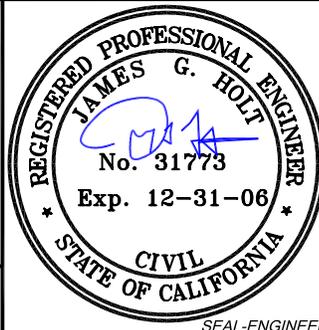


# CITY OF HOLTVILLE

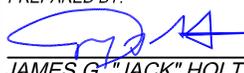
## SANITARY SEWER IMPROVEMENT STANDARD DETAILS

SS 100	INDEX
SS 101	TYPICAL SANITARY SEWER MAIN TRENCH IN PAVED AREAS
SS 102	TYPICAL SANITARY SEWER MAIN TRENCH IN UNPAVED AREAS
SS 103	TYPICAL SANITARY SEWER FORCEMAIN TRENCH IN PAVED AREAS
SS 104	TYPICAL SANITARY SEWER FORCEMAIN TRENCH IN AREAS OUTSIDE OF THE PAVEMENT
SS 105	TYPICAL SANITARY SEWER LATERAL
SS 106	TYPICAL SANITARY SEWER CLEANOUT IN PAVED OR NATIVE AREAS FOR GRAVITY SEWER PIPELINES
SS 107	TYPICAL SANITARY SEWER CLEANOUT IN PAVED OR NATIVE AREAS FOR SANITARY SEWER FORCEMAIN PIPELINES
SS 108	TYPICAL SANITARY SEWER CLEANOUT IN PAVED OR NATIVE AREAS FOR SANITARY SEWER FORCEMAIN PIPELINES FOR 90° BENDS
SS 109	4 FOOT DIAMETER P.C.C. MANHOLE
SS 110	5 FOOT DIAMETER P.C.C. MANHOLE
SS 111 A	SANITARY SEWER DROP MANHOLE
SS 111 B	SANITARY SEWER DROP MANHOLE NOTES
SS 112	TYPICAL SANITARY SEWER FORCEMAIN GATE VALVE AND RISER
SS 113	SEWER AND WATER CROSSINGS
SS 114	SEPARATION REQUIREMENTS FOR SEWER AND WATER CROSSINGS
SS 115	SEPARATION AND CONSTRUCTION REQUIREMENTS FOR SEWER AND WATER LINES (PARALLEL CONSTRUCTION)
SS 116	SEPARATION AND CONSTRUCTION REQUIREMENTS FOR SEWER AND WATER LINES (CROSSING)

- 1561 S. 4th Street  
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(760) 922-4658
- 425 E. Main Street P.O. Box 2532  
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(928) 927-8699



**CITY OF HOLTVILLE**  
**SANITARY SEWER**  
**INDEX**

PREPARED BY:  
  
**JAMES G. "JACK" HOLT**  
R.C.E. NO. 31773  
EXP. DATE: 12-31-06

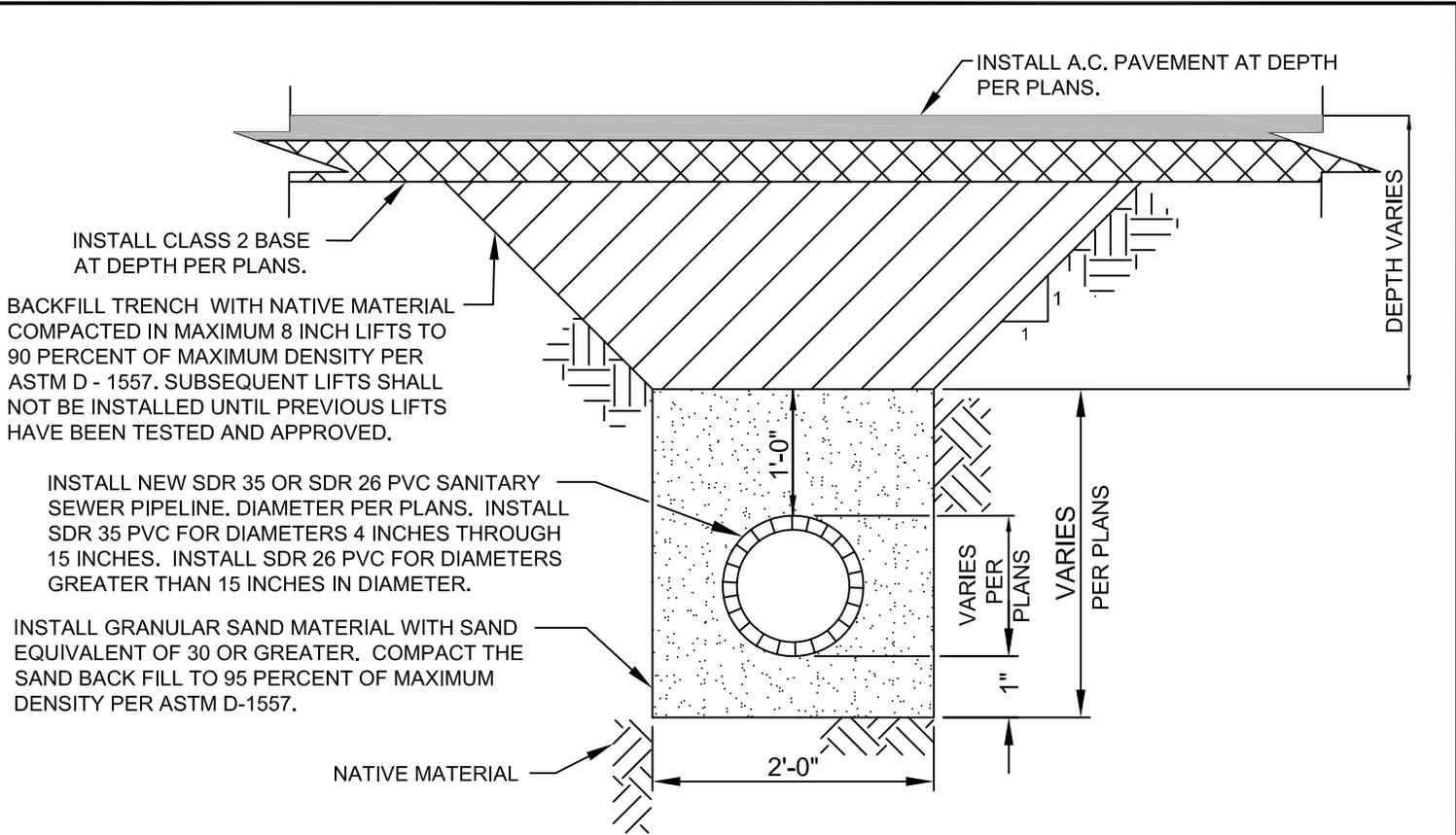
SHEET NO.  
  
**SS 100**

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SCALE: NTS	DATE: 3-15-05	PROJECT NO. THG 116.155E
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SEAL-ENGINEER



## NOTES:

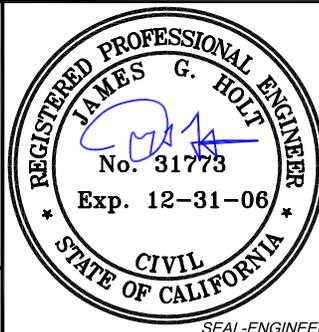
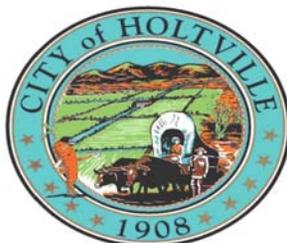
- WHERE THE TRENCH DEPTH EXCEEDS 3', THE PIPELINE SUBCONTRACTOR SHALL UTILIZE ANY OF THE FOLLOWING METHODS FOR EXCAVATION AND TRENCH STABILIZATION. THE METHOD OF EXCAVATION AND TRENCH STABILIZATION SHALL BE APPROVED BY CAL OSHA.
  - SHORING AS APPROVED BY THE ENGINEER.
  - SLOPING BOTH TRENCH SIDES AT A 1:1 MAXIMUM ABOVE THE BOTTOM 3 FEET.
  - "STEPPING OR BENCHING" BOTH TRENCH SIDES AT 3 FOOT VERTICAL INCREMENTS, THE WIDTH OF EACH BENCH SHALL BE THE SAME AS THE BOTTOM 3 FEET.
  - USE OF A STEEL SHIELD.
  - USE OF TRENCH JACKS.
- WHEN THE PIPE TRENCH IS UNSTABLE DUE TO GROUND WATER INFILTRATION PLACE 1 FOOT OF 3/4-INCH DIAMETER ROUND ROCK BENEATH THE SANITARY SEWER PIPELINE.

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(928) 927-8699



CITY OF HOLTVILLE  
TYPICAL SANITARY SEWER MAIN  
TRENCH IN PAVED AREAS

PREPARED BY:  
*[Signature]*  
JAMES G. "JACK" HOLT  
R.C.E. NO. 31773  
EXP. DATE: 12-31-06

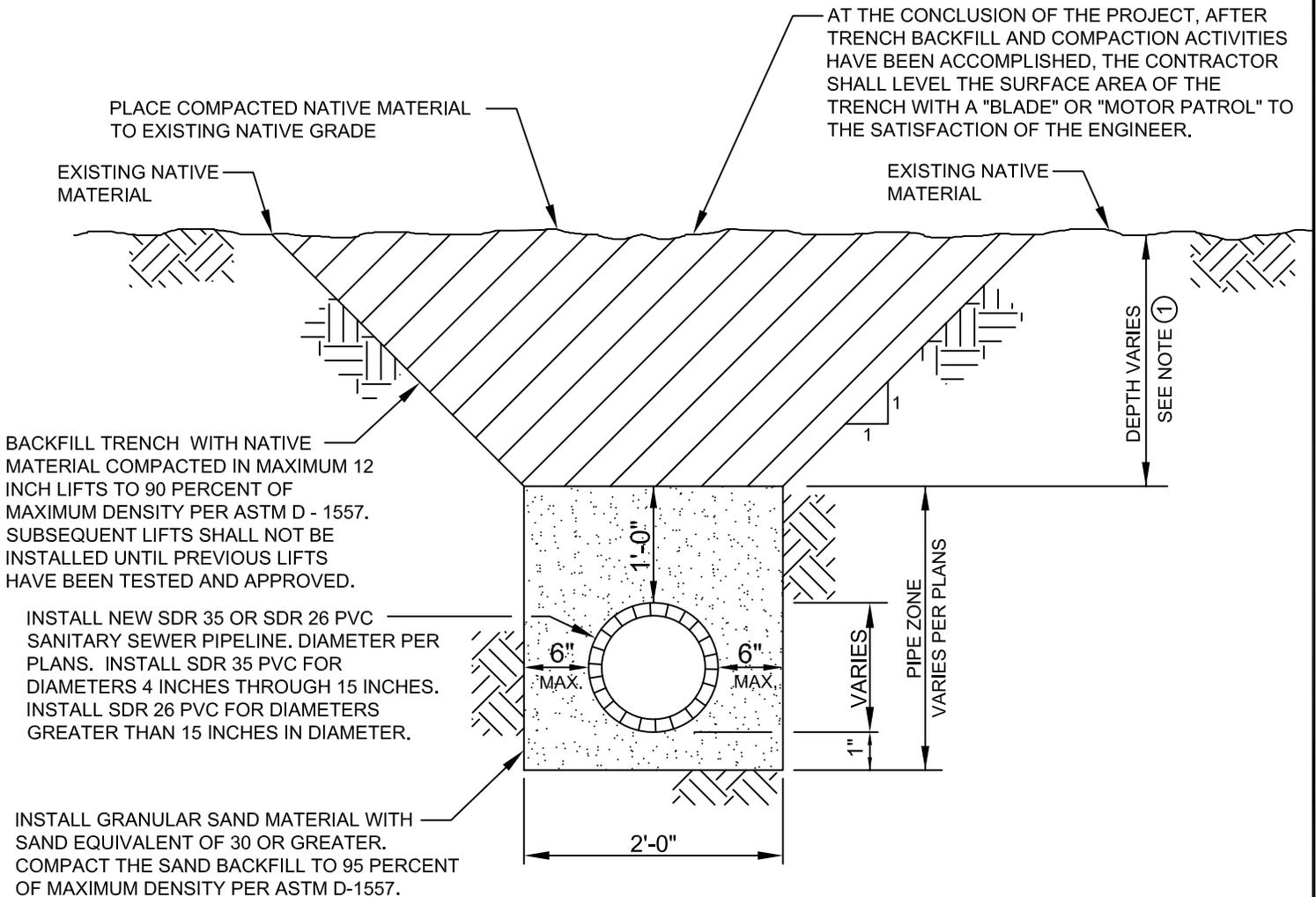
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SCALE: NTS DATE: 3-15-05

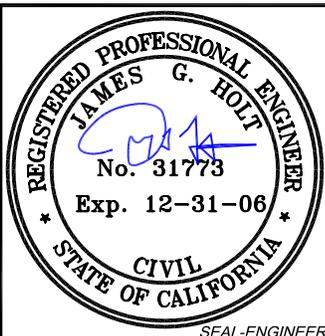
PROJECT NO.  
THG 116.155E



**NOTES:**

1. TRENCH DEPTH SHALL HAVE A MINIMUM OF 3'-6".
2. WHERE THE PERMIT OF A GOVERNING AGENCY SETS FORTH REQUIREMENTS MORE STRINGENT THAN THOSE STATED HEREIN, THE CONTRACTOR SHALL ADHERE TO THE AGENCY REQUIREMENTS.
3. WHERE THE TRENCH DEPTH EXCEEDS 3', THE PIPELINE CONTRACTOR SHALL UTILIZE ANY OF THE FOLLOWING METHODS FOR EXCAVATION AND TRENCH STABILIZATION. THE METHOD OF EXCAVATION AND TRENCH STABILIZATION SHALL BE APPROVED BY CAL OSHA
  - A) SHORING AS APPROVED BY THE ENGINEER.
  - B) SLOPING BOTH TRENCH SIDES AT A 1:1 MAXIMUM ABOVE THE BOTTOM 3 FEET.
  - C) "STEPPING OR BENCHING" BOTH TRENCH SIDES AT 3 FOOT VERTICAL INCREMENTS, THE WIDTH OF EACH BENCH SHALL BE THE SAME AS THE BOTTOM 3 FEET.
  - D) USE OF A STEEL SHIELD.
  - E) USE OF TRENCH JACKS.

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CITY OF HOLTVILLE	
TYPICAL SANITARY SEWER MAIN TRENCH IN UNPAVED AREAS	
PREPARED BY:  JAMES G. "JACK" HOLT	SHEET NO.  <b>SS 102</b>
R.C.E. NO. 31773 EXP. DATE: 12-31-06	
SCALE: NTS	DATE: 3-15-05
	PROJECT NO. THG 116.155E

SAWCUT EXISTING A.C. PAVEMENT FOR THE FULL DEPTH OF THE A.C. PAVEMENT WHERE APPLICABLE. REMOVE AND DISPOSE OF A.C. PAVEMENT AND UNDERLYING SUBBASE AND NATIVE MATERIAL.

INSTALL 3/4" MAXIMUM CLASS 2 BASE. COMPACT TO 95 PERCENT OF MAXIMUM DENSITY PER ASTM D- 1557 PER PLAN.

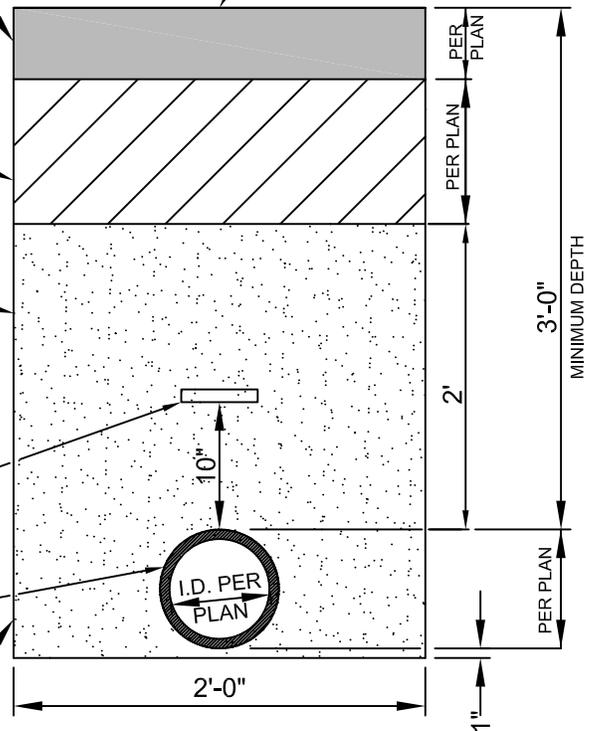
INSTALL GRANULAR SAND FILL WITH A SAND EQUIVALENT OF 30 OR GREATER. COMPACT TO 95 PERCENT OF MAXIMUM DENSITY PER ASTM D-1557.

INSTALL 6-INCH WIDE MAGNETIC DETECTOR TAPE.

INSTALL AWWA C-900, CLASS 150 OR AWWA C-905, DR 25, PVC PIPELINE. SEE PLAN FOR DIAMETER SIZE OF PIPELINE.

REMOVE AND DISPOSE OF EXISTING NATIVE MATERIAL WITHIN THE PIPE TRENCH FOR THE PIPELINE INSTALLATION.

INSTALL A.C. PAVEMENT PER PLAN.

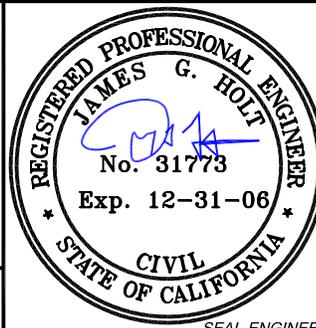


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CITY OF HOLTVILLE

TYPICAL SANITARY SEWER FORCEMAIN  
TRENCH IN PAVED AREAS

PREPARED BY:

*James G. Holt*  
JAMES G. "JACK" HOLT

R.C.E. NO. 31773

EXP. DATE: 12-31-06

SHEET NO.

SS 103

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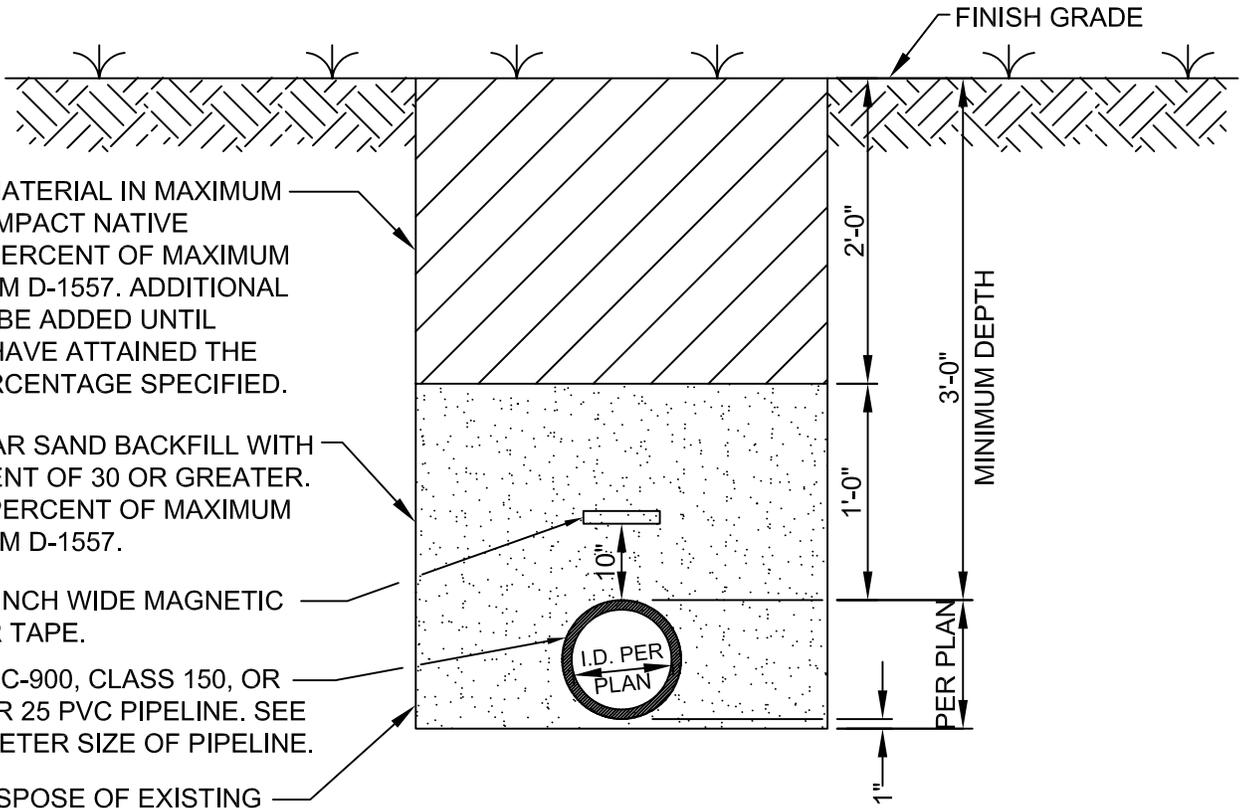


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PROJECT NO.  
THG 116.155E

SEAL-ENGINEER



INSTALL NATIVE MATERIAL IN MAXIMUM 1-FOOT LIFTS. COMPACT NATIVE MATERIAL TO 85 PERCENT OF MAXIMUM DENSITY PER ASTM D-1557. ADDITIONAL LIFTS SHALL NOT BE ADDED UNTIL PREVIOUS LIFTS HAVE ATTAINED THE COMPACTION PERCENTAGE SPECIFIED.

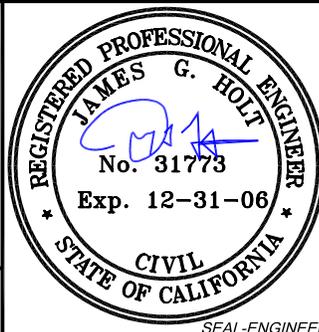
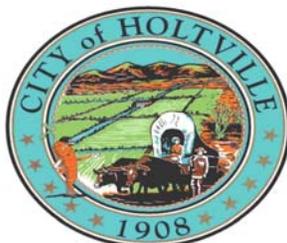
INSTALL GRANULAR SAND BACKFILL WITH A SAND EQUIVALENT OF 30 OR GREATER. COMPACT TO 95 PERCENT OF MAXIMUM DENSITY PER ASTM D-1557.

INSTALL 6-INCH WIDE MAGNETIC DETECTOR TAPE.

INSTALL AWWA C-900, CLASS 150, OR AWWA C-905, DR 25 PVC PIPELINE. SEE PLAN FOR DIAMETER SIZE OF PIPELINE.

REMOVE AND DISPOSE OF EXISTING NATIVE MATERIAL WITHIN THE PIPE TRENCH FOR THE PIPELINE INSTALLATION.

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CITY OF HOLTVILLE  
TYPICAL SANITARY SEWER FORCE MAIN  
TRENCH IN AREAS OUTSIDE OF THE  
PAVEMENT

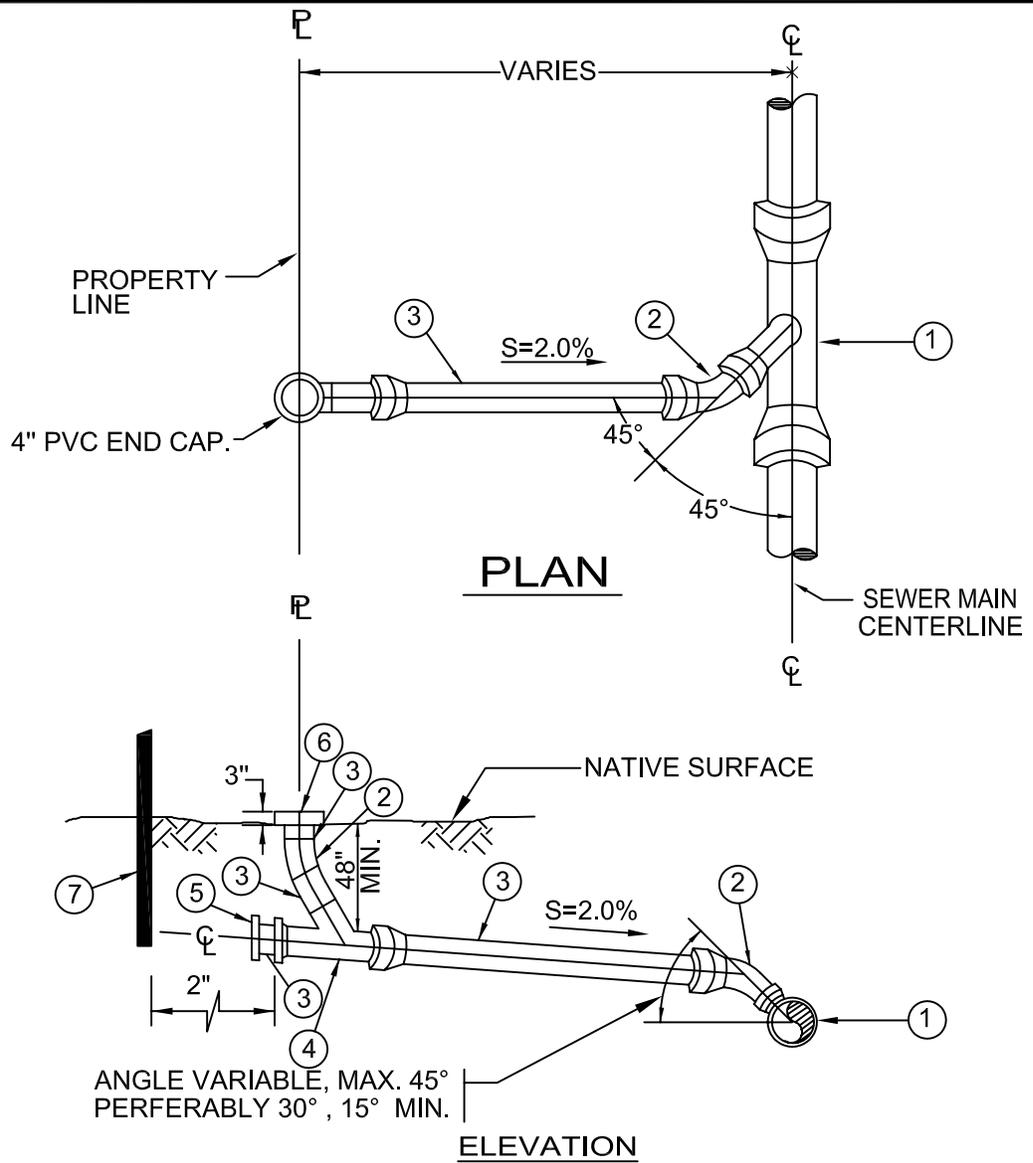
PREPARED BY:  
*[Signature]*  
JAMES G. "JACK" HOLT  
R.C.E. NO. 31773  
EXP. DATE: 12-31-06

SHEET NO.  
**SS 104**

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SCALE: NTS DATE: 3-15-05 PROJECT NO. THG 116.155E



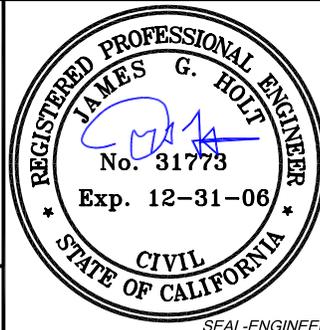
## KEYNOTES

- ① PIPE MAIN SIZE x 4-INCH SDR 35 PVC WYE FITTING.
- ② INSTALL 4 INCH 45 DEGREE SDR 35 PVC FITTING.
- ③ INSTALL 4" SDR 35 PVC SANITARY SEWER PIPE SECTION.
- ④ INSTALL 4 INCH SDR 35 PVC WYE FITTING.
- ⑤ INSTALL 4 INCH SDR 35 PVC END CAP.
- ⑥ PLACE A CLEAN-OUT AT THE PROPERTY LINE. PLACE A 4 INCH SDR 35 PVC END CAP AT THE CLEAN-OUT TERMINATION POINT.
- ⑦ INSTALL A 2X4 AT THE END OF EACH LATERAL EXTENDING FROM THE INVERT OF THE LATERAL TERMINATION TO A POINT 2-FEET ABOVE THE EXISTING NATIVE SURFACE.

## NOTES:

- A. SEWER LATERALS SHALL HAVE A MINIMUM SLOPE OF 2 PERCENT SLOPE EXCEPT AS OTHERWISE SPECIFICALLY NOTED ON THE PLANS.
- B. END CAPS SHALL BE COMPOSED OF SDR 35 PVC WITH O-RING GASKETS.
- C. IN NO CASE SHALL A LATERAL CONNECT TO THE SEWER MAIN DIRECTLY ON TOP OF THE PIPE.

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 (928) 927-8699



CITY OF HOLTVILLE  
TYPICAL SANITARY SEWER  
LATERAL

PREPARED BY:

*James G. Holt*  
JAMES G. "JACK" HOLT

R.C.E. NO. 31773  
EXP. DATE: 12-31-06

SHEET NO.

SS 105

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NTS

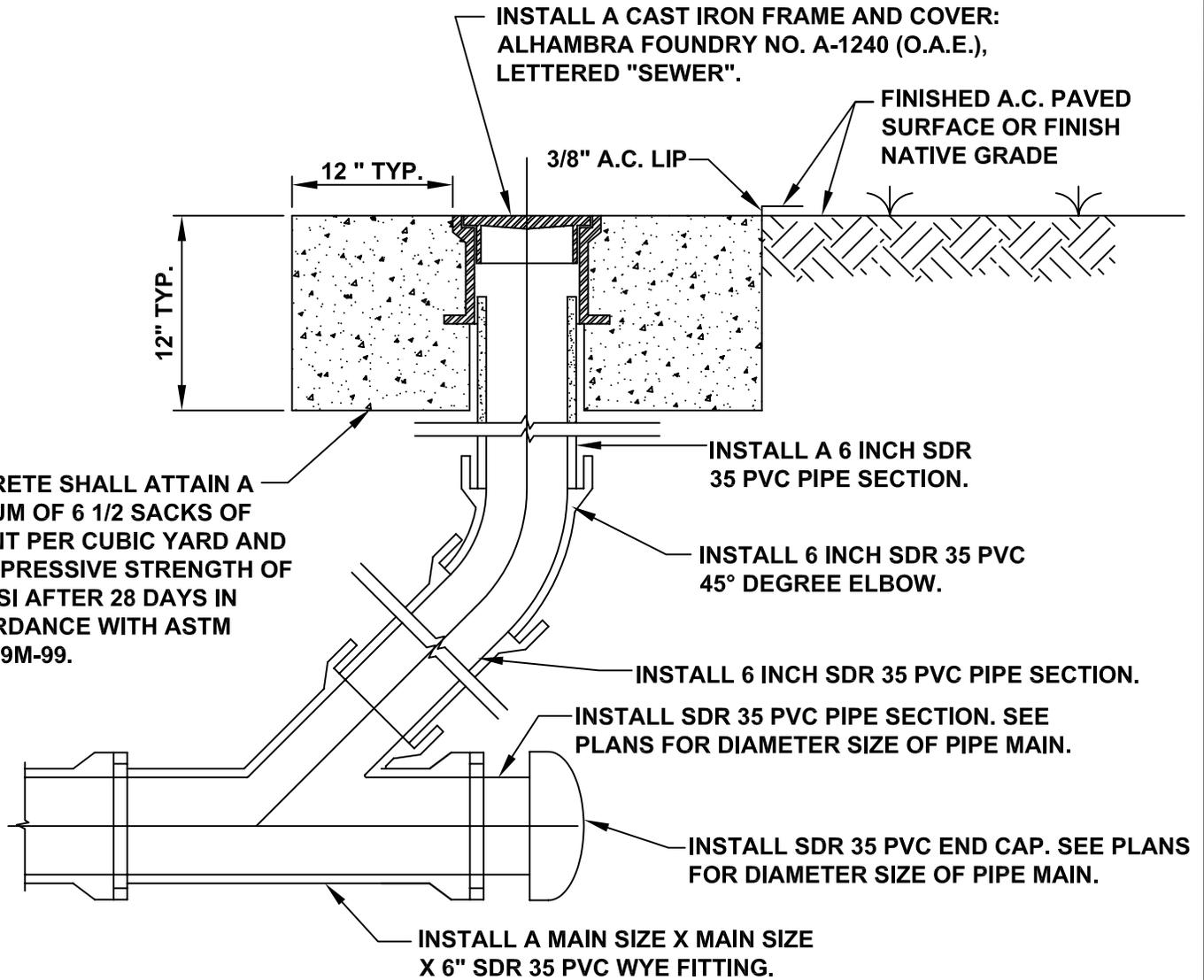
DATE:  
3-15-05

PROJECT NO.  
THG 116.155E

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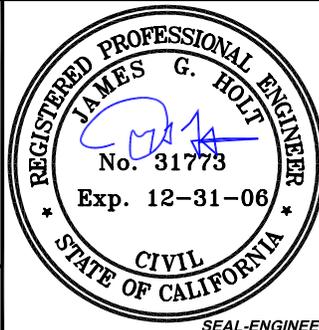


SEAL-ENGINEER



**NOTE: CLEANOUT RING AND COVER SHALL BE RAISED TO FINISHED GRADE AND SUPPORT COLLAR INSTALLED AFTER PAVING OR FINISH GRADING IS COMPLETED.**

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**CITY OF HOLTVILLE**  
**TYPICAL SANITARY SEWER CLEANOUT**  
**IN PAVED OR NATIVE AREAS FOR**  
**GRAVITY SEWER PIPELINES**

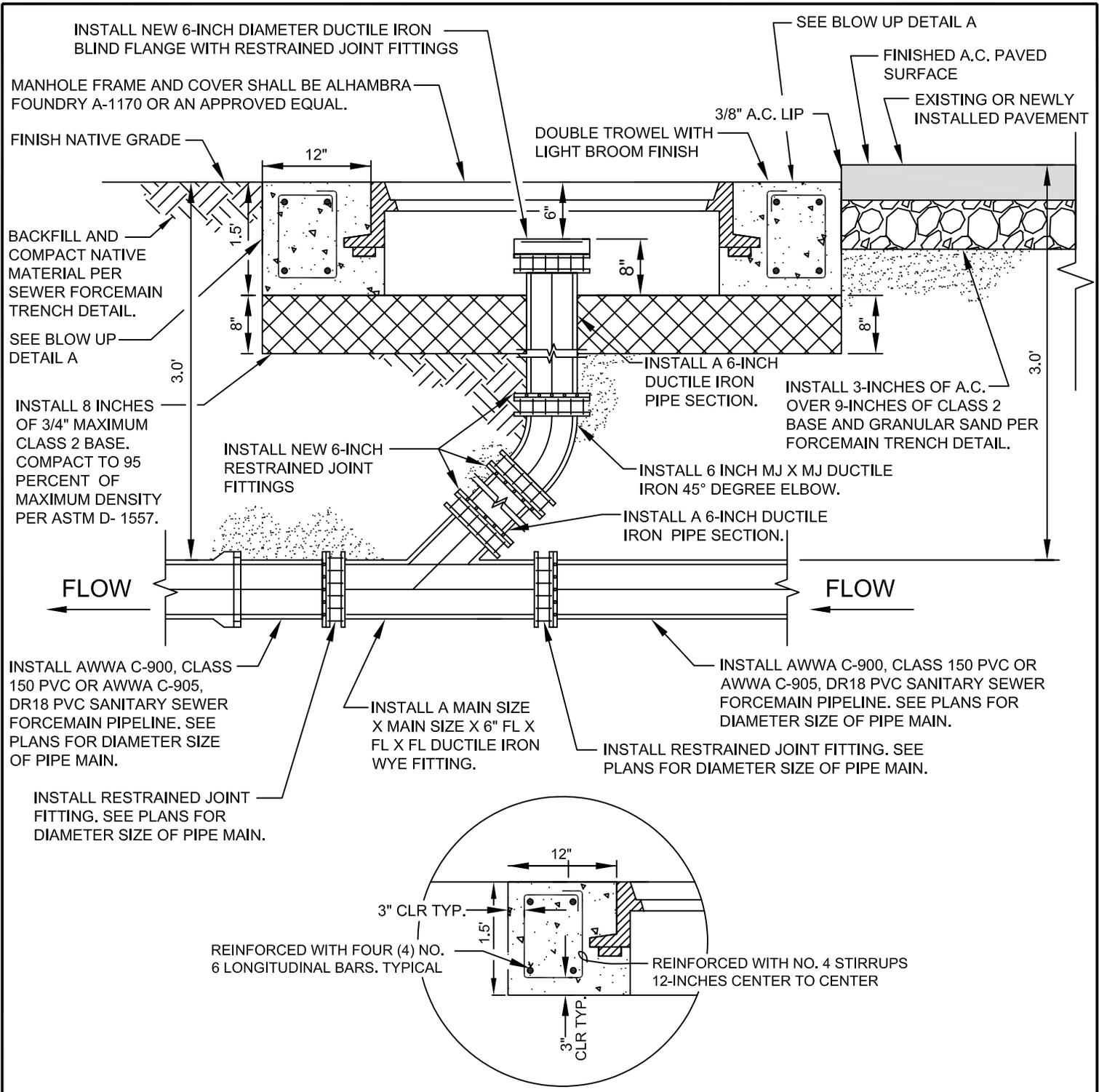
PREPARED BY:  
*[Signature]*  
**JAMES G. "JACK" HOLT**  
R.C.E. NO. 31773  
EXP. DATE: 12-31-06

SHEET NO.  
**SS 106**

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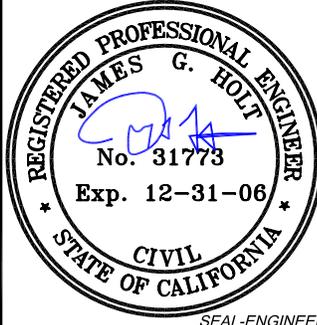
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NTS 3-15-05 THG 116.155E



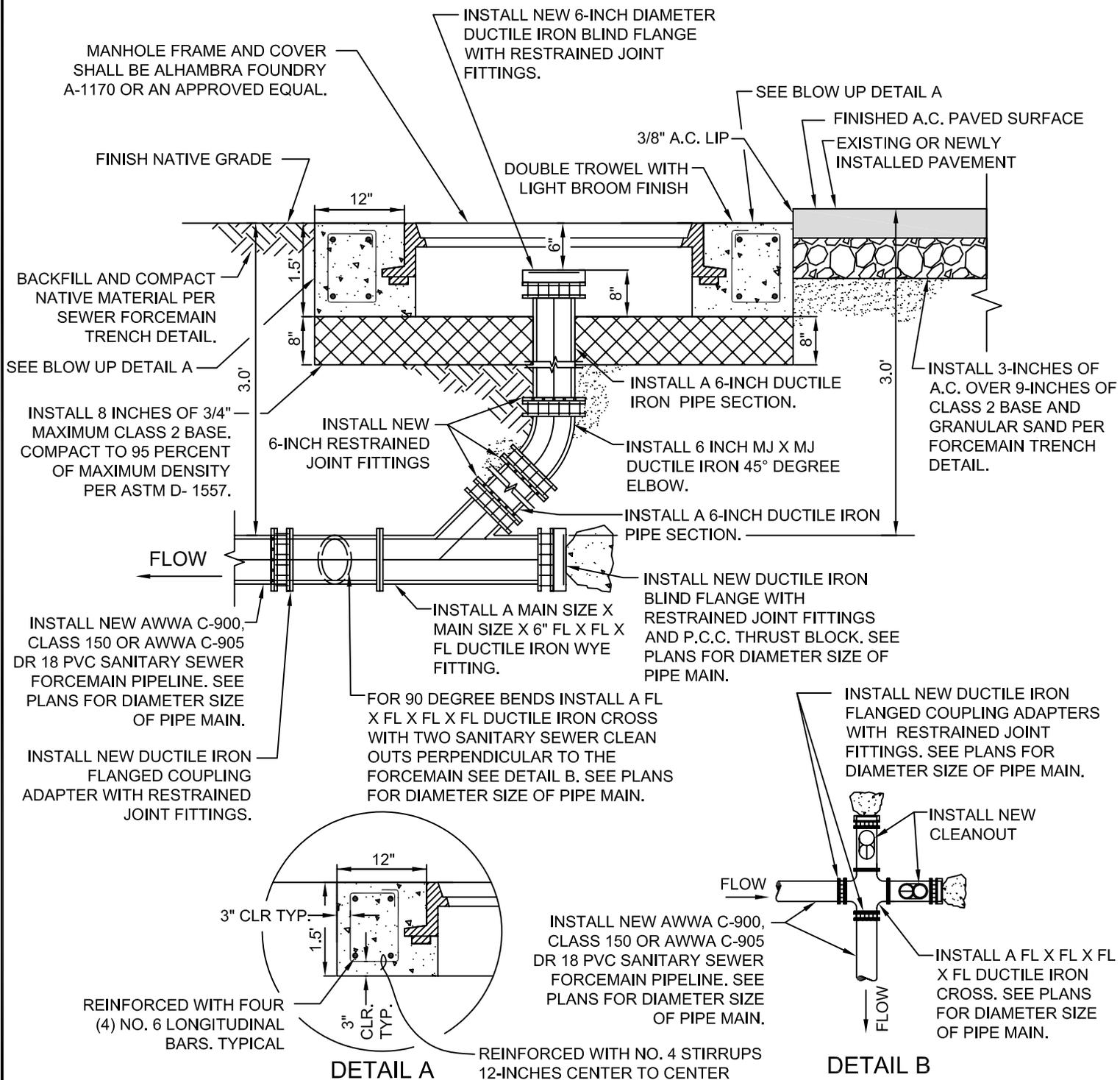
DETAIL A

NOTE: MANHOLE FRAME AND COVER AND P.C.C. SUPPORT COLLAR SHALL BE RAISED TO FINISHED GRADE AFTER NEW A.C. PAVEMENT IS INSTALLED.

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CITY OF HOLTVILLE	
TYPICAL SANITARY SEWER CLEANOUT IN PAVED OR NATIVE AREAS FOR SANITARY SEWER FORCEMAIN PIPELINES	
PREPARED BY:  JAMES G. "JACK" HOLT	SHEET NO.  <b>SS 107</b>
R.C.E. NO. 31773 EXP. DATE: 12-31-06	
SCALE: NTS	DATE: 3-15-05
PROJECT NO. THG 116.155E	



NOTE: MANHOLE FRAME AND COVER SHALL BE RAISED TO FINISHED GRADE AND SUPPORT COLLAR INSTALLED AFTER PAVING OR FINISH GRADING IS COMPLETED.

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CITY OF HOLTVILLE

TYPICAL SANITARY SEWER CLEANOUT IN PAVED OR NATIVE AREAS FOR SANITARY SEWER FORCEMAIN PIPELINES FOR 90° BENDS

PREPARED BY:

JAMES G. "JACK" HOLT

R.C.E. NO. 31773  
EXP. DATE: 12-31-06

SHEET NO.

SS 108

SCALE:

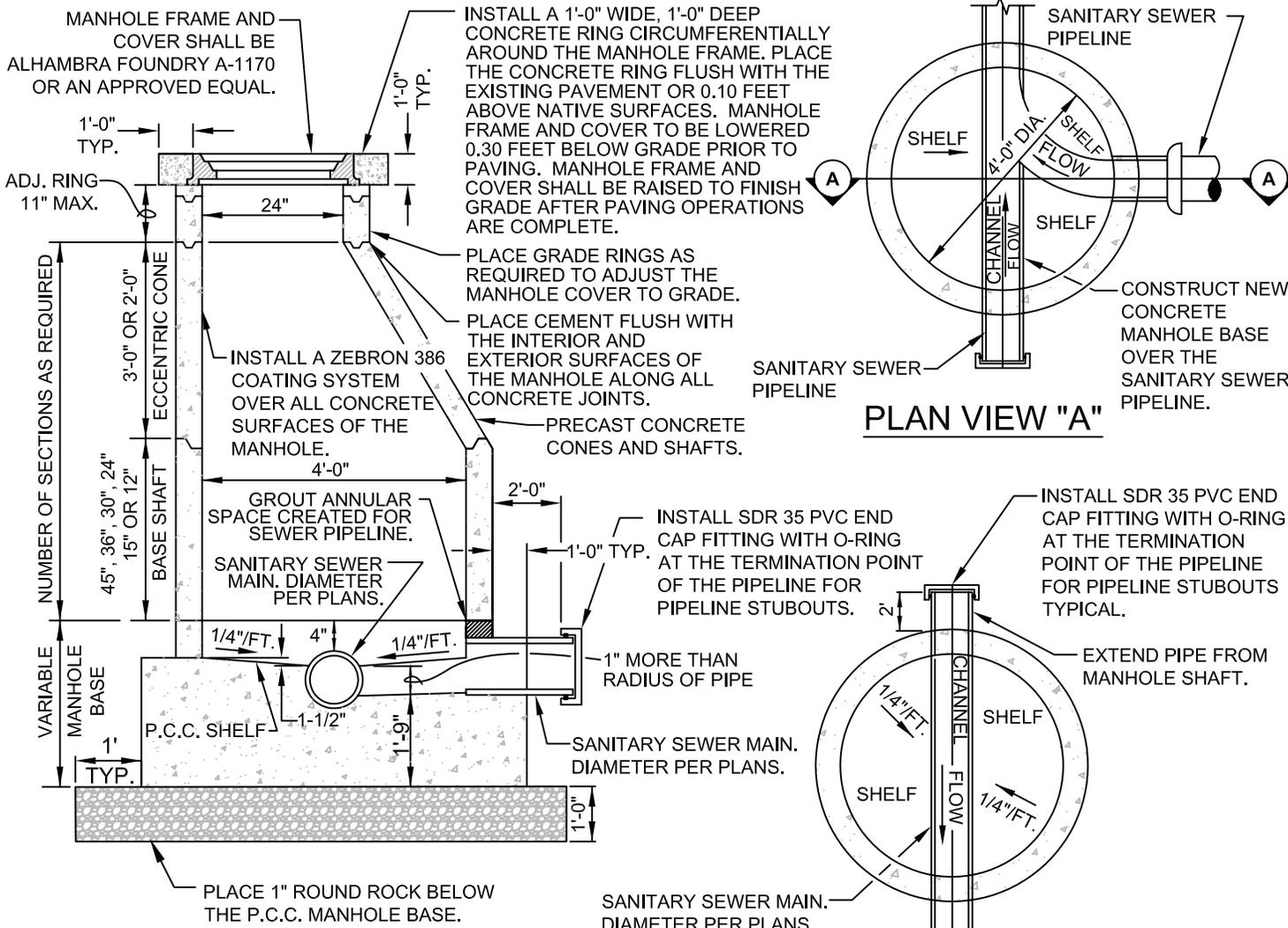
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PROJECT NO.

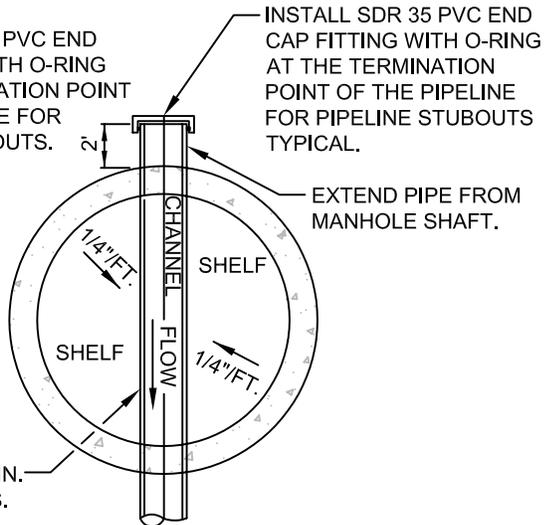
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**SECTION A-A**

**PLAN VIEW "A"**



**DEAD END MANHOLE  
PLAN VIEW "B"**

**NOTES:**

- EXCEPT AS NOTED HEREON, THE PRECAST UNITS SHALL BE MANUFACTURED AND TESTED IN ACCORDANCE WITH ASTM C-478. THE CURING OF THE PRECAST UNITS SHALL CONFORM TO SECTION 207-2.7 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION. THE MINIMUM WALL THICKNESS SHALL BE 6 INCHES.
- THE CONCRETE SHELF OF THE MANHOLE SHALL BE SLOPED AT 1/4 INCH PER FOOT. THE SHELF SHALL RECEIVE A DOUBLE TROWEL FINISH. THE CONCRETE UTILIZED FOR THE CONCRETE BASE AND MANHOLE COLLAR SHALL CONTAIN 6 1/2 SACKS OF CONCRETE PER CUBIC YARD AND ATTAIN A COMPRESSIVE STRENGTH OF 4,500 P.S.I. AFTER 28 DAYS CURING.
- WHENEVER PRACTICABLE, THE FRAME AND COVER SHALL BE PLACED DIRECTLY OVER THE INLET OF THE STRUCTURE EXCEPT AS OTHERWISE NOTED ON THE PLANS.
- MANHOLE SHAFTS, CONES AND GRADE RINGS SHALL BE SET PLUMB.
- PLACE CEMENT GROUT IN THE OPENINGS BETWEEN PRECAST MANHOLE UNITS AND GRADE RINGS FLUSH WITH THE INTERIOR AND EXTERIOR SURFACES PRIOR TO APPLYING THE ZEBRON COATING OR COMPLETING BACKFILL WORK AROUND THE EXTERIOR OF THE MANHOLE.
- THE PIPELINE INVERTS SHALL DROP 0.10 FEET BETWEEN INLET AND OUTLET PIPELINES AT 90 DEGREE ANGLES.
- VERTICAL WALL OF CONE SHALL BE OPPOSITE OUTLET SIDE OF MANHOLE.

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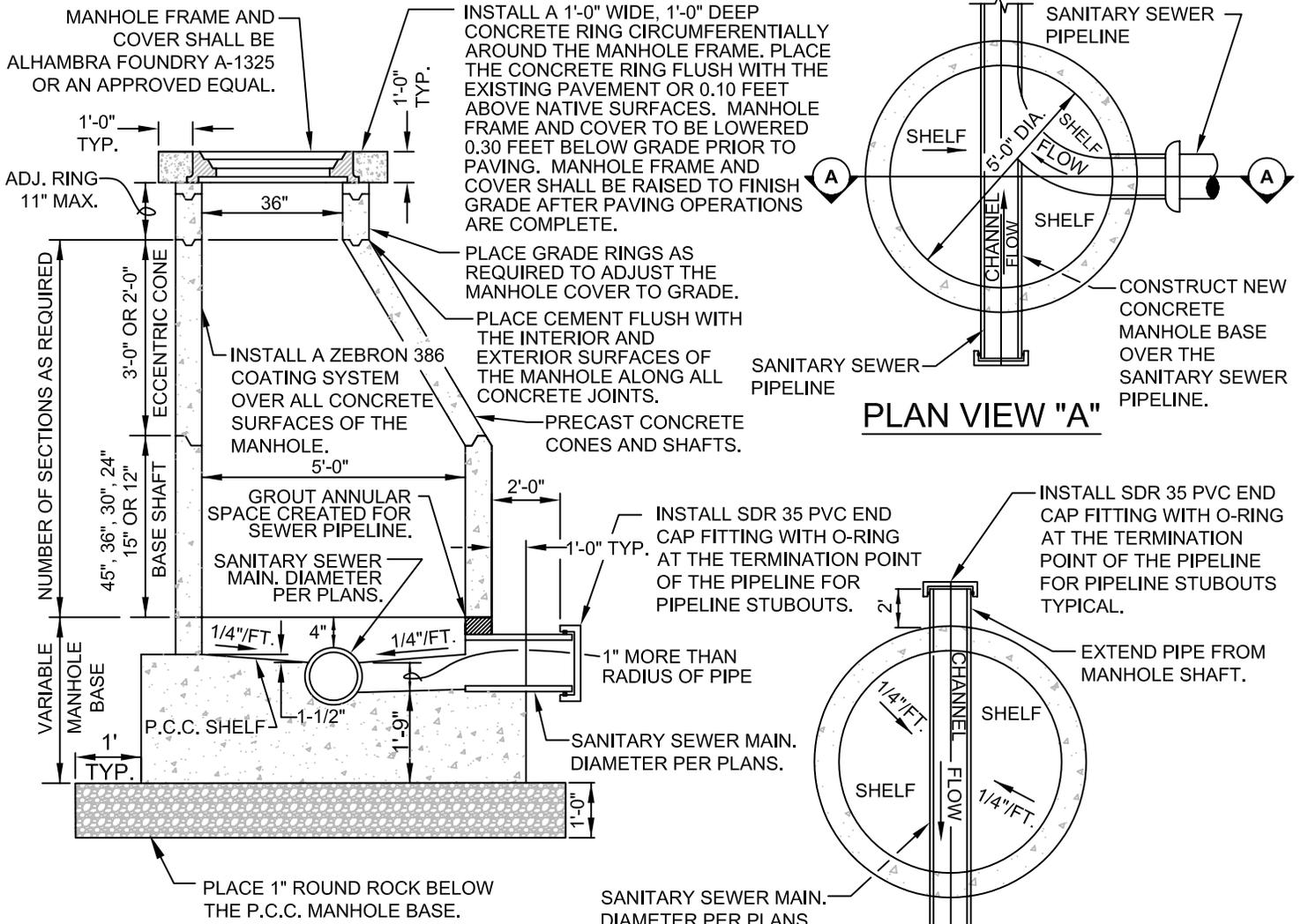
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(928) 927-8699



<b>CITY OF HOLTVILLE</b>	
<b>4 FOOT DIAMETER PCC MANHOLE</b>	
PREPARED BY: <i>James G. Holt</i> <b>JAMES G. "JACK" HOLT</b>	SHEET NO.  <b>SS 109</b>
R.C.E. NO. 31773 EXP. DATE: 12-31-06	
SCALE: NTS	DATE: 3-15-05
	PROJECT NO. THG 116.155E



**SECTION A-A**

**PLAN VIEW "B"**

**NOTES:**

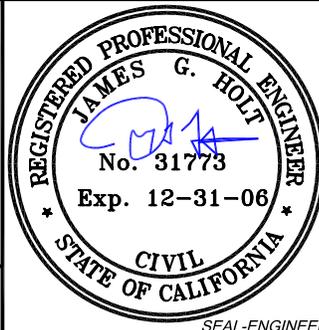
- EXCEPT AS NOTED HEREON, THE PRECAST UNITS SHALL BE MANUFACTURED AND TESTED IN ACCORDANCE WITH ASTM C-478. THE CURING OF THE PRECAST UNITS SHALL CONFORM TO SECTION 207-2.7 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION. THE MINIMUM WALL THICKNESS SHALL BE 6 INCHES.
- THE CONCRETE SHELF OF THE MANHOLE SHALL BE SLOPED AT 1/4 INCH PER FOOT. THE SHELF SHALL RECEIVE A DOUBLE TROWEL FINISH. THE CONCRETE UTILIZED FOR THE CONCRETE BASE AND MANHOLE COLLAR SHALL CONTAIN 6 1/2 SACKS OF CONCRETE PER CUBIC YARD AND ATTAIN A COMPRESSIVE STRENGTH OF 4,500 P.S.I. AFTER 28 DAYS CURING.
- WHENEVER PRACTICABLE, THE FRAME AND COVER SHALL BE PLACED DIRECTLY OVER THE INLET OF THE STRUCTURE EXCEPT AS OTHERWISE NOTED ON THE PLANS.
- MANHOLE SHAFTS, CONES AND GRADE RINGS SHALL BE SET PLUMB.
- PLACE CEMENT GROUT IN THE OPENINGS BETWEEN PRECAST MANHOLE UNITS AND GRADE RINGS FLUSH WITH THE INTERIOR AND EXTERIOR SURFACES PRIOR TO APPLYING THE ZEBRON COATING OR COMPLETING BACKFILL WORK AROUND THE EXTERIOR OF THE MANHOLE.
- THE PIPELINE INVERTS SHALL DROP 0.10 FEET BETWEEN INLET AND OUTLET PIPELINES AT 90 DEGREE ANGLES.
- VERTICAL WALL OF CONE SHALL BE OPPOSITE OUTLET OF MANHOLE.

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**CITY OF HOLTVILLE**

**5 FOOT DIAMETER PCC  
MANHOLE**

PREPARED BY:

*James G. Holt*  
**JAMES G. "JACK" HOLT**

R.C.E. NO. 31773  
EXP. DATE: 12-31-06

SHEET NO.

**SS 110**

SCALE:  
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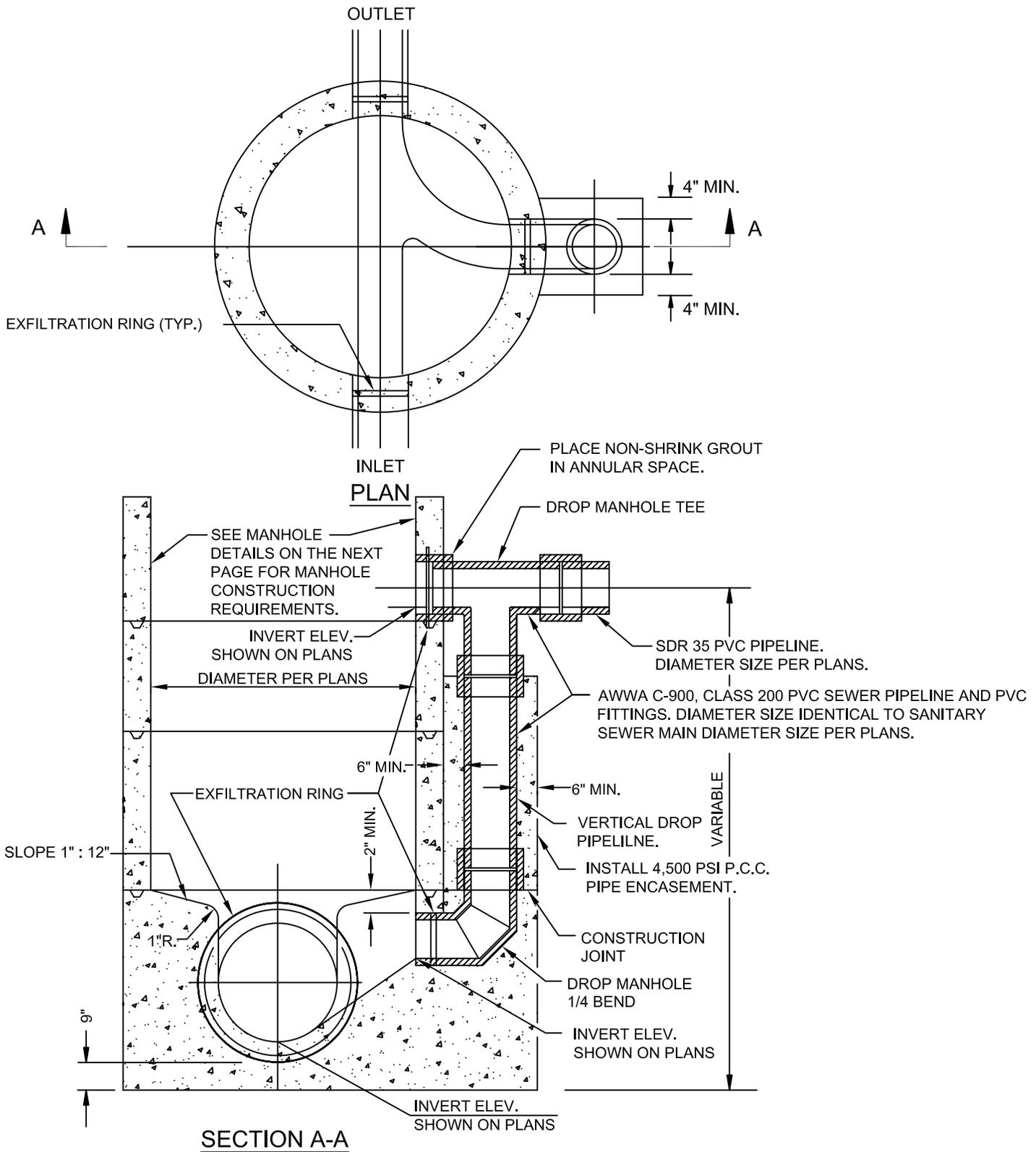
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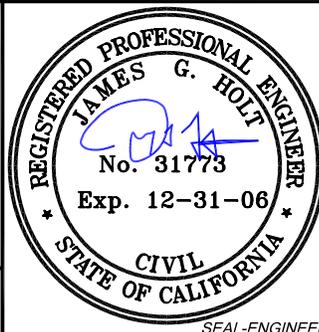
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**CITY OF HOLTVILLE**

**SANITARY SEWER DROP  
MANHOLE**

PREPARED BY:

*James G. Holt*  
**JAMES G. "JACK" HOLT**

R.C.E. NO. 31773  
EXP. DATE: 12-31-06

SHEET NO.

**SS 111A**

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NTS

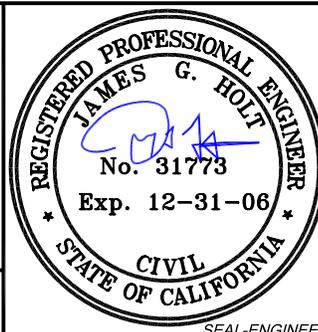
DATE:  
3-15-05

PROJECT NO.  
THG 116.155E

**GENERAL NOTES:**

1. FOUNDATION FOR DROP PIPELINE SECTION SHALL BE POURED MONOLITHIC WITH MANHOLE BASE.
2. P.C.C. CONCRETE SHALL CONTAIN 6 1/2 SACKS PER CUBIC YARD AND ATTAIN A COMPRESSIVE STRENGTH OF 4,500 PSI AFTER 28 DAYS.
3. MANHOLE SECTIONS SHALL BE PRECAST REINFORCED CONCRETE HAVING A MINIMUM THICKNESS OF SIX INCHES AND CONFORMING TO ASTM C-478 REQUIREMENTS FOR MATERIALS AND MANUFACTURE AND ASTM REQUIREMENTS FOR REINFORCEMENT.
4. VERTICAL WALL OF CONE SHALL BE OPPOSITE OUTLET SIDE OF MANHOLE.
5. CONE SHALL BE RAISED WHEN GRADE RINGS EXCEED 11".
6. SUPPORT COLLAR SHALL CONSIST OF CLASS "3" CONCRETE.
7. JOINTS SHALL CONSIST OF 1-2 CEMENT MORTAR, NEATLY STRUCK AND POINTED, 3/8" MIN. THICKNESS, OR RAM-NECK, EXCEPT FOR GRADE ADJUSTING RINGS WHICH SHALL BE 1-2 CEMENT MORTAR ONLY.
8. CONCRETE FOR SUPPORT COLLAR SHALL BE TYPE V CEMENT WHICH SHALL ATTAIN A COMPRESSIVE STRENGTH OF 4,500 PSI AFTER 28 DAYS CURING.
9. SHELF SHALL HAVE A STEEL TROWEL FINISH.
10. THIS MANHOLE IS FOR DEPTHS GREATER THAN 3 FOOT AND LESS THAN 25 FOOT. MAXIMUM PIPE INTERNAL DIAMETER IS 36 INCHES.
11. ALL PIPE AND FITTINGS IN DROP CONNECTION SHALL BE AWWA C-900, CLASS 200 OR AWWA C-905, DR 14 AND OF THE SAME SIZE AS THE SEWER MAIN, UNLESS SHOWN OTHERWISE ON THE PLANS.
12. TROUGH:
  - A. SHALL NOT HAVE A FLAT BOTTOM.
  - B. SHALL HAVE A STEEL TROWELED FINISH.
  - C. DIAMETER OF FEEDLINE SHALL NOT "FLARE OUT" WHERE IT JOINS THE MAINLINE TROUGH.
13. "JIFFY RINGS" SHALL NOT BE ALLOWED.
14. FOR STRAIGHT THROUGH FLOW THE "Y" SHALL NOT BE CONSTRUCTED UNLESS A STUB OR LATERAL IS SHOWN ON THE PLANS AS BEING REQUIRED.
15. ZEBRON 386 SHALL BE REQUIRED TO BE APPLIED TO ALL INTERIOR CONCRETE SURFACES OF THE MANHOLE.
16. MANHOLE RING AND COVER SHALL BE RAISED TO FINISH GRADE AND SUPPORT COLLAR INSTALLED AFTER PAVING OR FINE GRADING.
17. EXFILTRATION RINGS SHALL BE CONSISTENT WITH PIPE MANUFACTURER'S RECOMMENDATIONS.

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**CITY OF HOLTVILLE**

SANITARY SEWER DROP MANHOLE  
GENERAL NOTES

PREPARED BY:  
*[Signature]*  
JAMES G. "JACK" HOLT  
R.C.E. NO. 31773  
EXP. DATE: 12-31-06

SHEET NO.  
**SS 111B**

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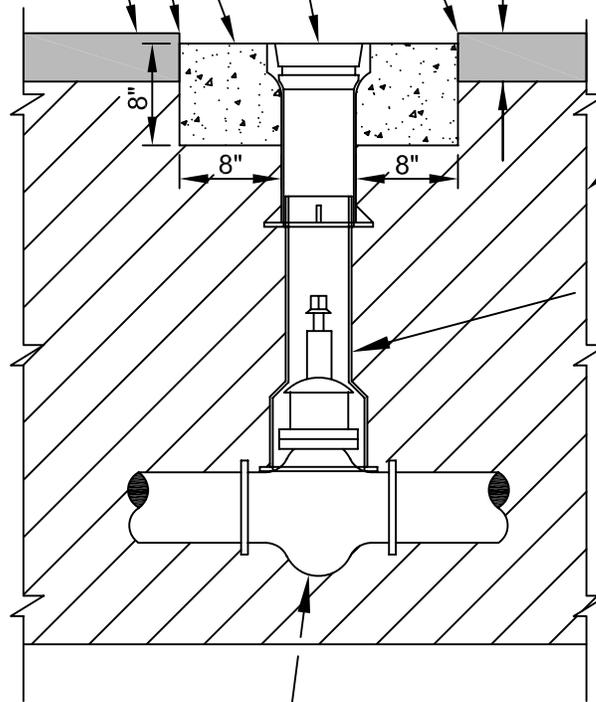


SCALE: NTS      DATE: 3-15-05      PROJECT NO. THG 116.155E

INSTALL 8 INCH WIDE, 8 INCH DEEP P.C.C. CONCRETE RING CONCENTRIC WITH THE EXTERIOR OF THE VALVE RISER.

INSTALL NEW VALVE EXTENSION RISER AND COVER STAMPED SEWER FLUSH WITH NEW PAVEMENT SURFACE.

NEW A.C. PAVEMENT  
 $T=3/8"$   
 $T=3/8"$   
 DEPTH PER PLAN

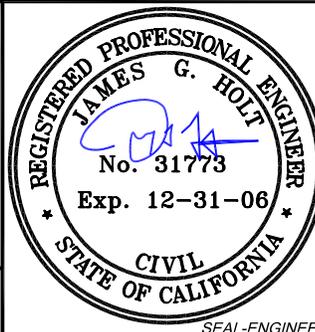


BACKFILL PER PIPE TRENCH DETAILS AND TECHNICAL SPECIFICATION.

INSTALL CAST IRON STAR PIPE PRODUCTS VALVE EXTENSION RISER No. 562-A, No. 564-A or No. 664-A (AS APPLICABLE) AND CAST IRON COVER STAMPED "SEWER". APPLY TWO (2) COATS OF GREEN METALLIC PAINT TO CAST IRON COVER.

D.I. EPOXY COATED RESILIENT WEDGE GATE VALVE.

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CITY OF HOLTVILLE

TYPICAL SANITARY SEWER  
 FORCEMAIN GATE VALVE AND RISER

PREPARED BY:

*James G. Holt*  
 JAMES G. "JACK" HOLT

R.C.E. NO. 31773  
 EXP. DATE: 12-31-06

SHEET NO.

SS 112

SCALE:  
 NTS

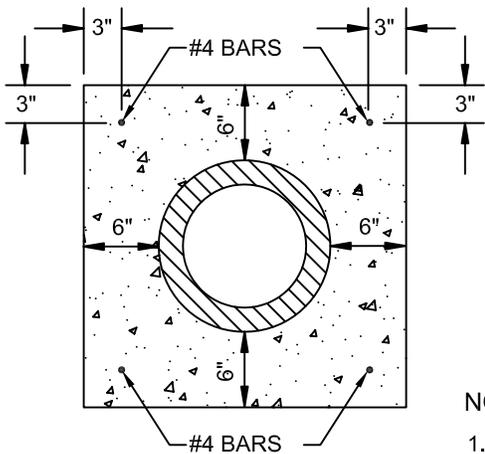
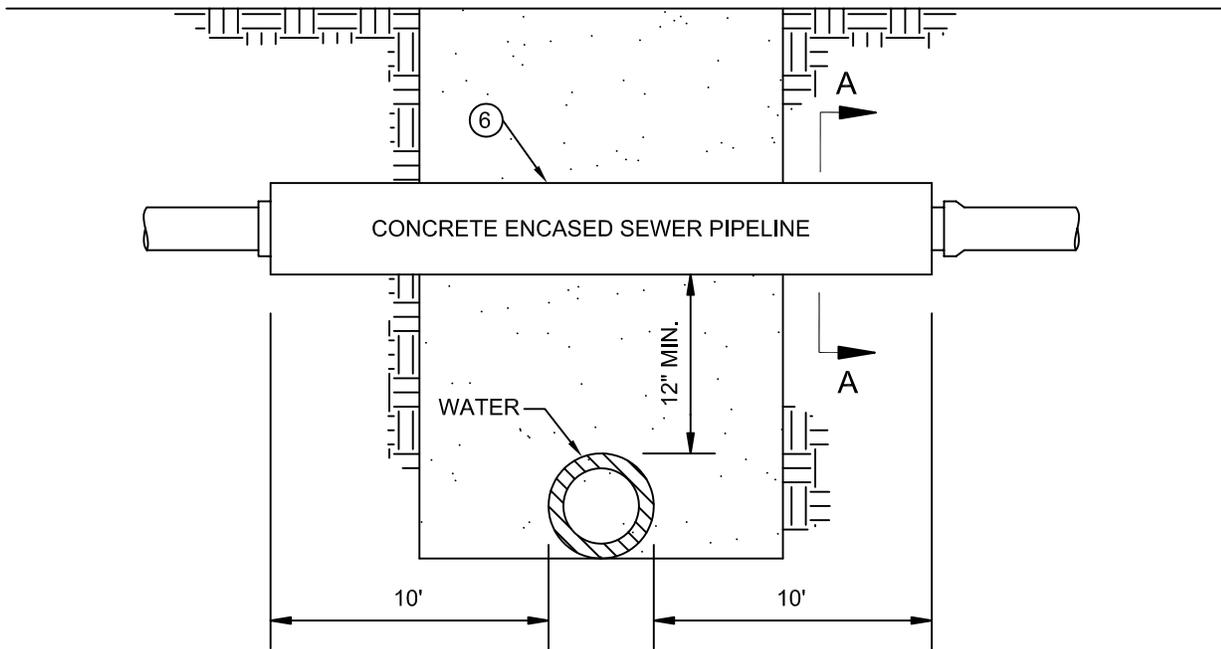
DATE:  
 3-15-05

PROJECT NO.  
 THG 116.155E

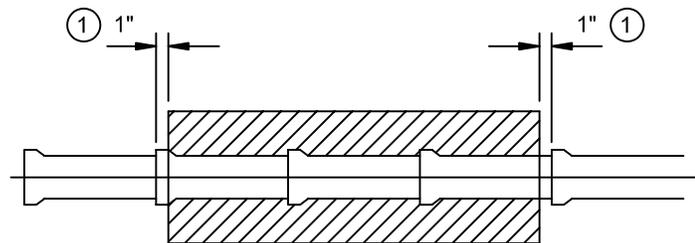
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**SECTION A-A**



**PLAN**

**NOTES:**

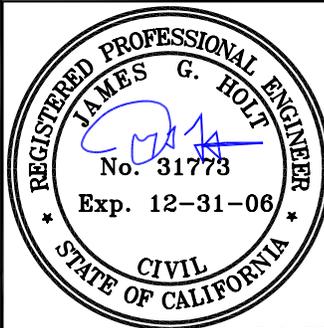
1. EXTEND BOTH ENDS OF CRADLE OR ENCASEMENT TO A POINT ONE INCH SHORT OF FIRST PIPE JOINT BEYOND LOCATIONS SPECIFIED ON PLAN.
2. APPLY FORM OIL, THIN PLASTIC SHEET, OR OTHER ACCEPTABLE MATERIAL TO PIPE TO PREVENT BOND BETWEEN PIPE AND CONCRETE.
3. ALL CONCRETE SHALL BE CLASS "3" CONCRETE WHICH SHALL ATTAIN A 28-DAY COMPRESSIVE STRENGTH OF 4500 PSI IN ACCORDANCE WITH ASTM C39/C39M-99.
4. SEE FOLLOWING DETAILS FOR WATER AND SEWER CROSSING REQUIREMENTS.
5. EXPANSION JOINTS MUST BE PLACED AT 20' INTERVALS, AT THE PIPE JOINT ON CONTINUOUS ENCASEMENT OR CRADLE.
6. DR-14 PVC C-900, 12" AND SMALLER; DR-14 PVC C-905, 14" OR LARGER MAY BE USED IN LIEU OF CONCRETE ENCASEMENT.

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**CITY OF HOLTVILLE**

**SEWER AND WATER  
CROSSINGS**

PREPARED BY:

*[Signature]*  
**JAMES G. "JACK" HOLT**

R.C.E. NO. 31773  
EXP. DATE: 12-31-06

SHEET NO.

**SS 113**

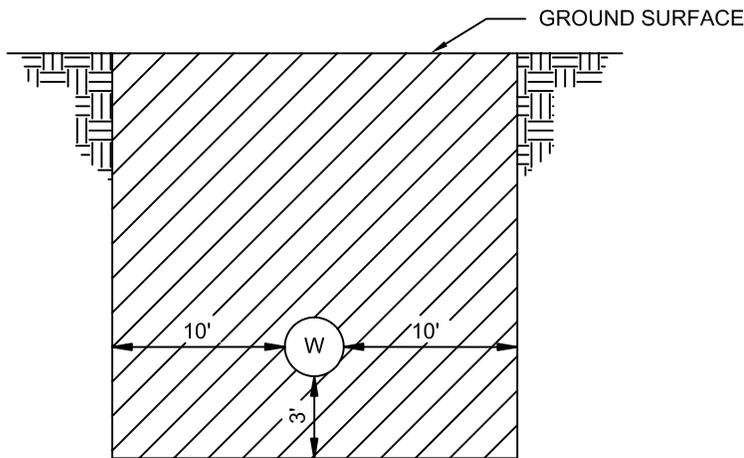
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DATE: 3-15-05

PROJECT NO. THG 116.155E



**CROSSING**  
SANITARY SEWER  
AND WATER LINE



SEWER PIPELINES NOT ALLOWED IN THIS AREA



WATER MAINS NOT ALLOWED IN THIS AREA



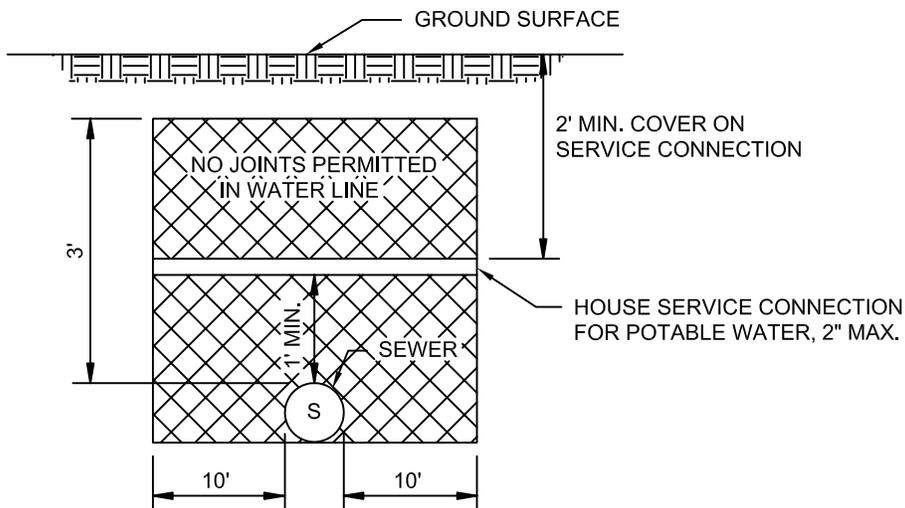
INDICATES PRESSURE WATERMAIN FOR POTABLE WATER



INDICATES SANITARY SEWER PIPELINE

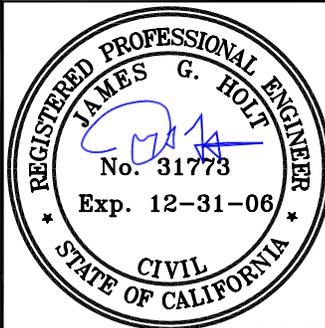
NOTE:  
DIMENSIONS ARE FROM OUTSIDE  
OF PIPE TO OUTSIDE OF PIPE.

**INDEX**



**CROSSING**  
HOUSE SERVICE CONNECTION  
FOR POTABLE WATER

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**CITY OF HOLTVILLE**

SEPARATION REQUIREMENTS FOR  
SEWER AND WATER CROSSINGS

PREPARED BY:

*James G. Holt*  
JAMES G. "JACK" HOLT

R.C.E. NO. 31773  
EXP. DATE: 12-31-06

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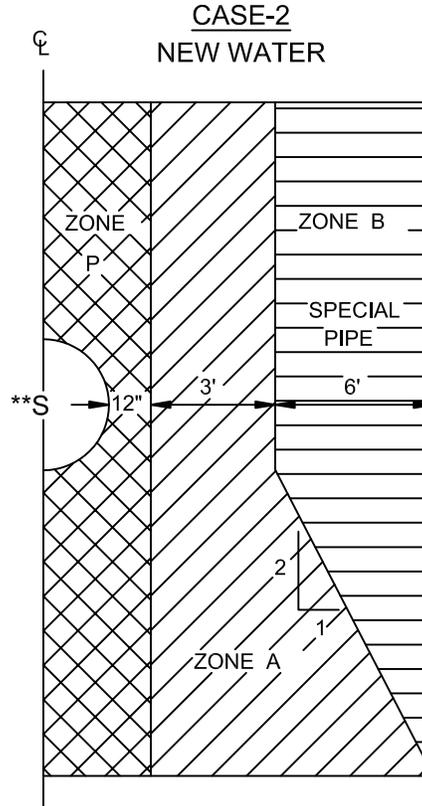
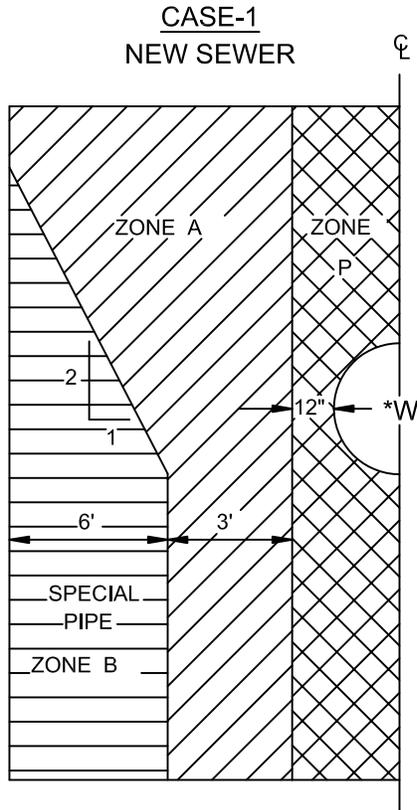
SS 114

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ENGINEERING • PLANNING • SURVEYING

SCALE:  
NTS

DATE:  
3-15-05

PROJECT NO.  
THG 116.155E



\*W = EXISTING WATER LINE

\*\*S = EXISTING SEWER LINE

**CASE 1 - NEW SEWER**

ZONE	SPECIAL CONSTRUCTION
P	CONSTRUCTION PROHIBITED
A	CONSTRUCTION PROHIBITED
B	1. VCP, TYPE "G" JOINT 2. PVC-AWWA C-900, CL 200 OR AWWA C-905 DR-14

**CASE 2 - NEW WATER**

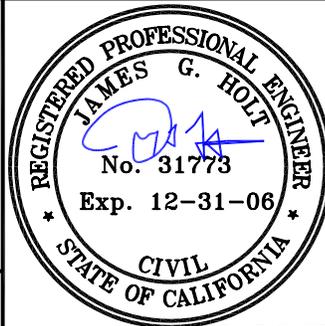
ZONE	SPECIAL CONSTRUCTION
P	CONSTRUCTION PROHIBITED
A	CONSTRUCTION PROHIBITED
B	1. CLASS 52 DUCTILE IRON PIPE (CEMENT MORTAR LINED) 2. PVC - AWWA C-900, CLASS 200 OR AWWA C-905, DR-14

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**CITY OF HOLTVILLE**

SEPARATION AND CONSTRUCTION  
REQUIREMENTS FOR SEWER AND WATER  
LINES (PARALLEL CONSTRUCTION)

PREPARED BY:  
  
JAMES G. "JACK" HOLT  
R.C.E. NO. 31773  
EXP. DATE: 12-31-06

SHEET NO.

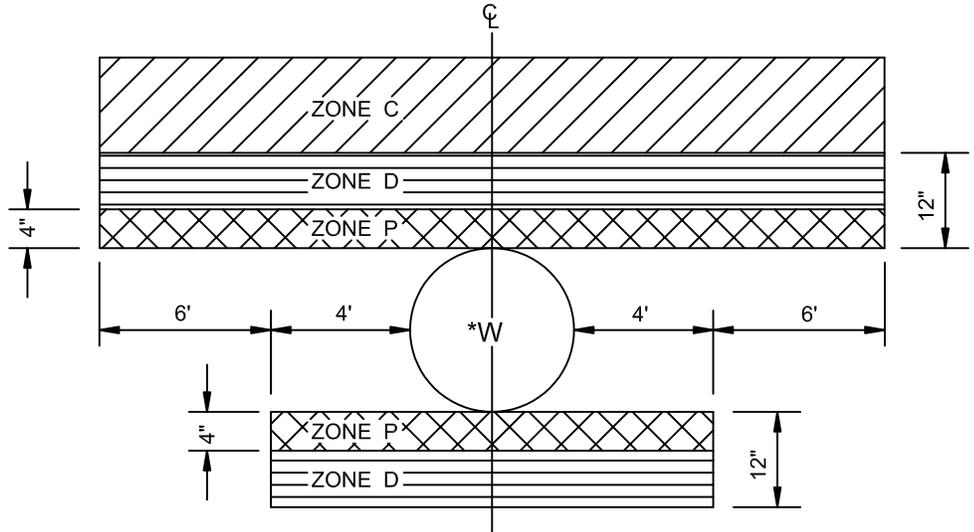
**SS 115**

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SCALE: NTS      DATE: 3-15-05      PROJECT NO. THG 116.155E

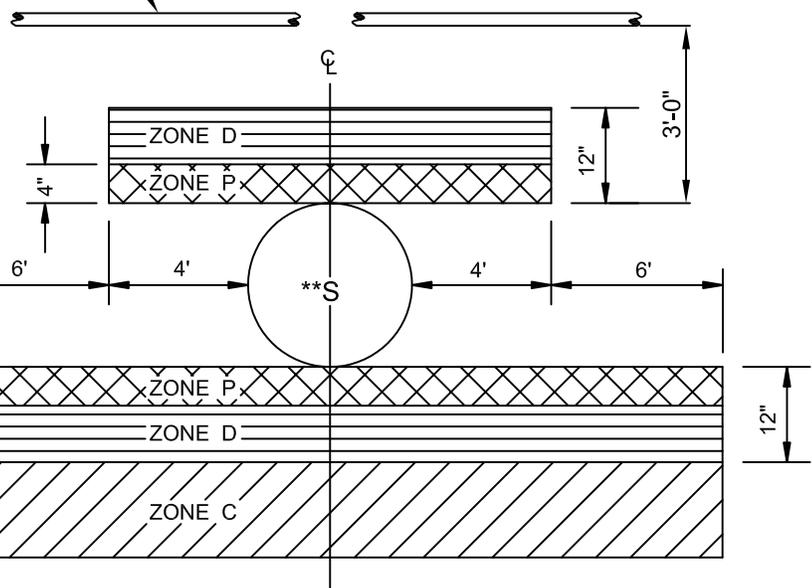
CASE 1 - NEW SEWER

- | ZONE | SPECIAL CONSTRUCTION  |
|------|---|
| P    | CONSTRUCTION PROHIBITED   |
| D    | CONSTRUCTION PROHIBITED   |
| C    | 1. PVC - AWWA C-900, CLASS 200 OR AWWA C-905, DR-14<br>2. DUCTILE IRON PIPE IN 1/4" STEEL SLEEVE, WELDED JOINTS |
- NEW PIPE TO BE CENTERED OVER PIPE BEING INSTALLED



CASE-1  
NEW SEWER  
\*W= EXISTING WATER

NEW WATER SERVICE PIPELINE.



CASE-2&3  
NEW WATER/WATER SERVICE  
\*\*S= EXISTING SEWER

CASE 2 - NEW WATER

- | ZONE | SPECIAL CONSTRUCTION  |
|------|---|
| P    | CONSTRUCTION PROHIBITED   |
| D    | CONSTRUCTION PROHIBITED   |
| C    | 1. DUCTILE IRON PIPE (CEMENT MORTAR LINED)<br>2. PVC - AWWA C-900, CLASS 200 OR AWWA C-905, DR-14 |
- NEW PIPE TO BE CENTERED OVER PIPE BEING INSTALLED

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CITY OF HOLTVILLE

SEPARATION AND CONSTRUCTION  
REQUIREMENTS FOR SEWER AND  
WATER LINES (CROSSING)

PREPARED BY:

*[Signature]*  
JAMES G. "JACK" HOLT

R.C.E. NO. 31773  
EXP. DATE: 12-31-06

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SCALE: NTS

DATE: 3-15-05

PROJECT NO. THG 116.155E