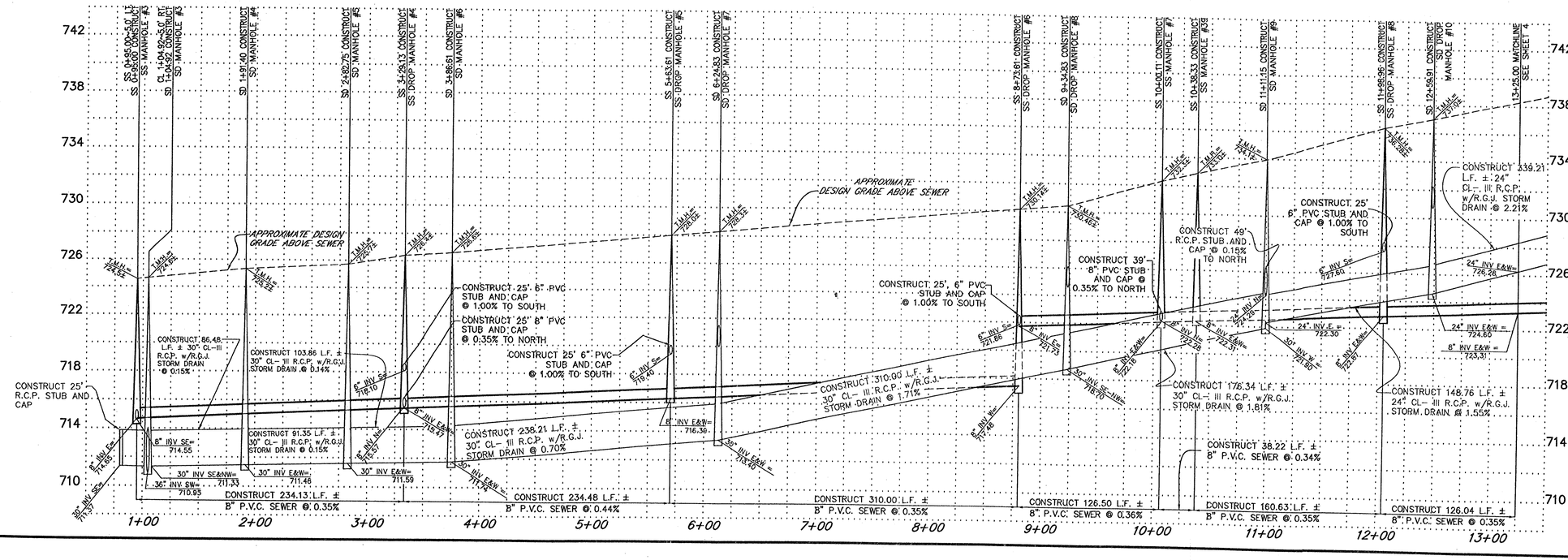

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DATE

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REVISIONS	DATE

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BAKERSFIELD, CALIFORNIA

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DRAWN BY:	MJS
CHECKED BY:	MKV
SHEET	13
	OF 13 SHEETS

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12-6444