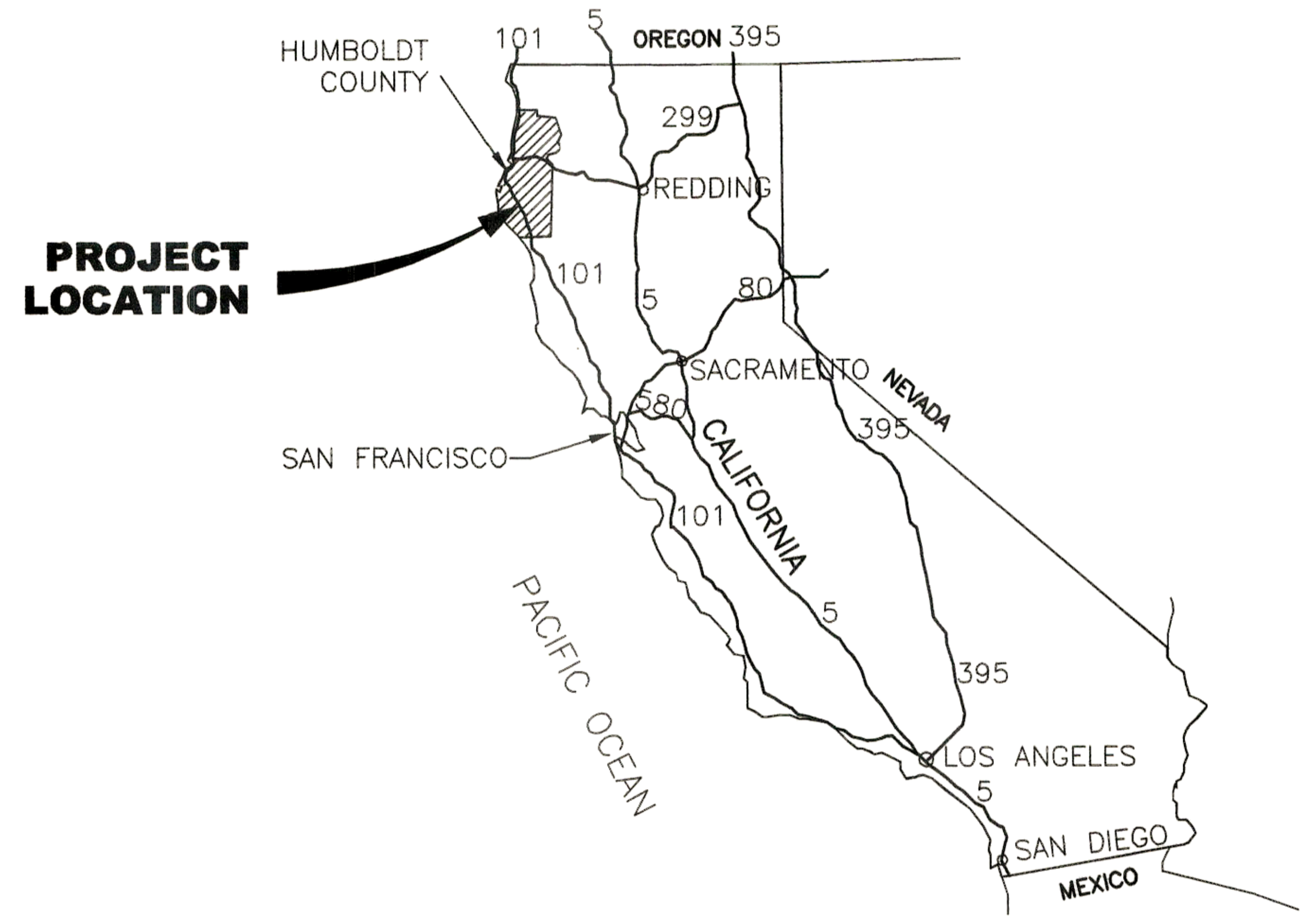
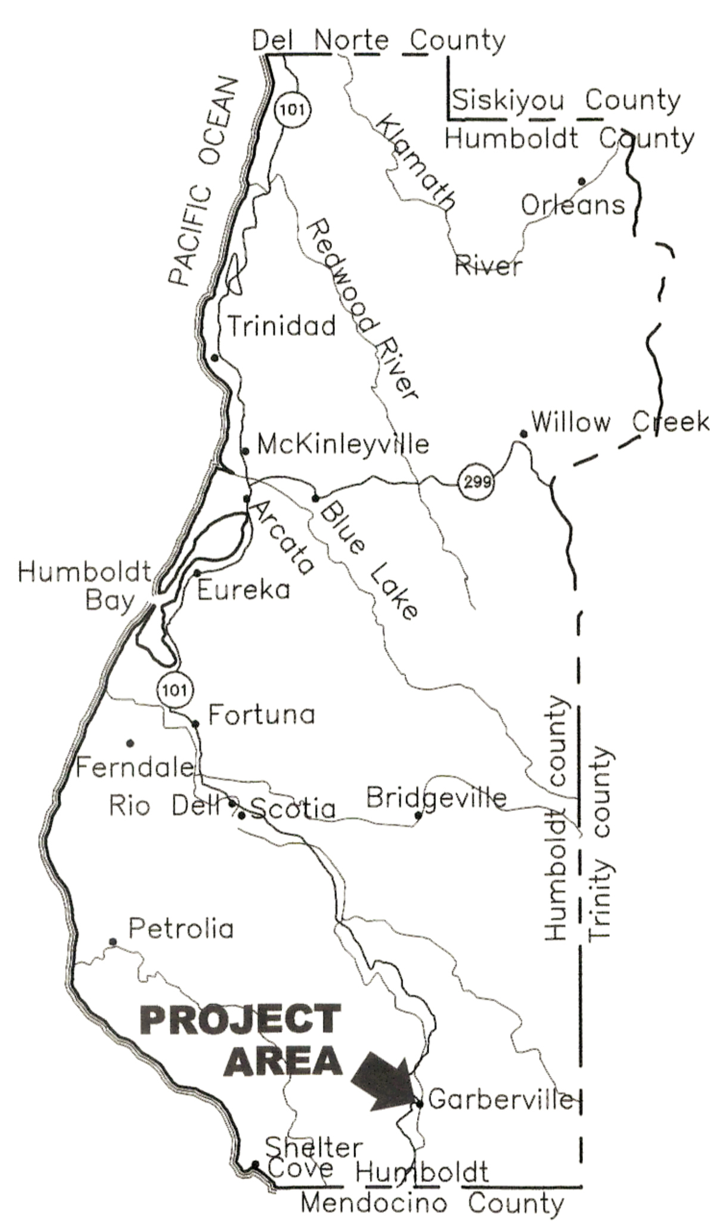
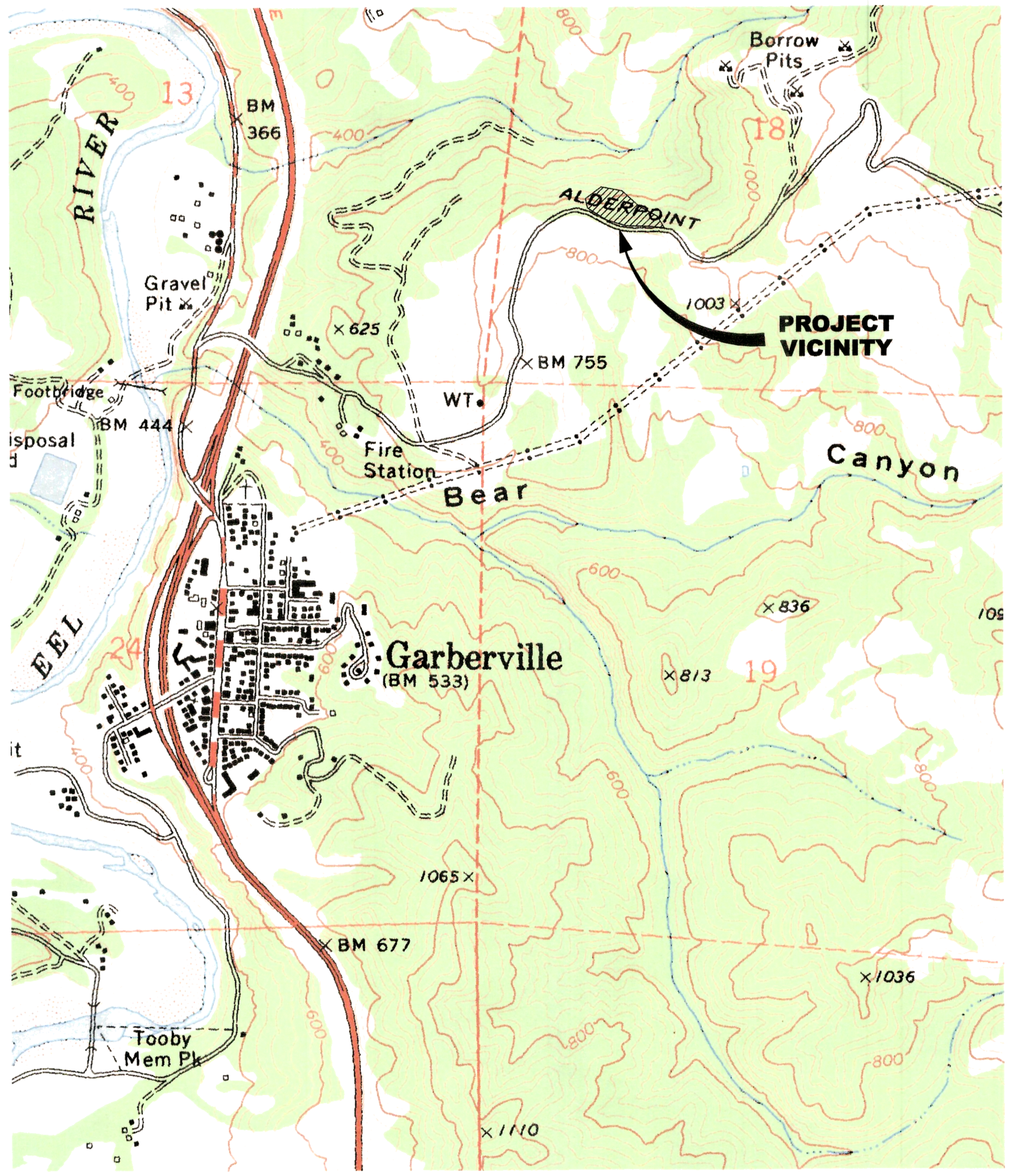
GARBERVILLE SANITARY DISTRICT
ALDERPOINT ROAD TANK REPLACEMENT
GARBERVILLE, CALIFORNIA



LOCATION MAP
N.T.S.



AREA MAP
N.T.S.



VICINITY MAP
1"=1000'

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1"

GRAPHIC SCALE MEASURES 1 INCH ON FULL-SIZE PLANS.

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GARBERVILLE SANITARY DISTRICT
ALDERPOINT ROAD TANK REPLACEMENT
TITLE SHEET

GARBERVILLE SANITARY DISTRICT
GARBERVILLE, CA

DRAWN	JDB
CHECK	ACS
APPROVED	DTN
DATE	12/17/14
JOB NUMBER	7714.02
SHEET	G0.1

ABBREVIATIONS

A

AB – AGGREGATE BASE
ABON – ABANDONED
AC – ASPHALT CONCRETE
ACP – ASBESTOS CEMENT PIPE
ACI – AMERICAN CONCRETE INSTITUTE
AG – AGGREGATE
APPROX – APPROXIMATELY
ASTM – AMERICAN SOCIETY FOR TESTING & MATERIALS
@ – AT

B

BC – BEGIN CURVE
BCR – BEGIN CURB RETURN
BF – BLIND FLANGE
BFV – BUTTERFLY VALVE
BLDG – BUILDING
BM – BENCH MARK
BOT – BOTTOM
BRG – BEARING
BTWN – BETWEEN
BVC – BEGINNING OF VERTICAL CURVE
BW – BOTTOM OF WALL

C

CATV – CABLE TELEVISION
CB – CATCH BASIN
CEIL – CEILING
CFM – CUBIC FEET PER MINUTE
CI – CAST IRON
CIP – CAST IRON PIPE
C.I.P. – CAST–IN–PLACE
CJ – CONSTRUCTION JOINT
CL, ℄ – CENTERLINE
CLR – CLEAR
CMP – CORRUGATED METAL PIPE
CMU – CONCRETE MASONRY UNIT
CO – CLEANOUT
CONC – CONCRETE
CONT – CONTINUOUS
COORD – COORDINATE
CPLG – COUPLING
CTR – CENTER
CU FT – CUBIC FEET
CV – CHECK VALVE
CW – COLD WATER
CY – CUBIC YARD

D

° – DEGREE (ANGLE)
d – PENNY (NAIL SIZE)
DBL – DOUBLE
DI – DRAINAGE INLET
DIA – DIAMETER
DIAG – DIAGONAL
DIM – DIMENSION
DIP – DUCTILE IRON PIPE
DRWY – DRIVEWAY
DWG – DRAWING

E

<E> – EXISTING
EA – EACH
EC – END CURVE
ECR – END CURB RETURN
EF – EACH FACE
EL – ELBOW
ELEC – ELECTRIC OR ELECTRICAL
ELEV – ELEVATION
ENGR – ENGINEER
EP – EDGE OF PAVEMENT
EQ – EQUAL
EQUIP – EQUIPMENT
EVC – END OF VERTICAL CURVE
EW – EACH WAY
EXC – EXCAVATE
EXP JT – EXPANSION JOINT
EXT – EXTERIOR

F

FC – FACE OF CURB
FF – FINISHED FLOOR
FG – FINISHED GRADE
FH – FIRE HYDRANT
FIN – FINISH
FL, ℄ – FLOW LINE
FLG – FLANGE
FLR – FLOOR
FS – FINISHED SURFACE
FT – FOOT
FT² – SQUARE FEET
FT³ – CUBIC FEET
FTG – FOOTING

G

G – GAS
GALV – GALVANIZED
GIP – GALVANIZED IRON PIPE
GPM – GALLONS PER MINUTE
GRD – GRADE
GSP – GALVANIZED STEEL PIPE
GV – GATE VALVE

H

HB – HOSE BIBB
HDR – HEADER
HP – HORSEPOWER
HORIZ – HORIZONTAL
HT – HEIGHT
HW – HOT WATER

I

ID – INSIDE DIAMETER
IN – INCH
INT – INTERIOR
INV – INVERT

J

JT – JOINT
JP – JOINT POLE

K

KIP – THOUSAND POUNDS
KW – KILOWATT

L

∠ – ANGLE (DEGREES)
LB – POUND
LF – LINEAR FEET
LG – LONG
LT – LEFT

M

MATL – MATERIAL
MAX – MAXIMUM
MECH – MECHANICAL
MFR – MANUFACTURER
MH – MANHOLE
MIN – MINIMUM
MISC – MISCELLANEOUS
MJ – MECHANICAL JOINT
MTL – METAL

N

<N> – NEW
NA – NOT APPLICABLE
NC – NORMALLY CLOSED
NIC – NOT IN CONTRACT
NO. – NUMBER
NO – NORMALLY OPEN
NPT – NATIONAL PIPE THREAD
NTS – NOT TO SCALE
– NUMBER

O

OC – ON CENTER
OD – OUTSIDE DIAMETER
OG – ORIGINAL GROUND
OHE – OVERHEAD ELECTRIC
OS&Y – OUTSIDE SCREW AND YOKE
OZ – OUNCE
OVHD – OVERHEAD

P

PB – PULL BOX
PCC – POINT OF COMPOUND CURVATURE
PCF – POUNDS PER CUBIC FOOT
PE – PLAIN END
PERF – PERFORATED
PEP – POLYETHYLENE PIPE
PL, ℄ – PROPERTY LINE
PLYWD – PLYWOOD
POC – POINT ON CURVE
PP – POWER POLE
PRC – POINT OF REVERSE CURVATURE
PREFAB – PREFABRICATED
PSF – POUNDS PER SQUARE FOOT
PSI – POUNDS PER SQUARE INCH
PSIG – POUNDS PER SQUARE INCH GAUGE
PV – PLUG VALVE
PVC – POLYVINYL CHLORIDE PLASTIC
PVI – POINT OF VERTICAL INTERSECTION
PVMT – PAVEMENT
PVT – PRIVATE

Q

QTY – QUANTITY

R

R – RADIUS
RC – RELATIVE COMPACTION
RCP – REINFORCED CONCRETE PIPE
RD – ROAD
RDCR – REDUCER
RDWD – REDWOOD
REQD – REQUIRED
RM – ROOM
RMJ – RESTRAINED MECHANICAL JOINT
RSP – ROCK SLOPE PROTECTION
RT – RIGHT
R/W – RIGHT–OF–WAY

S

SL – SLOPE
SCHED – SCHEDULE
SD – STORM DRAIN
SDMH – STORM DRAIN MAN HOLE
SECT – SECTION
SHT – SHEET
SIM – SIMILAR
SPEC – SPECIFICATIONS
SQ – SQUARE
SQ FT – SQUARE FOOT
SQ IN – SQUARE INCH
SS – SANITARY SEWER
SSMH – SEWER SYSTEM MAN HOLE
STA – STATION
STD – STANDARD
STL – STEEL
SW – SIDEWALK
SYMM – SYMMETRICAL

T

T – TELEPHONE
TAN – TANGENT
T&B – TOP AND BOTTOM
T&G – TONGUE AND GROOVE
TBM – TEMPORARY BENCH MARK
TC – TOP OF CURB
TELEM – TELEMETRY
TEMP – TEMPERATURE OR TEMPORARY
THD – THREAD
TOC – TOP OF CONCRETE
TOG – TOP OF GRATE
TOF – TOP OF FOOTING
TOW – TOP OF WALL
TP – TOP OF PAVEMENT OR TELEPHONE POLE
<TYP> – TYPICAL

U

UBC – UNIFORM BUILDING CODE
UOS – UNLESS OTHERWISE SPECIFIED
UG – UNDERGROUND
UTIL – UTILITY
UP – UTILITY POLE

V

V – VOLT
VC – VERTICAL CURVE
VCP – VITRIFIED CLAY PIPE
VERT – VERTICAL
VPI – VERTICAL POINT OF INTERSECTION

W

WM – WATER METER
WV – WATER VALVE

X

XFMR – TRANSFORMER

Y

YD – YARD
YD² – SQUARE YARD
YD³ – CUBIC YARD

NOTES:

1. CONTACT THE ENGINEER FOR SYMBOLS NOT LISTED.
2. THIS IS A STANDARD SHEET, THEREFORE SOME SYMBOLS OR ABBREVIATIONS MAY APPEAR ON THIS SHEET WHICH DO NOT APPEAR ON THE PLANS.
3. SITE AND UTILITY SYMBOLS SHOWN ON THIS SHEET ARE NOT INTENDED TO REPRESENT THE PHYSICAL SCALE OR SHAPE OF ANY ITEMS. WHERE LARGE–SCALE PLANS ARE PRESENTED, THE SYMBOLS SHOWN HEREON MAY BE REPLACED BY DETAILS MORE SUITED TO THE DRAWING SCALE.

UTILITIES LEGEND

PROPOSED / EXISTING

GATE VALVE
PLUG VALVE
BALL VALVE
BUTTERFLY VALVE
AUTOMATICALLY OPERATED VALVE (P= PNEUMATIC, E= ELECTRIC, S= SOLENOID, H=HYDRAULIC. D= DIAPHRAGM ACTUATOR)
3–WAY VALVE
GLOBE VALVE
ANGLE VALVE
ALTITUDE VALVE
PRESSURE RELIEF VALVE
CHECK VALVE
AIR OR VACUUM RELEASE VALVE
AIR AND VACUUM VALVE
COMBINATION AIR VALVE
FLOW METER
HOSE BIBB (NF=NON–FREEZE)
REDUCER
FIRE HYDRANT
DROP INLET
MANHOLE
CLEANOUT
UNDERGROUND ELECTRICAL
OVERHEAD ELECTRICAL
CABLE TELEVISION
JOINT UTILITIES
UNDERGROUND TELEMETRY LINE
OVERHEAD TELEMETRY LINE
UNDERGROUND TELEPHONE LINE
OVERHEAD TELEPHONE LINE
WATER LINE
SANITARY SEWER LINE
STORM DRAIN LINE
GAS LINE
FORCE MAIN AND DIRECTION OF FLOW

SIZE AND MATERIAL OF EXISTING PIPING MAY BE SHOWN WHEN KNOWN.

SIZE AND MATERIAL OF NEW PIPING MAY BE SHOWN ON PLAN OR IN PROFILE.

CULVERT
POLE MOUNTED STREETLIGHT
NOT USED — ITEM TO BE REMOVED
NOT USED — ITEM TO BE ABANDONED IN PLACE
WATER METER
PULL BOX AND DESIGNATION
SIGN AND DESIGNATION
MAIL BOX

CURVE DATA

R (RADIUS)
L (LENGTH)
Δ (DELTA)
T (TANGENT)

LINE DESIGNATION

2.0 — INDICATES LINE DESIGNATION
12 — INDICATES SHEET WHERE CONTINUATION OCCURS (REPLACED BY A LINE IF OCCURS ON SAME SHEET)

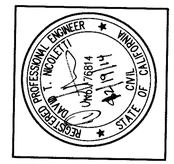
TOPOGRAPHIC LEGEND

PROPOSED / EXISTING

P.V.I. (POINT OF VERTICAL INTERSECTION)
NOT USED — TEMPORARY BENCH MARK
NOT USED — BENCH MARK
47.55 — NOT USED — FINISH GRADE ELEVATION
NOT USED — 42.6+ — ELEVATION OF ORIGINAL GROUND
RADIUS POINT
FLOW LINE AND DIRECTION
TOP OF CUT
TOP OF FILL
TOE OF CUT OR FILL
200 — 180 — CONTOUR LINE
CONCRETE
PAVEMENT
NOT USED — ROCKS
NOT USED — STUMPS
TREES
ROADS
JP — UTILITY POLE (PP=POWER POLE, TP= TEL POLE, JP=JOINT POLE, LP=LIGHT POLE)
GUY WIRE
X — FENCE
℄ — BOUNDARY LIMITS, W/DESIGNATION
EASEMENT LINE
CENTERLINE
NOT USED — MARSH
LAWN
NOT USED — SPRING
TP–4 — TEST PIT AND DESIGNATION
EXPLORATION BORE HOLE
PROPERTY CORNER
SURVEY MONUMENT
CONTROL POINT
DRIVEWAY

DETAIL AND SECTION DESIGNATION

SECTION (LETTER) OR DETAIL (NUMERAL) DESIGNATION
INDICATES SECTION OR DETAIL TAKEN AND SHOWN ON SAME SHEET
ON DRAWING WHERE SECTION OR DETAIL IS TAKEN; SHEET NUMBER WHERE SHOWN
ON DRAWING WHERE SECTION OR DETAIL IS SHOWN; SHEET NUMBER WHERE TAKEN
STANDARD DETAIL NUMBER (DETAIL MAY BE SHOWN ON ANY SHEET WITHIN THE DRAWING SET)



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GARBERVILLE SANITARY DISTRICT
ALDERPOINT ROAD TANK REPLACEMENT
ABBREVIATION AND LEGEND

GARBERVILLE SANITARY DISTRICT
GARBERVILLE, CA

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GENERAL NOTES:

1. ALL CONSTRUCTION SHALL CONFORM TO THESE PLANS AND THE FOLLOWING STANDARDS:
   - A. COUNTY OF HUMBOLDT IMPROVEMENT STANDARDS AND SPECIFICATIONS (LATEST REVISIONS)
   - B. CALIFORNIA BUILDING CODE (CBC) (LATEST REVISIONS)
   - C. AMERICAN PUBLIC WORKS ASSOCIATION (APWA) "STANDARD SPECIFICATION FOR PUBLIC WORKS CONSTRUCTION (GREEN BOOK)", (LATEST REVISIONS)
   - D. CALIFORNIA STATE DEPARTMENT OF TRANSPORTATION (CALTRANS) STANDARD SPECIFICATIONS AND STANDARD PLANS (LATEST REVISIONS)
   - E. AMERICAN WATER WORKS ASSOCIATION (AWWA) (LATEST REVISIONS)
2. THE ENGINEER PREPARING THESE PLANS SHALL NOT BE RESPONSIBLE NOR LIABLE FOR ANY UNAUTHORIZED CHANGES TO, OR USES OF THESE PLANS. ALL CHANGES TO THE PLANS MUST BE IN WRITING AND MUST BE APPROVED BY THE ENGINEER.
3. THE CONTRACTOR SHALL AGREE TO DEFEND, INDEMNIFY, AND HOLD THE DESIGN PROFESSIONALS 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 THE DESIGN PROFESSIONAL.
4. LOCATIONS AND ELEVATIONS OF EXISTING UNDERGROUND UTILITIES SHOWN HEREON ARE FROM RECORD INFORMATION ONLY AND ARE SHOWN FOR INFORMATION ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL UNDERGROUND UTILITIES PRIOR TO EXCAVATION AND CONSTRUCTION IN ANY AREA. CONTRACTOR SHALL CONTACT UNDERGROUND SERVICE ALERT (USA) AT 1-800-227-2600 A MINIMUM OF 48 HOURS IN ADVANCE OF ANY EXCAVATION. CONTRACTOR SHALL IMMEDIATELY REPORT ANY DISCREPANCIES IN RECORD INFORMATION TO THE ENGINEER OF RECORD PRIOR TO CONSTRUCTION OF ANY WORK. CONTRACTOR TO REQUEST THAT THE OWNER MARK UTILITIES 48 HOURS IN ADVANCE OF ANY EXCAVATION.
5. THE CONTRACTOR SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR THE JOB SITE CONDITIONS DURING THE COURSE OF PROJECT CONSTRUCTION, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND IS NOT LIMITED TO NORMAL WORKING HOURS.
6. THE CONTRACTOR SHALL NOT START ANY CONSTRUCTION UNTIL AFTER THE PRE-CONSTRUCTION MEETING.
7. IT IS THE CONTRACTOR'S AND SUBCONTRACTOR'S RESPONSIBILITY TO COMPLY WITH THE PERTINENT SECTIONS OF THE "CONSTRUCTION SAFETY ORDERS", MOST CURRENT REVISION, ISSUED BY THE STATE OF CALIFORNIA, AND ALL OSHA REQUIREMENTS AS THEY APPLY TO THIS PROJECT. THE DESIGN, ADEQUACY AND SAFETY OF ERECTION BRACING, SHORING, TEMPORARY SUPPORTS ETC., IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR, AND HAS NOT BEEN CONSIDERED BY THE ENGINEER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADEQUATE DESIGN AND CONSTRUCTION OF ALL FORMS AND SHORING REQUIRED.
8. CONTRACTOR SHALL PROTECT ALL EXISTING IMPROVEMENTS ON OR ADJACENT TO PROJECT SITE. CONTRACTOR SHALL REPAIR OR REPLACE ALL DAMAGE TO EXISTING IMPROVEMENTS TO THE SATISFACTION OF THE ENGINEER/OWNER.
9. CONTRACTOR SHALL VERIFY CONDITIONS AND DIMENSIONS AT THE SITE BEFORE STARTING WORK AND IMMEDIATELY NOTIFY THE ENGINEER IF ANY CONDITIONS OR DIMENSIONS ARE UNUSUAL OR NOT AS SHOWN ON THESE PLANS.
10. DO NOT USE SCALED DIMENSIONS, USE WRITTEN DIMENSIONS. WHERE NO DIMENSIONS ARE SHOWN, CONSULT ENGINEER FOR CLARIFICATION BEFORE PROCEEDING WITH THE WORK.
11. DETAILS OF CONSTRUCTION NOT FULLY SHOWN SHALL BE OF THE SAME NATURE AS SHOWN FOR SIMILAR CONDITIONS.
12. CONTRACTOR SHALL PROVIDE MARKED UP DRAWINGS SHOWING "RECORD DRAWING" CONDITIONS FOR ALL DEVIATIONS FROM THE PLANS AS SHOWN HEREON, UPON COMPLETION OF CONSTRUCTION, AND PRIOR TO RELEASE OF FINAL PAYMENT.
13. UTILITIES REQUIRED FOR CONSTRUCTION WILL BE THE RESPONSIBILITY OF THE CONTRACTOR EXCEPT AS NOTED IN THE SPECIFICATONS.
14. CONTRACTOR SHALL COORDINATE WITH ENGINEER FOR SETTING CURB AND HORIZONTAL AND VERTICAL CONTROL STAKES. THE ENGINEER WILL PROVIDE ONE SET OF STAKES. CONTRACTOR SHALL PROTECT ALL STAKES, ANY RESTAKING REQUIRED DUE TO LOST OR DAMAGED STAKES WILL BE AT THE EXPENSE OF THE CONTRACTOR.
15. CONTRACTOR SHALL REMOVE ALL DELETERIOUS MATERIAL FROM SITE GENERATED DURING CONSTRUCTION INCLUDING BUT NOT LIMITED TO BROKEN CONCRETE, STUMPS, ROCKS, DEBRIS, ASPHALT RUBBLE, AND GARBAGE, AND LEGALLY DISPOSE OF THE ABOVE.
16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADEQUATE DESIGN AND CONSTRUCTION OF ALL FORMS AND SHORING.
17. TRENCH SHORING SHALL BE IN ACCORDANCE WITH THE CAL-OSHA CONSTRUCTION SAFETY ORDERS, LATEST REVISION, WHERE REQUIRED. CONTRACTOR TO OBTAIN A TRENCHING PERMIT FOR EXCAVATIONS DEEPER THAN 5 FEET.
18. CONTRACTOR SHALL NOTIFY ENGINEER A MINIMUM OF 48 HOURS IN ADVANCE OF QUALITY CONTROL INSPECTION TESTING.
19. THE CONTRACTOR SHALL COORDINATE WORK WITH THE GARBERVILLE SANITARY DISTRICT.

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20. ALL APPLICABLE PERMITS SHALL BE PAID BY THE CONTRACTOR BEFORE CONSTRUCTION UNLESS SPECIFICATIONS NOTE OTHERWISE.
21. CONTRACTOR SHALL ALLOW OWNER, ENGINEER, STATE OR COUNTY INSPECTORS ACCESS TO THE SITE AT ALL TIMES.

GRADING NOTES:

1. INSPECTIONS AND TESTING:
   - A. ALL SITE GRADING, FILLING, AND BACKFILLING WILL BE INSPECTED BY THE ENGINEER OR HIS/HER REPRESENTATIVE.
   - B. THE ENGINEER WILL MAKE ALL COMPACTION TESTS WHEN ADVISED BY THE CONTRACTOR THAT IN THE CONTRACTOR'S OPINION, SUFFICIENT DENSITIES HAVE BEEN ACHIEVED. THE CONTRACTOR SHALL FURNISH A BACKHOE AND OPERATOR UPON REQUEST, AT NO COST TO OWNER. THE CONTRACTOR SHALL GIVE THE ENGINEER AT LEAST 48 HOURS NOTICE THAT TESTS ARE REQUIRED. FAILURE TO GIVE ADEQUATE NOTICE CAN RESULT IN TESTING DELAYS WHICH WILL BE THE RESPONSIBILITY OF THE CONTRACTOR.
   - C. THE CONTRACTOR SHALL MAKE ALL NECESSARY EXCAVATIONS FOR COMPACTION TESTS. COSTS OF EXCAVATION, BACKFILLING, AND COMPACTING IN CONNECTION WITH COMPACTION TESTING SHALL BE BORNE BY THE CONTRACTOR.
   - D. A FAILED COMPACTION TEST INDICATES THAT THE REQUIRED COMPACTION STANDARDS HAVE NOT BEEN ACHIEVED. ANY FILL MATERIAL OR PORTION OF FILL MATERIAL THAT DOES NOT MEET THE SPECIFICATION REQUIREMENTS SHALL BE REMOVED AND RECOMPACTED UNTIL THE REQUIREMENTS ARE SATISFIED, AT NO ADDITIONAL COST TO THE OWNER.
   - E. EXCAVATIONS FOR COMPACTION TESTS SHALL BE BACKFILLED WITH MATERIAL SIMILAR TO THAT EXCAVATED AND COMPACTED TO THE SPECIFIED DENSITY BY THE CONTRACTOR.
   - F. ALL COSTS INVOLVED WITH ACHIEVING COMPACTION STANDARDS SHALL BE INCLUDED IN THE BID PRICES PAID FOR THE SPECIFIED BID ITEM INVOLVED AND THEREFOR NO ADDITIONAL COMPENSATION SHALL BE MADE.
2. SITE MATERIALS
   - A. MATERIAL OBTAINED FROM THE PROJECT SITE WILL BE SUITABLE FOR USE AS FILL OR BACKFILL MATERIALS UNLESS OTHERWISE SHOWN ON THESE PLANS AND PROVIDING SAID MATERIAL MEETS THE CONDITIONS AS PROVIDED HEREIN. UNSUITABLE FILL MATERIAL SHALL BE REMOVED FROM SITE AND DISPOSED OF AT AN APPROVED LOCATION. NATIVE MATERIAL USED AS BACKFILL SHALL BE FREE FROM ORGANIC MATERIAL, RUBBISH, DEBRIS, AND OTHER OBJECTIONABLE MATERIALS. HOWEVER, ROCKS, BOULDERS, BROKEN CONCRETE, AND BITUMINOUS TYPE PAVEMENT OBTAINED FROM THE PROJECT EXCAVATIONS WILL BE PERMITTED IN THE BACKFILL OF FILL WITH THE FOLLOWING LIMITATIONS:
     - a. THE MAXIMUM DIMENSION OF ANY PIECE USED SHALL BE 3 INCHES.
     - b. "NESTING" OF PIECES WILL NOT BE PERMITTED.
3. PROTECTION
   - A. PROVIDE FOR SURFACE DRAINAGE DURING THE PERIOD OF CONSTRUCTION IN A MANNER THAT AVOIDS CREATING A NUISANCE TO ADJACENT AREAS. KEEP ALL EXCAVATION FREE OF WATER DURING THE ENTIRE PROGRESS OF THE WORK, REGARDLESS OF THE CAUSE, SOURCE OR NATURE OF THE WATER. THE CONTRACTOR SHALL PREVENT EROSION OF FRESHLY GRADED AREAS DURING CONSTRUCTION UNTIL SUCH TIME AS PERMANENT DRAINAGE AND EROSION CONTROL MEASURES HAVE BEEN CONSTRUCTED.
   - B. BENCHMARKS, MONUMENTS, SIGNS, AND OTHER REFERENCE POINTS SHALL BE MAINTAINED BY THE CONTRACTOR, AS DIRECTED BY OWNER, AT NO ADDITIONAL COST TO THE OWNER.
4. COMPACTION – GENERAL
   - A. COMPACTION REQUIREMENTS AS SPECIFIED WILL BE BY PERCENT OF RELATIVE COMPACTION AS FURTHER DEFINED IN THE PROJECT TECHNICAL SPECIFICATIONS.
   - B. PLACE BACKFILL AND FILL SOIL MATERIALS IN LOOSE LIFTS OF NOT MORE THAN 8 INCHES FOR MATERIAL COMPACTED BY HEAVY COMPACTION EQUIPMENT, AND NOT MORE THAN 6 INCHES FOR MATERIAL COMPACTED BY HAND-OPERATED TAMPERS.
   - C. THE GROUND SURFACE IN AREAS TO RECEIVE FILL SHALL BE PREPARED AS FOLLOWS:
     - c. ALL ORGANIC MATERIAL AND TOPSOIL SHALL BE REMOVED.
     - d. ON SLOPES GREATER THAN 1V:4H, HORIZONTAL BENCHES SHALL BE CUT INTO THE SOIL TO PROVIDE LEVEL BEARING SURFACE FOR THE FILL MATERIAL. THE MINIMUM WIDTH OF THE BENCHES SHALL BE FOUR FEET.
   - D. CUT SLOPES SHALL NOT EXCEED 1V:2H UNLESS OTHERWISE NOTED ON PLANS.
5. TRENCH COMPACTION
   - A. COMPACTION REQUIREMENTS AS SPECIFIED WILL BE BY PERCENT OF RELATIVE COMPACTION AS FURTHER DEFINED IN THE PROJECT TECHNICAL SPECIFICATIONS.
   - B. IF TRENCH CONDITIONS ARE DIFFERENT THAN THOSE CALLED OUT IN THE CONSTRUCTION DOCUMENTS THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY.
   - C. SEE TRENCH DETAILS ON THESE PLANS FOR TRENCH COMPACTION STANDARDS.
   - D. TRENCHES WILL BE TESTED FOR COMPACTION EVERY 50-75 LINEAR FEET WITH A MINIMUM OF TWO TESTS PER ANY LENGTH OF TRENCHING. THE ENGINEER WILL BE PERMITTED TO COMPLETE TESTING AT ANY BACKFILL ELEVATION DURING THE BACKFILLING PROCESS. THE CONTRACTOR SHALL PROVIDE EQUIPMENT AND AN OPERATOR, FREE OF CHARGE, TO THE ENGINEER TO GAIN ACCESS TO BACKFILLED ELEVATIONS FOR TESTING. A FAILED COMPACTION TEST INDICATES THAT THE REQUIRED COMPACTION STANDARDS HAVE NOT BEEN ACHIEVED.
   - E. FILL MATERIALS SHALL BE MECHANICALLY COMPACTED, JETTING WILL NOT BE ALLOWED.
   - F. CARE SHALL BE TAKEN NOT TO CRUSH THE PIPE OR OTHER COMPONENTS WITH COMPACTION EQUIPMENT.
6. EARTHWORK AND GRADING SHALL BE IN ACCORDANCE WITH COUNTY GRADING ORDINANCE.
7. ALL IMPROVEMENTS SHALL BE GRADED TO DRAIN TO THE PUBLIC STREET OR APPROVED DRAINAGE COURSE AT A UNIFORM SLOPE, 1% MINIMUM, IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE PROJECT SOILS REPORT, UNLESS NOTED OTHERWISE ON THE PLANS.
8. DURING CONSTRUCTION AND UPON COMPLETION OF ALL GRADING, CONTRACTOR SHALL PROVIDE EROSION CONTROL MEASURES IN ACCORDANCE WITH THESE PLANS, THE SWPPP AND THE COUNTY GRADING ORDINANCE.

UTILITY NOTES:

1. NO. 10 COPPER SOFT DRAWN INSULATED TRACER WIRE SHALL BE INSTALLED ON ALL WATER, SEWER, AND STORM DRAIN LINES. TRACER WIRE SHALL BE TESTED FOR CONTINUITY AFTER PLACEMENT AND COMPACTION OF TRENCH BACKFILL.
2. DRAIN INLETS, JUNCTION BOXES AND VALVE BOXES SHALL BE CONSTRUCTED AND INSTALLED IN ACCORDANCE WITH THESE PLANS.

WATER SYSTEM:

1. LATERALS, AND FITTINGS, UNLESS OTHERWISE NOTED, SHALL BE STRUCTURAL PVC PIPE. WATER PIPE SHALL BE INSTALLED IN ACCORDANCE WITH THESE PLANS. VALVES, FITTINGS, AND APPURTENANCES SHALL BE AWWA APPROVED.
2. WATER MAIN AND SERVICES SHALL BE DISINFECTED AND PRESSURE TESTED PER AWWA STANDARDS. CONTRACTOR TO NOTIFY OWNER AND ENGINEER 48 HOURS BEFORE TESTING.
3. CONTRACTOR SHALL CONTACT GSD AND THE PROJECT ENGINEER 48 HOURS IN ADVANCE OF PLACEMENT OF WATER LINES.

REGISTERED PROFESSIONAL ENGINEER * T. NICOLETTI * No. 78814 * 12/19/14 * CIVIL * STATE OF CALIFORNIA

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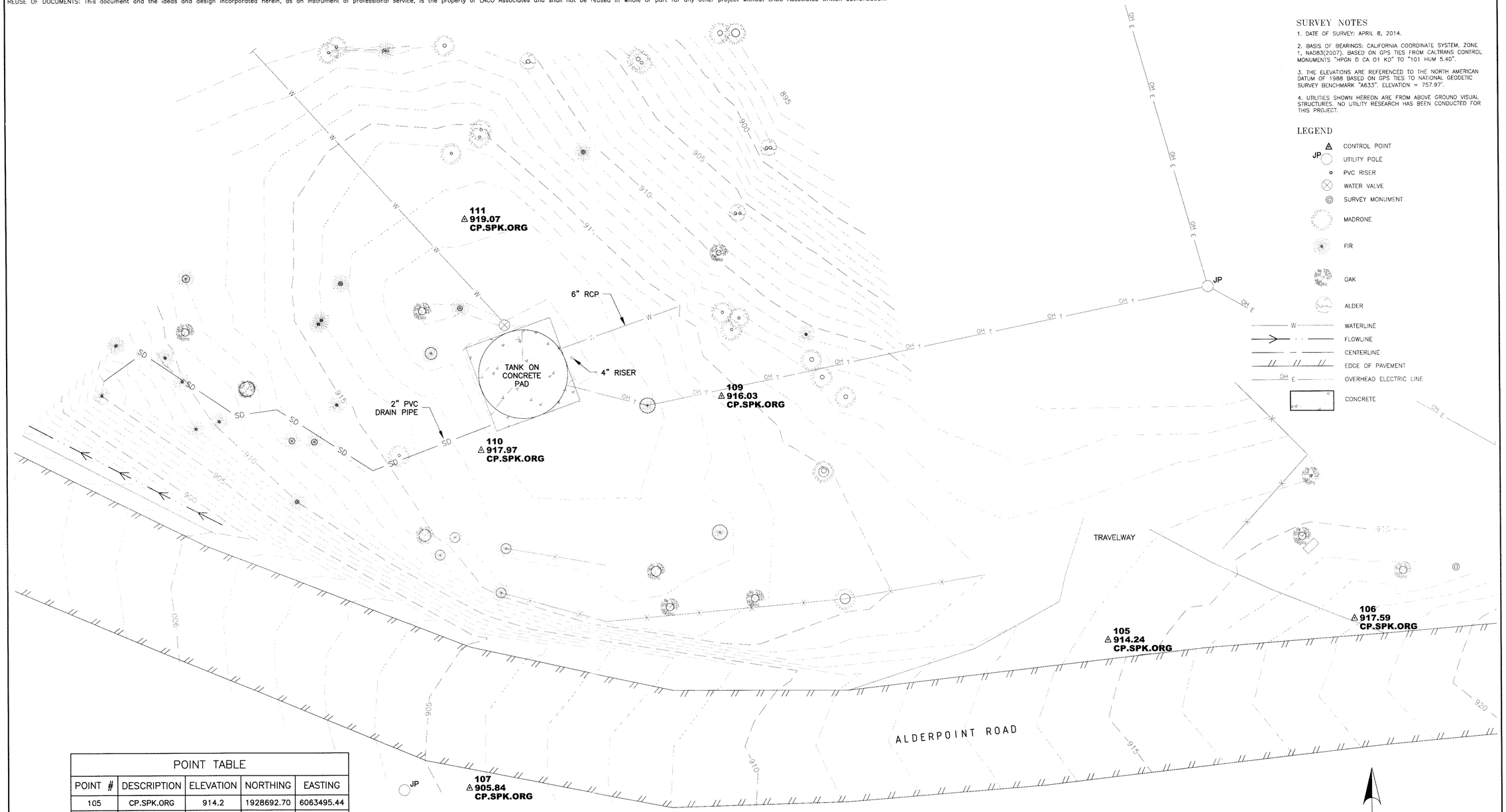
GARBERVILLE SANITARY DISTRICT
ALDERPOINT ROAD TANK REPLACEMENT
CONSTRUCTION NOTES

GARBERVILLE SANITARY DISTRICT
GARBERVILLE, CA

DRAWN	JDB
CHECK	ACS
APPROVED	DTN
DATE	12/17/14
JOB NUMBER	7714.02
SHEET	G0.3



SURVEY NOTES

1. DATE OF SURVEY: APRIL 8, 2014.

2. BASIS OF BEARINGS: CALIFORNIA COORDINATE SYSTEM, ZONE 1, NAD83(2007). BASED ON GPS TIES FROM CALTRANS CONTROL MONUMENTS "HPGN D CA 01 KD" TO "101 HUM 5.40".

3. THE ELEVATIONS ARE REFERENCED TO THE NORTH AMERICAN DATUM OF 1988 BASED ON GPS TIES TO NATIONAL GEODETIC SURVEY BENCHMARK "A633". ELEVATION = 757.97'.

4. UTILITIES SHOWN HEREON ARE FROM ABOVE GROUND VISUAL STRUCTURES. NO UTILITY RESEARCH HAS BEEN CONDUCTED FOR THIS PROJECT.

LEGEND

- CONTROL POINT
- UTILITY POLE
- PVC RISER
- WATER VALVE
- SURVEY MONUMENT
- MADRONE
- FIR
- OAK
- ALDER
- WATERLINE
- FLOWLINE
- CENTERLINE
- EDGE OF PAVEMENT
- OVERHEAD ELECTRIC LINE
- CONCRETE

POINT TABLE				
POINT #	DESCRIPTION	ELEVATION	NORTHING	EASTING
105	CP.SPK.ORG	914.2	1928692.70	6063495.44
106	CP.SPK.ORG	917.6	1928696.88	6063544.43
107	CP.SPK.ORG	905.8	1928663.55	6063368.12
109	CP.SPK.ORG	916.0	1928741.87	6063418.50
110	CP.SPK.ORG	918.0	1928731.16	6063370.79
111	CP.SPK.ORG	919.1	1928777.44	6063367.69

NOTE:

SURVEY PERFORMED ON APRIL 8, 2014. SITE WORK PERFORMED AFTER APRIL 8, 2014 IS NOT REFLECTED IN THIS TOPOGRAPHIC MAP. CONTRACTOR IS RESPONSIBLE TO CONFIRM THE EXISTING CONDITIONS.

N

0 5' 10' 20' 30'

SCALE: 1"=10'

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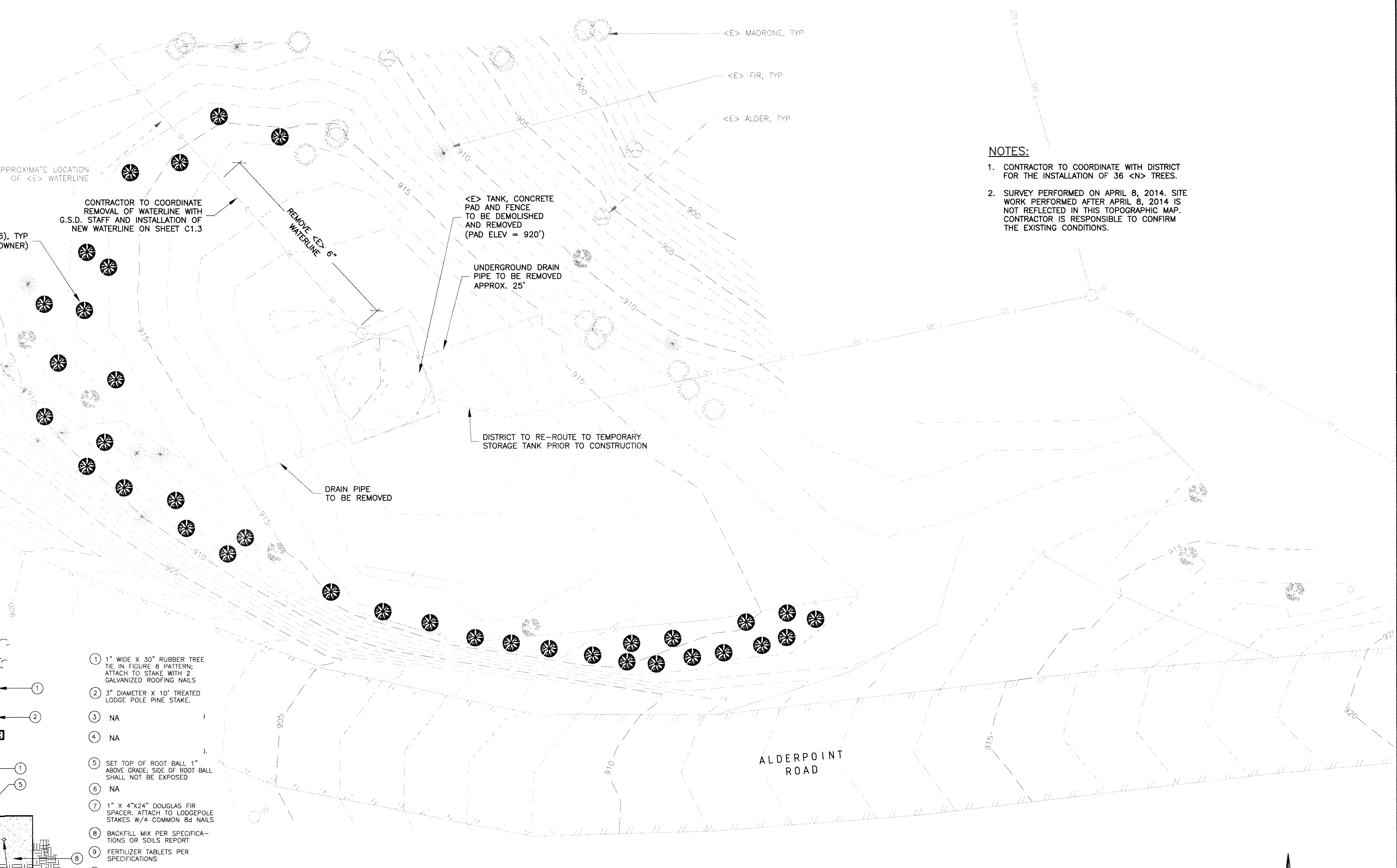
NO.	HISTORY / REVISION	BY	CHK.	DATE

GARBERVILLE SANITARY DISTRICT
ALDERPOINT ROAD TANK REPLACEMENT
TOPOGRAPHIC MAP

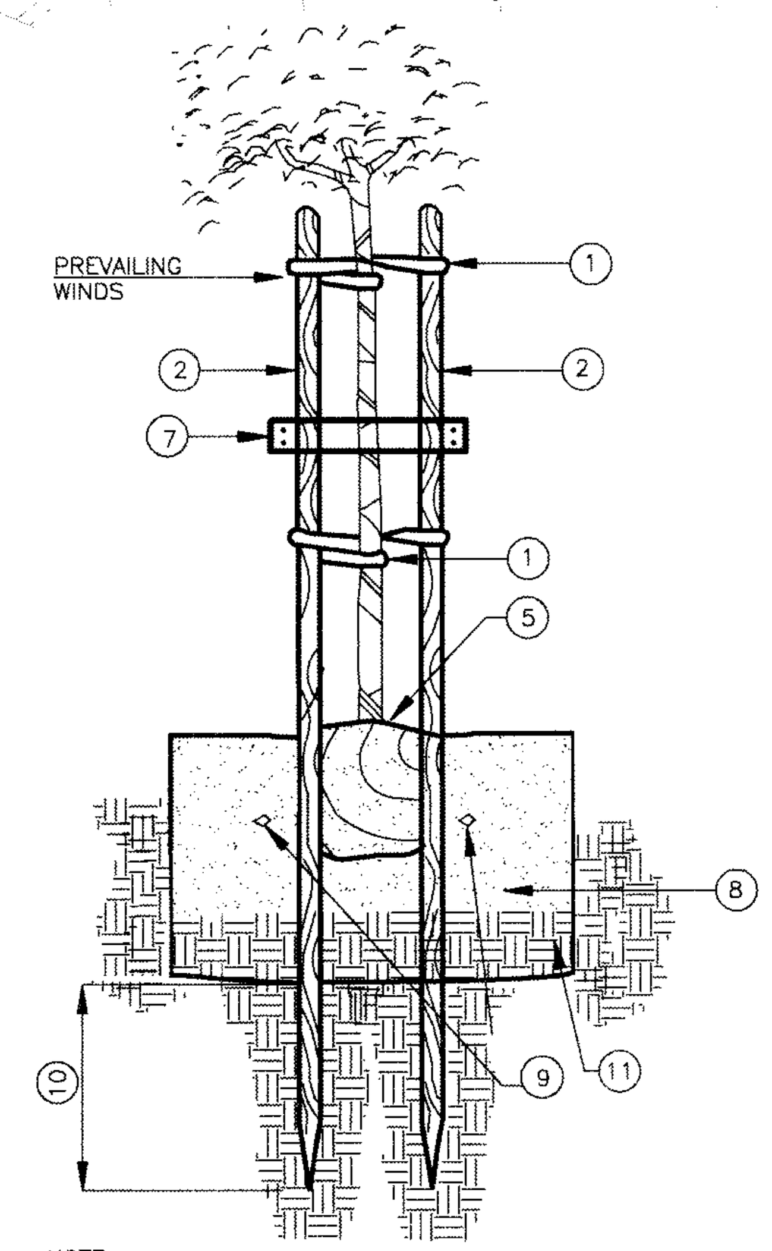
GARBERVILLE SANITARY DISTRICT
GARBERVILLE, CA

DRAWN	JDB
CHECK	ACS
APPROVED	DTN
DATE	12/17/14
JOB NUMBER	7714.02
SHEET	C1.0



NOTES:

1. CONTRACTOR TO COORDINATE WITH DISTRICT FOR THE INSTALLATION OF 36 <N> TREES.
2. SURVEY PERFORMED ON APRIL 8, 2014. SITE WORK PERFORMED AFTER APRIL 8, 2014 IS NOT REFLECTED IN THIS TOPOGRAPHIC MAP. CONTRACTOR IS RESPONSIBLE TO CONFIRM THE EXISTING CONDITIONS.



(1) 1" WIDE X 30" RUBBER TREE TIE IN FIGURE 8 PATTERN; ATTACH TO STAKE WITH 2 GALVANIZED ROOFING NAILS

(2) 3" DIAMETER X 10' TREATED LODGE POLE PINE STAKE.

(3) NA

(4) NA

(5) SET TOP OF ROOT BALL 1" ABOVE GRADE; SIDE OF ROOT BALL SHALL NOT BE EXPOSED

(6) NA

(7) 1" X 4"X24" DOUGLAS FIR SPACER. ATTACH TO LODGEPOLE STAKES W/4 COMMON 8d NAILS

(8) BACKFILL MIX PER SPECIFICATIONS OR SOILS REPORT

(9) FERTILIZER TABLETS PER SPECIFICATIONS

(10) DRIVE STAKE 1'-0" MIN. INTO UNDISTURBED SUBSOIL

(11) CULTIVATE SOIL ONLY 6" MIN. BELOW ROOT BALL

NOTE:
1. STAKES SHALL BE PLUMBED AND SHALL RETURN TO UPRIGHT AFTER 50 POUND DEFLECTION.

PLAN
SCALE: 1" = 10'

1"
GRAPHIC SCALE MEASURES 1 INCH ON FULL-SIZE PLANS.

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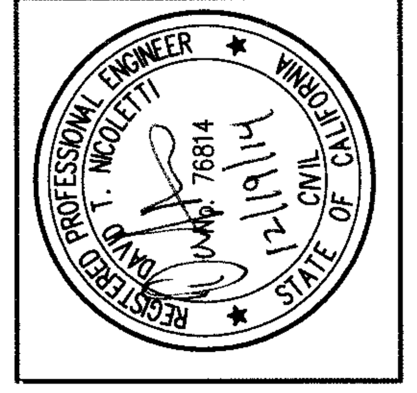

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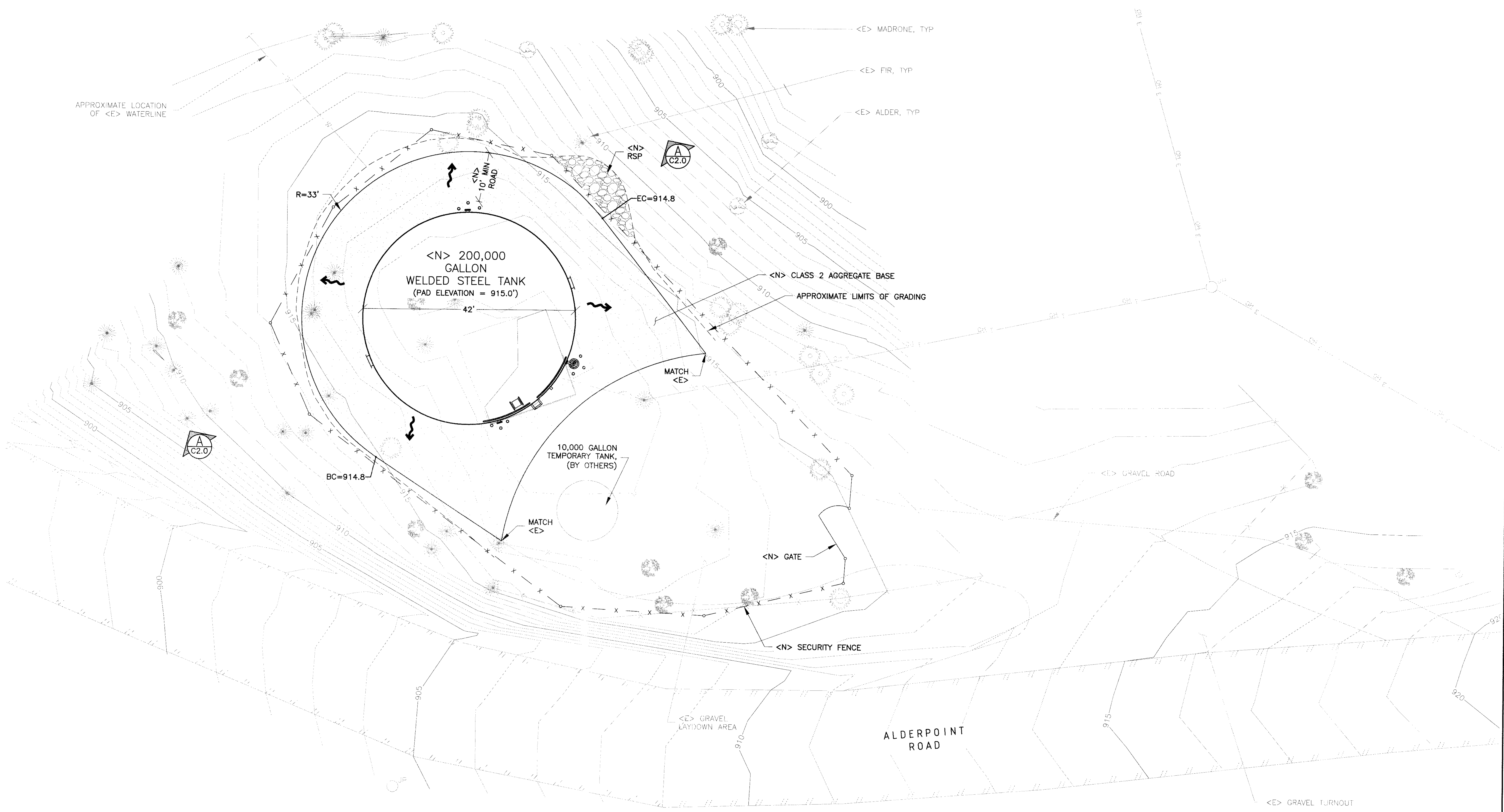
NO.	HISTORY / REVISION	BY	CHK.	DATE

GARBERVILLE SANITARY DISTRICT
ALDERPOINT ROAD TANK REPLACEMENT
DEMOLITION AND TREE PLANTING PLAN

GARBERVILLE SANITARY DISTRICT
GARBERVILLE, CA

DRAWN	JDB
CHECK	ACS
APPROVED	DTN
DATE	12/17/14
JOB NUMBER	7714.02
SHEET	C1.1



PLAN
SCALE: 1" = 10'

NOTE:

SURVEY PERFORMED ON APRIL 8, 2014. SITE WORK PERFORMED AFTER APRIL 8, 2014 IS NOT REFLECTED IN THIS TOPOGRAPHIC MAP. CONTRACTOR IS RESPONSIBLE TO CONFIRM THE EXISTING CONDITIONS.

1"

GRAPHIC SCALE MEASURES 1 INCH ON FULL-SIZE PLANS.

REGISTERED PROFESSIONAL ENGINEER DAVID T. NICOLETTI No. 76814 CIVIL STATE OF CALIFORNIA 12/19/14

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NO.	HISTORY / REVISION	BY	CHK.	DATE

GARBERVILLE SANITARY DISTRICT
ALDERPOINT ROAD TANK REPLACEMENT
GRADING PLAN

GARBERVILLE SANITARY DISTRICT
GARBERVILLE, CA

DRAWN	JDB
CHECK	ACS
APPROVED	DTN
DATE	12/17/14
JOB NUMBER	7714.02
SHEET	C1.2

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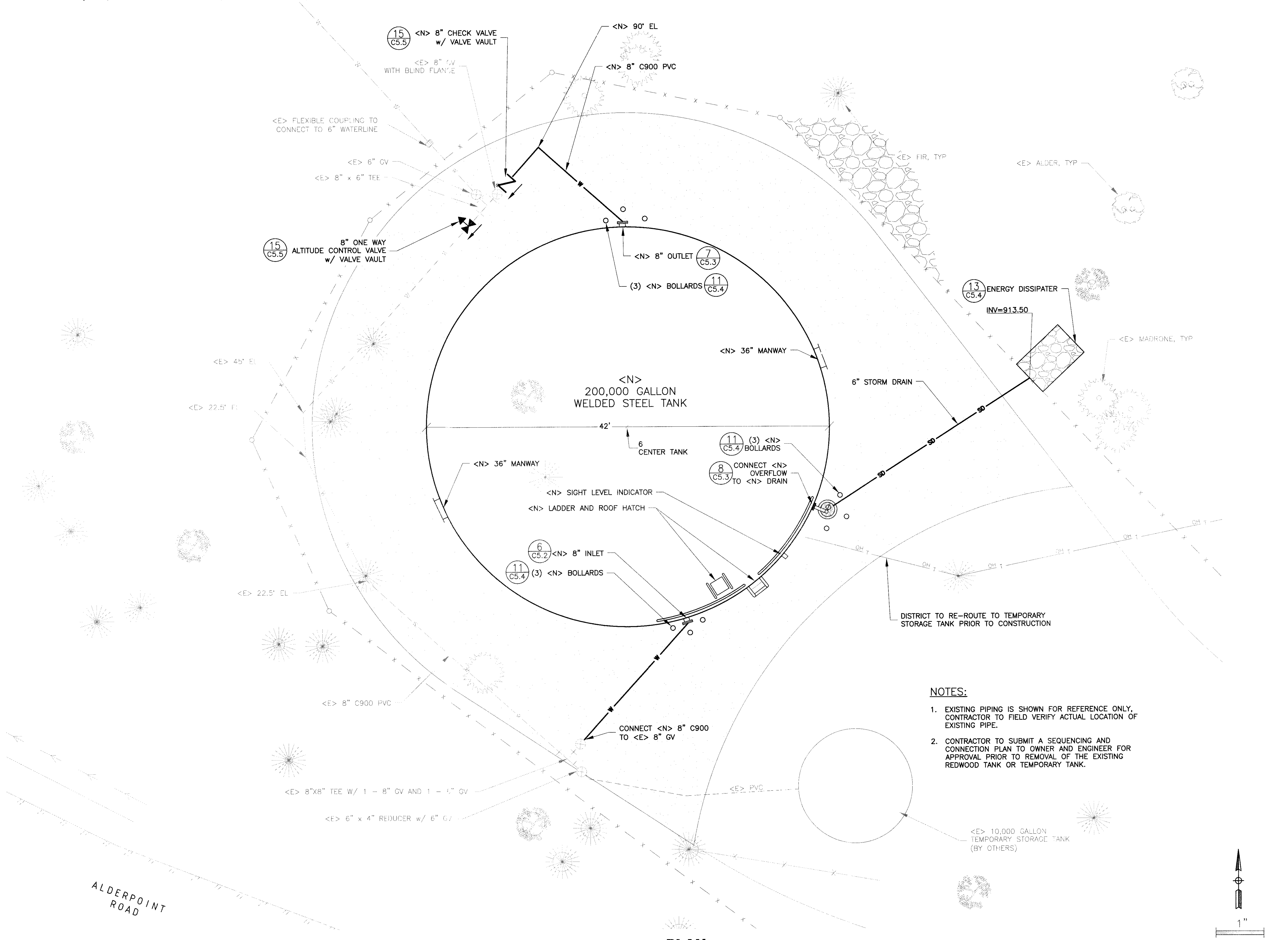

PLAN
SCALE: 1" = 5'

NOTES:

1. EXISTING PIPING IS SHOWN FOR REFERENCE ONLY, CONTRACTOR TO FIELD VERIFY ACTUAL LOCATION OF EXISTING PIPE.
2. CONTRACTOR TO SUBMIT A SEQUENCING AND CONNECTION PLAN TO OWNER AND ENGINEER FOR APPROVAL PRIOR TO REMOVAL OF THE EXISTING REDWOOD TANK OR TEMPORARY TANK.

1"

GRAPHIC SCALE MEASURES 1 INCH ON FULL-SIZE PLANS.

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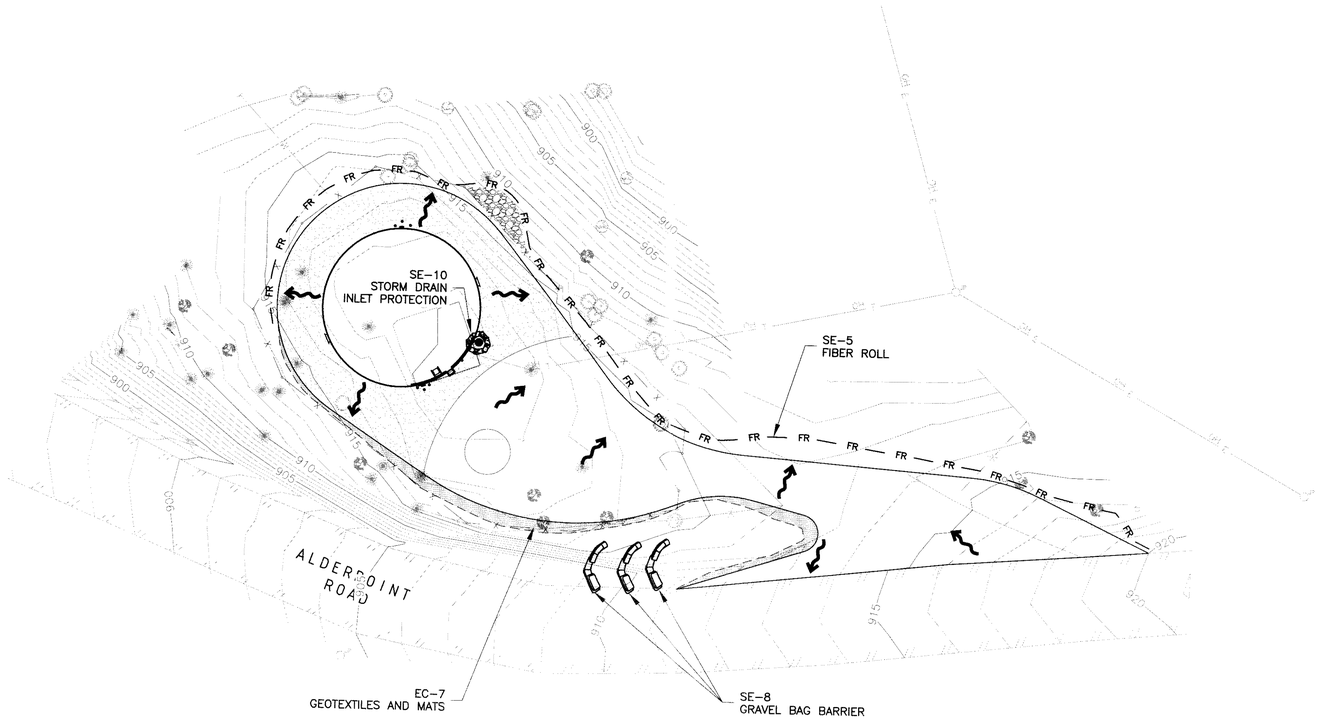
GARBERVILLE SANITARY DISTRICT
ALDERPOINT ROAD TANK REPLACEMENT
YARD PIPING AND APPURTENANCES PLAN

GARBERVILLE SANITARY DISTRICT
GARBERVILLE, CA

DRAWN	JDB
CHECK	ACS
APPROVED	DTN
DATE	12/17/14
JOB NUMBER	7714.02
SHEET	C1.3



PLAN
SCALE: 1" = 20'

NOTE:

SURVEY PERFORMED ON APRIL 8, 2014. SITE WORK PERFORMED AFTER APRIL 8, 2014 IS NOT REFLECTED IN THIS TOPOGRAPHIC MAP. CONTRACTOR IS RESPONSIBLE TO CONFIRM THE EXISTING CONDITIONS.

EROSION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICES (BMP'S) SHALL COMPLY WITH THE CALIFORNIA STORM WATER BEST MANAGEMENT PRACTICE HANDBOOK–CONSTRUCTION (LATEST REVISION). THE CONTRACTOR SHALL IMPLEMENT AND MAINTAIN THE FOLLOWING BMP'S:

EROSION CONTROL BMPs

SEE BMP FACT SHEET IN STORMWATER BEST MANAGEMENT PRACTICE HANDBOOK FOR BMP DETAILS AND INSTALLATION INSTRUCTIONS.

BMP NO.	BMP	REQUIRED	AS NECESSARY	IMPLEMENTATION PERIOD
EC–1	SCHEDULING			
EC–2	PRESERVATION OF EXISTING VEGETATION			
EC–3	HYDRAULIC MULCH			
EC–4	HYDROSEEDING			
EC–5	SOIL BINDERS			
EC–6	STRAW MULCH	X		OCT 15–APRIL 15
EC–7	GEOTEXTILES AND MATS			
EC–8	WOOD MULCHING			
EC–9	EARTH DIKES AND DRAINAGE SWALES			
EC–10	VELOCITY DISSIPATION DEVICES			
EC–11	SLOPE DRAINS			
EC–12	STREAMBANK STABILIZATION			
EC–13	POLYACRYLAMIDE			
SEDIMENT CONTROL BMPs				
SE–1	SILT FENCE			
SE–2	SEDIMENT BASIN			
SE–3	SEDIMENT TRAP			
SE–4	CHECK DAMS			
SE–5	FIBER ROLLS	X		OCT 15–APRIL 15
SE–6	GRAVEL BAG BERM			
SE–7	STREET SWEEPING AND VACUUMING			
SE–8	GRAVEL BAG BARRIER	X		OCT 15–APRIL 15
SE–9	STRAW BALE BARRIER			
SE–10	STORM DRAIN INLET PROTECTION	X		OCT 15–APRIL 15
SE–11	CHEMICAL TREATMENT			
TRACKING CONTROL BMPs				
TC–1	STABILIZED CONSTRUCTION ENTRANCE/EXIT			
TC–2	STABILIZED CONSTRUCTION ROADWAY			
TC–3	ENTRANCE/OUTLET TIRE WASH			
WIND EROSION CONTROL BMPs				
WE–1	WIND EROSION CONTROL			

LEGEND:

- SE–10 STORM DRAIN INLET PROTECTION
- EC–7 GEOTEXTILES AND MATS
- SE–5 FIBER ROLLS
- FLOW DIRECTION
- SE–8 GRAVEL BAG BARRIER

1"

GRAPHIC SCALE MEASURES 1 INCH ON FULL-SIZE PLANS.

GENERAL NOTES:

THIS EROSION AND SEDIMENT CONTROL PLAN WAS PREPARED BY LACO ASSOCIATES.

EROSION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICES (BMP'S) SHALL COMPLY WITH THE CALIFORNIA STORM WATER BEST MANAGEMENT PRACTICE HANDBOOK–CONSTRUCTION (LATEST REVISION). THE CONTRACTOR SHALL IMPLEMENT AND MAINTAIN THE FOLLOWING BMP'S:

GENERAL WATER POLLUTION CONTROL NOTES:

1. THE FOLLOWING PLANS ARE ACCURATE FOR STORM WATER POLLUTION CONTROL PURPOSES ONLY.
2. THE INFORMATION ON THIS PLAN IS INTENDED TO BE USED AS A GUIDELINE FOR THE CONTRACTOR AND SUBCONTRACTORS TO COMPLY WITH THE REQUIREMENTS OF THE STATE WATER RESOURCES CONTROL BOARD.

EROSION AND SEDIMENT CONTROL SCHEDULE:

1. RAINY SEASON DATES: OCTOBER 15 TO MAY 15.
2. START IMPLEMENTATION OF TEMPORARY SOIL STABILIZATION AND SEDIMENT CONTROL BMP'S ON OCTOBER 10 OR 5 DAYS BEFORE START OF CONSTRUCTION, WHICHEVER IS EARLIER.
3. COMPLETE IMPLEMENTATION OF TEMPORARY SOIL STABILIZATION AND SEDIMENT CONTROL BMP'S BY OCTOBER 15 OR START OF CONSTRUCTION, WHICHEVER IS LATER. NO CONSTRUCTION SHALL OCCUR AFTER OCTOBER 1 UNTIL APPROVED EROSION CONTROL MEASURES ARE IN PLACE.

EROSION AND SEDIMENT CONTROL NOTES:

1. ALL AREAS OF DISTURBED SOIL, EXCEPT ROAD SURFACE, SHALL BE MULCHED BY HAND BROADCASTING STRAW MULCH.
2. DIVERT RUNOFF AWAY FORM STEEP BARE SLOPES OR OTHER CRITICAL AREAS WITH BARRIERS, BERMS, DITCHES, OR OTHER FACILITIES.
3. LOCATE STOCKPILES IN AREAS THAT WILL NOT CONTRIBUTE TO OFFSITE SEDIMENT DISCHARGE, STOCKPILES SHALL BE PROTECTED BY PROMPT USE OF APPROPRIATE BMP'S.
4. INSPECTIONS SHALL BE CONDUCTED AS FOLLOWS: PRIOR TO A FORECAST STORM, AFTER A RAIN EVENT THAT CAUSES RUNOFF FROM THE CONSTRUCTION SITE, AT 24–HOUR INTERVALS DURING EXTENDED RAIN EVENTS. WEEKLY FOR OCTOBER 15 TO APRIL 15, AT OTHER INTERVALS OF TIME SPECIFIED IN THE CONTRACT DOCUMENTS.
5. ANY DEFICIENCIES SHALL BE PROMPTLY CORRECTED.

EROSION CONTROL NOTES:

1. THE FOLLOWING MEASURES SHALL BE TAKEN TO MINIMIZE EROSION AND TRANSPORT OF SEDIMENT OFF SITE:
   - A. FIBER ROLLS SHALL BE INSTALLED IN THE LOCATIONS INDICATED ON THIS SET OF PLANS AND SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CALTRANS BMP'S.
   - B. MULCH OR OTHER PROTECTIVE COVERING SHALL BE APPLIED TO STOCKPILED SOIL THAT WILL BE EXPOSED THROUGH THE WINTER SEASON.
   - C. ALL CONSTRUCTION AREAS, INCLUDING DRIVEWAYS, SHALL BE MAINTAINED AS NECESSARY TO MINIMIZE THE EMISSION OF DUST.
2. THE CONTRACTOR SHALL INSPECT THE EROSION AND SEDIMENTATION CONTROL MEASURES FOLLOWING EACH RAINFALL EVENT AND REPORT ANY DAMAGE OR FAILED EROSION CONTROL MEASURES TO THE ENGINEER. THE ENGINEER SHALL ADVISE THE OWNER OF ANY REQUIRED REMEDIAL ACTIONS.
3. SPECIFIC BMP'S SHOWN ON THIS SET OF PLANS ARE BASED ON GENERAL PRACTICES FOR TYPICAL CONSTRUCTION SITES. SITE SPECIFIC CONDITIONS MAY REQUIRE SUBSTITUTIONS OR CHANGES TO SPECIFIED BMPS TO EFFECTIVELY CONTROL EROSION.
4. FIBER ROLLS SHALL BE INSTALLED AROUND STOCKPILE AREA.
5. SEE SHEET C5.0 FOR EROSION AND SEDIMENT CONTROL DETAILS.

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REGISTERED PROFESSIONAL ENGINEER NICOLETTI 78214 CIVIL STATE OF CALIFORNIA 12/17/14

HISTORY / REVISION | NO. | BY | CHK. | DATE

GARBERVILLE SANITARY DISTRICT
ALDERPOINT ROAD TANK REPLACEMENT
EROSION AND SEDIMENT CONTROL PLAN

GARBERVILLE SANITARY DISTRICT
GARBERVILLE, CA

DRAWN	JDB
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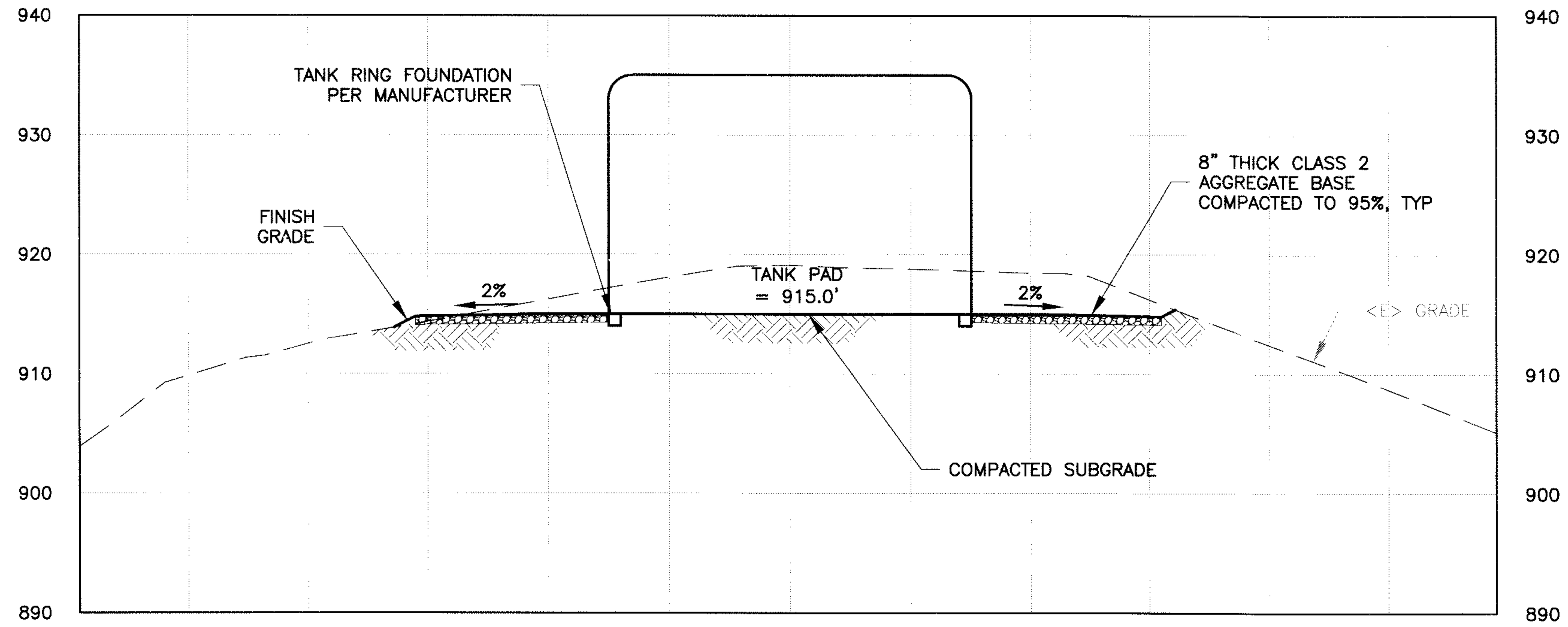
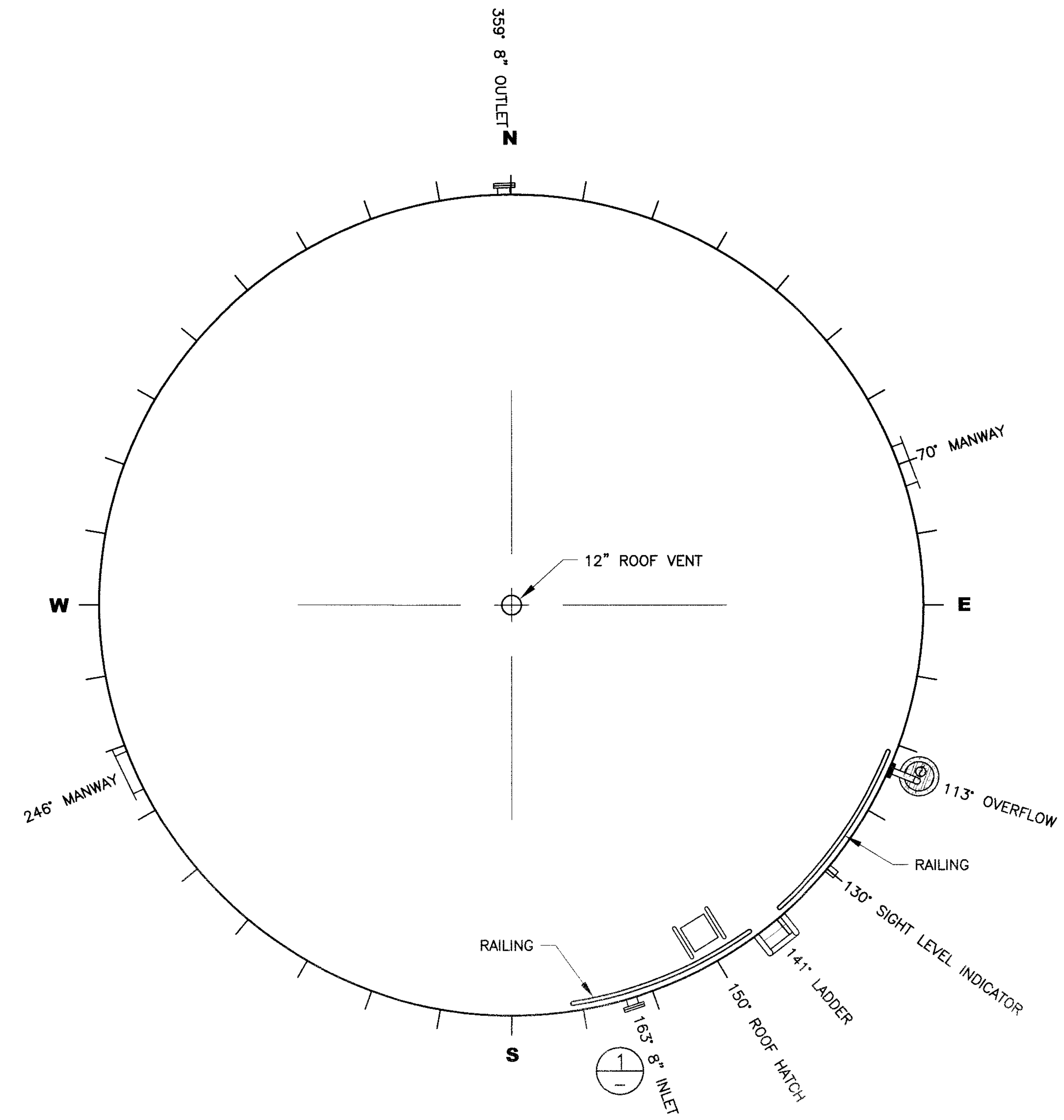
APPROVED	DTN
DATE	12/17/14
JOB NUMBER	7714.02
SHEET	C1.4

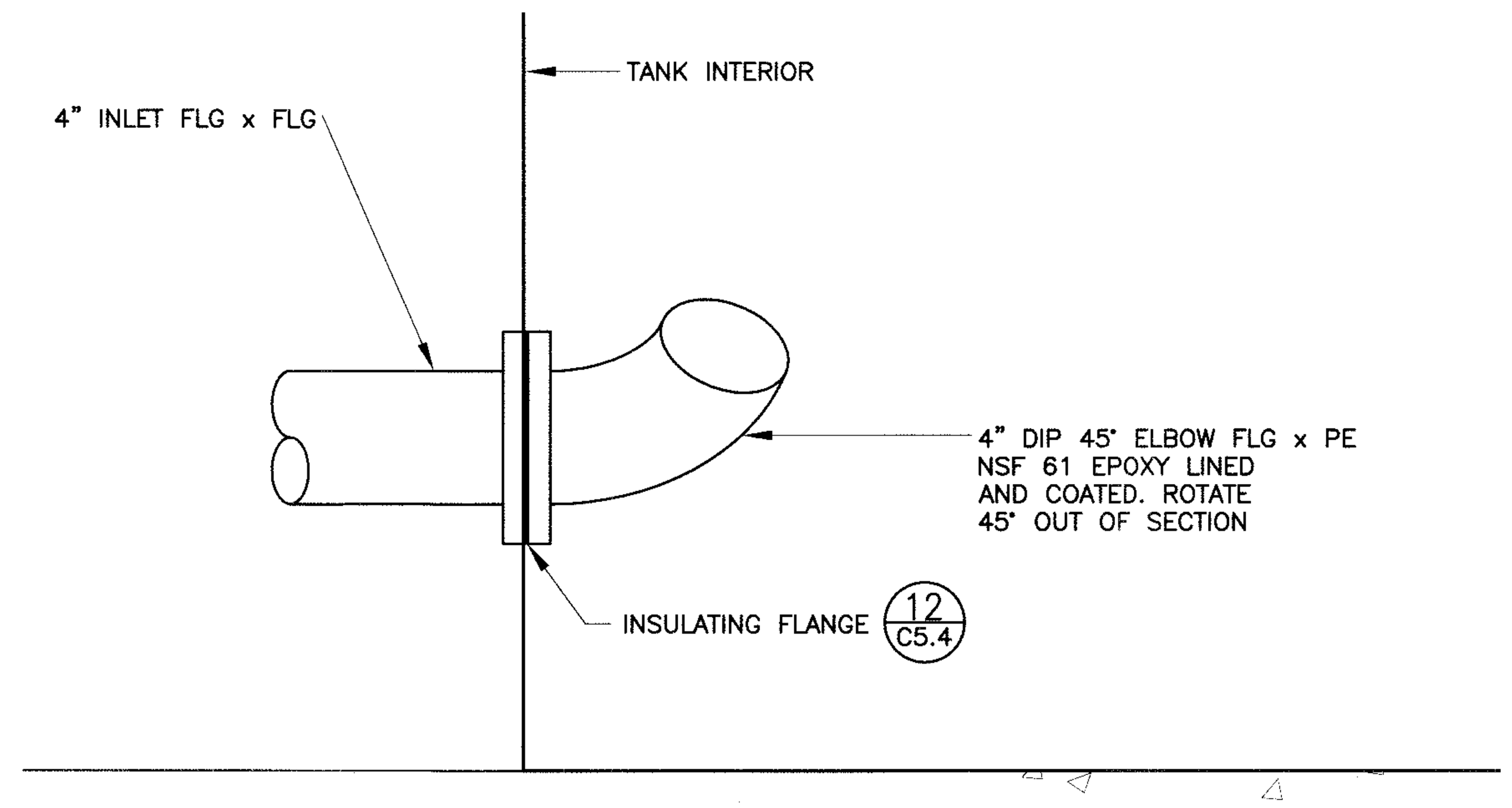


A/C1.2 **SECTION**

SCALE: 1" = 10' HORIZ. AND VERT.



TANK ORIENTATION
SCALE: 1" = 5'

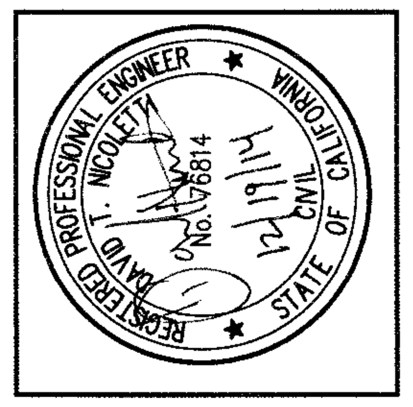


1/– **DETAIL**

N.T.S.

1"

GRAPHIC SCALE MEASURES 1 INCH ON FULL-SIZE PLANS.



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NO.	HISTORY / REVISION	BY	CHK.	DATE

GARBERVILLE SANITARY DISTRICT
ALDERPOINT ROAD TANK REPLACEMENT
PROFILE, SECTIONS AND TANK ORIENTATION

GARBERVILLE SANITARY DISTRICT
GARBERVILLE, CA

DRAWN	JDB
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DATE	12/17/14
JOB NUMBER	7714.02
SHEET	C2.0

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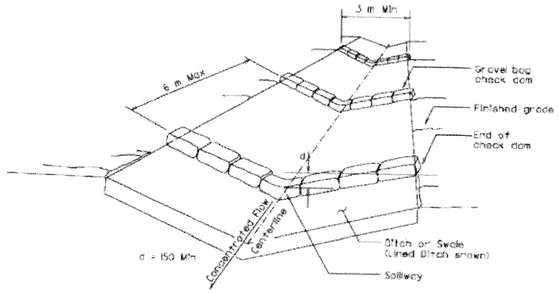
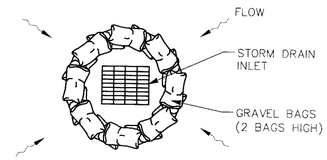


PERSPECTIVE

TEMPORARY CHECK DAM (TYPE 2)

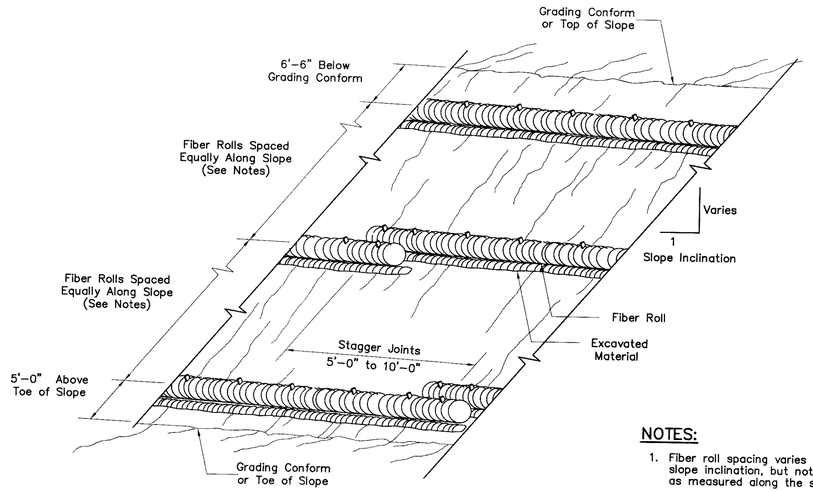
SE-8 GRAVEL BAG BARRIER
N.T.S.



PLAN

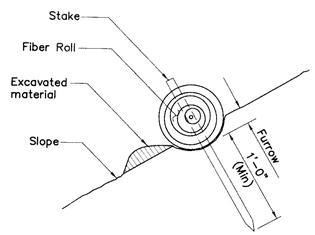
GRAVEL BAG BARRIER

SE-10 INLET PROTECTION
N.T.S.



PERSPECTIVE

FIBER ROLL (TYPE 1)



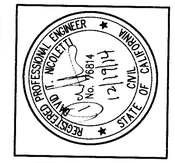
SECTION

FIBER ROLL (TYPE 1)

NOTES:

1. Fiber roll spacing varies depending upon slope inclination, but not to exceed 10 foot as measured along the slope inclination.
2. Installations shown in the perspectives are for slope inclination of 10:1 and steeper.

SE-5 TYPICAL FIBER ROLL INSTALLATION DETAIL
N.T.S.



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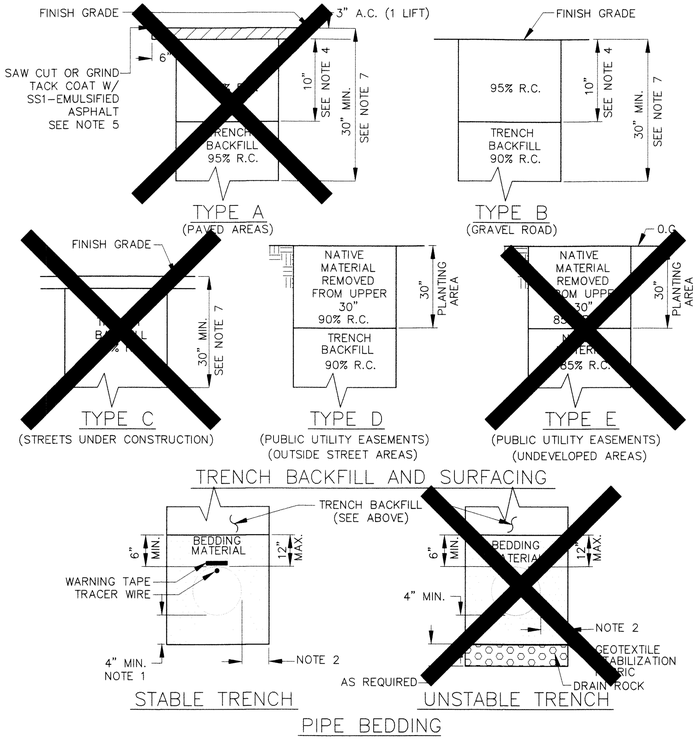
NO.	HISTORY / REVISION	BY	CHK.	DATE

GARBERVILLE SANITARY DISTRICT
ALDERPOINT ROAD TANK REPLACEMENT
EROSION & SEDIMENT CONTROL DETAILS

GARBERVILLE SANITARY DISTRICT
GARBERVILLE, CA

DRAWN	JDB
CHECK	ACS
APPROVED	DTN
DATE	12/17/14
JOB NUMBER	7714.02
SHEET	C5.0

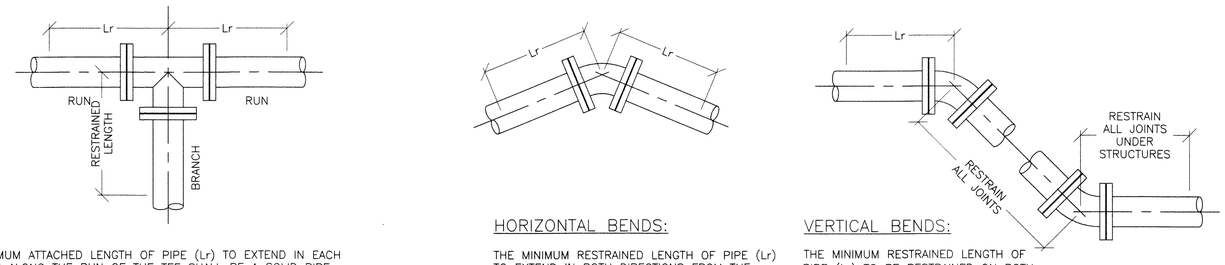


NOTES:

1. 1/4 PIPE O.D. OR 4" MIN. WHEN EXCAVATION IS IN ROCKY GROUND.
2. PIPE DIAMETER 18" OR LESS: 6" MIN., 9" MAX/PIPE DIA. GREATER THAN 18": 9" MIN., 12" MAX.
3. RELATIVE COMPACTION DESIGNATED R.C.
4. THE MINIMUM STREET STRUCTURAL SECTION SHALL BE 3" A.C. ON 10" A.B. OR MATCH EXISTING PAVEMENT, WHICHEVER IS THICKER, SPECIFIED ON PLANS, OR REQUIRED BY ENCROACHMENT PERMIT.
5. SAW CUT OR GRIND PAVEMENT SIX INCHES FROM EDGE OF TRENCH AFTER TRENCH IS BACKFILLED.
6. MINIMUM PIPE COVER SHALL BE 36".
7. NEW STREETS AND SHOULDER AREAS UNDER CONSTRUCTION SHALL BE COMPACTED TO 95% RELATIVE COMPACTION FOR A MINIMUM DEPTH OF 30" PER CALTRANS SECTION 19-5.03.
8. INSTALL #12 COATED COPPER TRACER WIRE ON/OVER ALL NON-METALLIC MAINS.

1 STANDARD TRENCH DETAIL

N.T.S.



TEES:

THE MINIMUM ATTACHED LENGTH OF PIPE (Lr) TO EXTEND IN EACH DIRECTION ALONG THE RUN OF THE TEE SHALL BE A SOLID PIPE WITHOUT JOINTS, FITTINGS ETC. THE LENGTH OF THE RESTRAINED BRANCH SHALL BE DERIVED FROM THE FOLLOWING TABLE.

TEE SIZE AND PIPE MATERIAL		MINIMUM ATTACHED LENGTH OF PIPE (Lr)										
		0'	2'	4'	6'	8'	10'	12'	14'	16'	18'	20'
		LENGTH OF RESTRAINED BRANCH										
PVC PIPE	8X4	74'	53'	31'	10'	1'	1'	1'	1'	1'	1'	1'
	8X6	104'	89'	75'	60'	46'	31'	17'	3'	1'	1'	1'
	8X8	135'	124'	113'	102'	91'	80'	69'	59'	48'	37'	26'

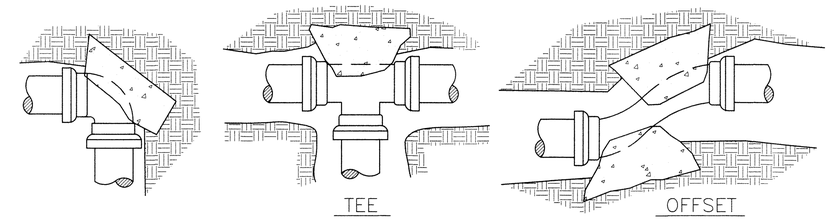
HORIZONTAL BENDS:

THE MINIMUM RESTRAINED LENGTH OF PIPE (Lr) TO EXTEND IN BOTH DIRECTIONS FROM THE HORIZONTAL BEND SHALL BE DERIVED FROM THE FOLLOWING TABLE.

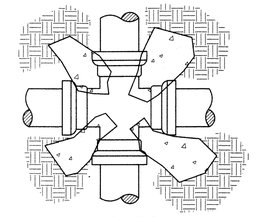
VERTICAL BENDS:

THE MINIMUM RESTRAINED LENGTH OF PIPE (Lr) TO BE RESTRAINED ON BOTH SIDES OF THE VERTICAL OFFSET SHALL BE DERIVED FROM THE FOLLOWING TABLE.

PIPE SIZE AND MATERIAL		HORIZONTAL BENDS				VERTICAL BENDS			
		11 1/4°	22 1/2°	45°	90°	11 1/4°	22 1/2°	45°	90°
PVC PIPE	4"	3'	5'	11'	27'	7'	15'	31'	*
	6"	4'	7'	15'	37'	10'	21'	43'	*
	8"	5'	10'	20'	48'	13'	27'	56'	*
	12"	6'	13'	27'	65'	19'	38'	78'	*
DI POLY WRAP	4"	3'	6'	13'	31'	11'	22'	46'	*
	6"	4'	8'	18'	42'	15'	31'	65'	*
	8"	5'	11'	23'	54'	20'	41'	84'	*
	12"	7'	15'	31'	74'	28'	57'	118'	*



TYPICAL CONC. BLOCKING SHOWN IN PERSPECTIVE



NOTES:

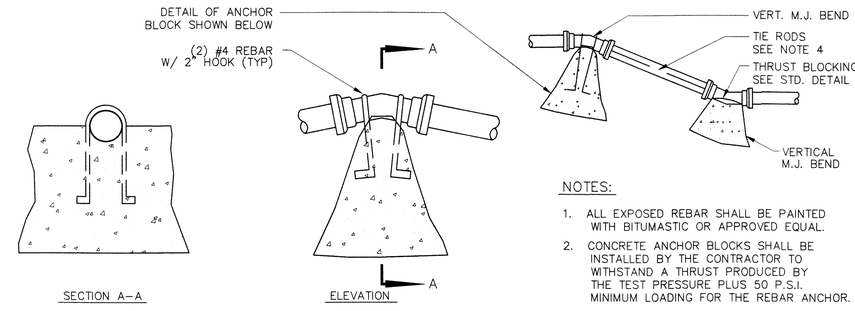
1. SAFE BEARING LOAD OF SOIL FOR HORIZONTAL THRUST SHALL NOT BE EXCEEDED.
2. CONCRETE BLOCKING, CAST-IN-PLACE, TO EXTEND FROM BELLS OF FITTINGS TO UNDISTURBED SOIL AND ENTIRE BEARING AREA MUST BE AGAINST UNDISTURBED SOIL.
3. IN USING THE THRUST BLOCKING TABLE BELOW, ASSUME 2000 P.S.F. BEARING CAPACITY UNLESS OTHERWISE SHOWN ON THE PLANS. THE DESIGN ENGINEER SHALL SPECIFY THRUST BLOCKING REQUIREMENTS FOR ALL OTHER SOIL BEARING CONDITIONS.
4. FOR PLUGGED LEG(S) OF TEE OR CROSS, USE HARNESS TYPE BLOCKING AS SHOWN ON THE STD DETAILS AND CONCRETE BLOCKING INDICATED IN THE TABLE BELOW.

MIN REQ'D BEARING AREA IN SF PER 100 P.S.I. TEST PRESSURE *						
	SOIL BRG CAPACITY	HARNESS BLOCKS	TEES & DEAD ENDS	90° BENDS	45° BENDS	22-1/2° BENDS
4"	1000	2	2	3	2	1
	2000	1	1	1.5	1	0.5
6"	1000	4	4	6	3	2
	2000	2	2	3	2	1
8"	1000	7	7	10	5	3
	2000	4	4	5	3	2
10"	1000	12	12	17	10	5
	2000	6	6	8.5	5	25
12"	1000	16	16	22	12	6
	2000	8	8	11	6	3

* MULTIPLY NO. IN TABLE BY TEST PRESSURE & DIVIDE BY 100

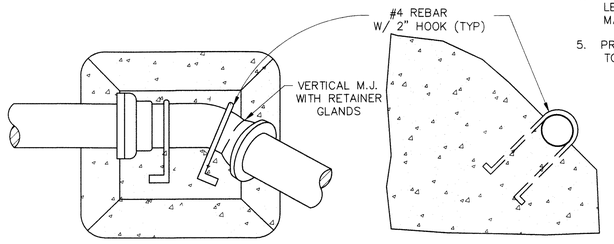
2 CONCRETE THRUST BLOCKING

N.T.S.



NOTES:

1. ALL EXPOSED REBAR SHALL BE PAINTED WITH BITUMASTIC OR APPROVED EQUAL.
2. CONCRETE ANCHOR BLOCKS SHALL BE INSTALLED BY THE CONTRACTOR TO WITHSTAND A THRUST PRODUCED BY THE TEST PRESSURE PLUS 50 P.S.I. MINIMUM LOADING FOR THE REBAR ANCHOR.
3. USE MJ RETAINER GLANDS AT ALL FITTINGS.
4. FOR PVC PIPE, TIE RODS (THREADED FULL LENGTH) BETWEEN FITTINGS (MIN 2 REQ'D) MAY BE USED IN LIEU OF RETAINING GLANDS.
5. PRE-FORMED #4 REBAR SHALL CONFORM TO PIPE DIAMETER.



3 CONCRETE ANCHOR BLOCKS FOR VERTICAL BENDS

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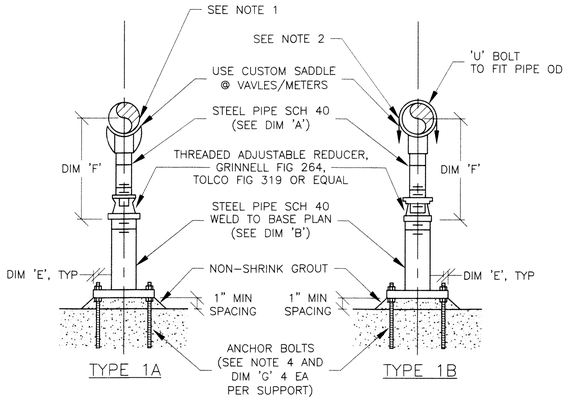
REGISTERED PROFESSIONAL ENGINEER JEFFREY T. NICOLETTI No. 78814 12/19/14 STATE OF CALIFORNIA

NO.	HISTORY / REVISION	BY	CHK.	DATE

GARBERVILLE SANITARY DISTRICT
ALDERPOINT ROAD TANK REPLACEMENT
DETAILS

GARBERVILLE SANITARY DISTRICT
GARBERVILLE, CA

DRAWN	JDB
CHECK	ACS
APPROVED	DTN
DATE	12/17/14
JOB NUMBER	7714.02
SHEET	C5.1



NOTES:

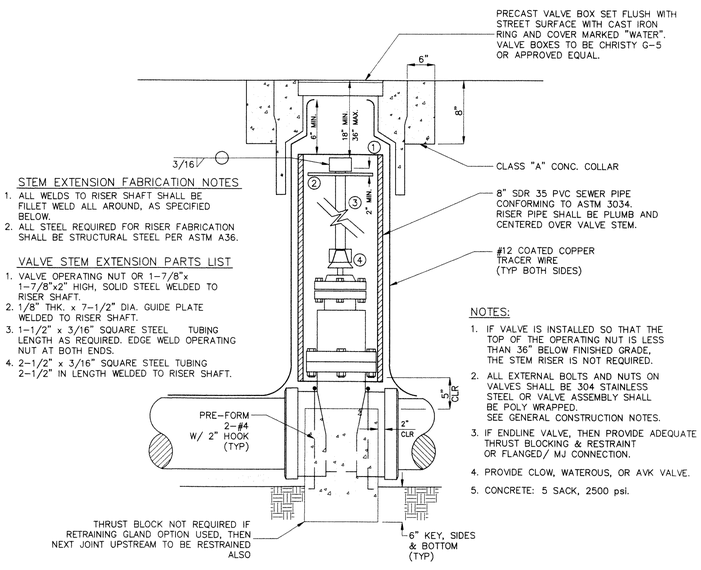
1. FOR PIPES 2.5" THROUGH 36" DIAMETER, ADJUSTABLE PIPE SUPPORT, GRINNEL FIG 258, TOLCO FIG 317, 319.
2. FOR PIPES 4" THROUGH 36' DIAMETER, PIPE SUPPORT TO BE ADJUSTABLE SADDLE SUPPORT, GRINNELL FIG 259, TOLCO FIG, 318, 319, OR PRIOR APPROVED EQUAL.
3. FOR VALVES, METERS, AND OTHER NON-CIRCULAR ITEMS, USE A CUSTOM SADDLE TO FIT PROFILE OF ITEM.
4. ANCHOR BOLTS SHALL BE HILTI THREADED BOLT w/ HY-50 EPOXY ADHESIVE. PROVIDE DOUBLE NUT AND WASHER FOR LEVELING. INSTALL PER MANUFACTURER'S RECOMMENDATIONS. SEE DIM. 'G' FOR DIMENSIONS.
5. USE SUPPORT TYPE 1B, UNLESS SUPPORT 1A IS SPECIFICALLY SHOWN ON THE DRAWINGS.
6. GALVANIZE ALL PARTS AFTER FABRICATION.

ADJUSTABLE PIPE SUPPORT TABLE
DIMENSIONS (INCHES)

NOMINAL PIPE SIZE	A	B	C	D	E	F (APPROX)		G ANCHOR BOLT	
						(MINIMUM)	(MAXIMUM)	DIA.	EMBED.
2 1/2	1 1/2	2	6	3/8	1	7	11 1/2	3/8	3
3	1 1/2	2	6	3/8	1	7 5/16	11 13/16	3/8	3
3 1/2	1 1/2	2	6	3/8	1	7 9/16	12 1/16	3/8	3
4	2 1/2 TO 3	3	7 1/2	1/2	1 1/8	10 1/4	14 3/4	1/2	3 1/2
6	2 1/2 TO 3	3	7 1/2	1/2	1 1/8	11 9/16	16 1/16	1/2	3 1/2
8	2 1/2 TO 3	3	7 1/2	1/2	1 1/8	13 9/16	16 1/16	1/2	3 1/2
10	2 1/2 TO 3	3	7 1/2	1/2	1 1/8	14 5/8	19 1/8	1/2	4
12	2 1/2 TO 3	3	7 1/2	1/2	1 1/8	15 5/8	20 1/8	1/2	4
14	3	4	9	5/8	1 1/4	18 7/8	23 3/8	5/8	4
16	2	4	9	5/8	1 1/4	19 7/8	24 3/8	5/8	4
18	4	6	11	3/4	1 1/2	22 1/4	26 3/4	3/4	5
20	4	6	11	3/4	1 1/2	23 1/4	27 3/4	3/4	6
24	4	6	11	3/4	1 1/2	26 1/2	31	3/4	7
30	4	6	11	3/4	1 1/2	29 5/8	34 1/8	3/4	8
36	4	6	11	3/4	1 1/2	32 5/8	37 1/8	3/4	8

4 PIPE SUPPORT

N.T.S.



STEM EXTENSION FABRICATION NOTES

1. ALL WELDS TO RISER SHAFT SHALL BE FILLET WELD ALL AROUND, AS SPECIFIED BELOW.
2. ALL STEEL REQUIRED FOR RISER FABRICATION SHALL BE STRUCTURAL STEEL PER ASTM A36.

VALVE STEM EXTENSION PARTS LIST

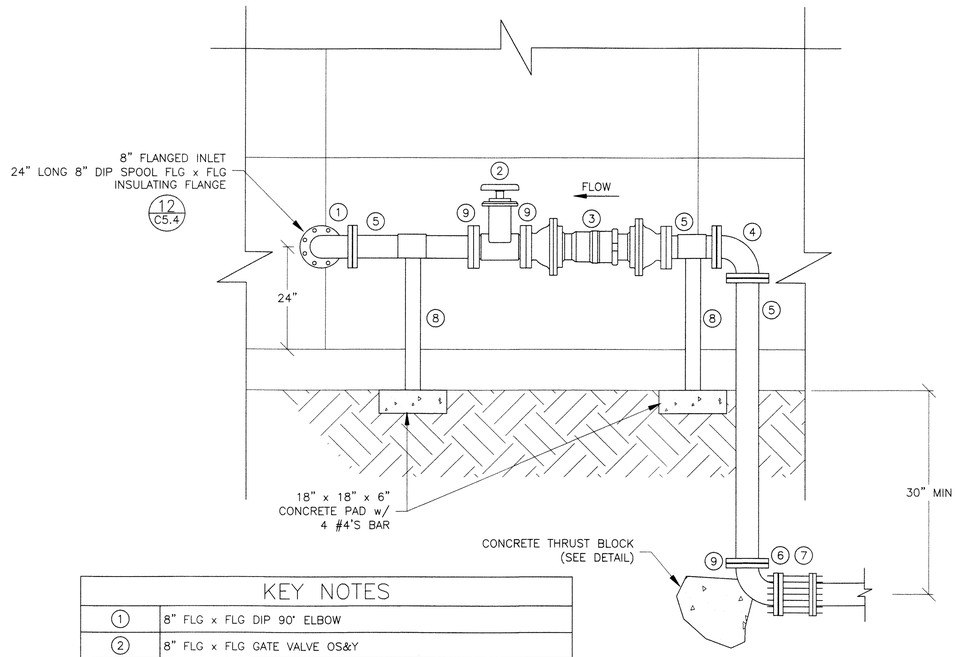
1. VALVE OPERATING NUT OR 1-7/8"x 1-7/8"x2" HIGH, SOLID STEEL WELDED TO RISER SHAFT.
2. 1/8" THK. x 7-1/2" DIA. GUIDE PLATE WELDED TO RISER SHAFT.
3. 1-1/2" x 3/16" SQUARE STEEL TUBING LENGTH AS REQUIRED. EDGE WELD OPERATING NUT AT BOTH ENDS.
4. 2-1/2" x 3/16" SQUARE STEEL TUBING 2-1/2" IN LENGTH WELDED TO RISER SHAFT.

NOTES:

1. IF VALVE IS INSTALLED SO THAT THE TOP OF THE OPERATING NUT IS LESS THAN 36" BELOW FINISHED GRADE, THE STEM RISER IS NOT REQUIRED.
2. ALL EXTERNAL BOLTS AND NUTS ON VALVES SHALL BE 304 STAINLESS STEEL OR VALVE ASSEMBLY SHALL BE POLY WRAPPED. SEE GENERAL CONSTRUCTION NOTES.
3. IF ENDLINE VALVE, THEN PROVIDE ADEQUATE THRUST BLOCKING & RESTRAINT OR FLANGED/ MJ CONNECTION.
4. PROVIDE CLOW, WATEROUS, OR AVK VALVE.
5. CONCRETE: 5 SACK, 2500 psi.

5 TYPICAL GATE VALVE AND VALVE BOX WITH RISER

N.T.S.



KEY NOTES

1	8" FLG x FLG DIP 90° ELBOW
2	8" FLG x FLG GATE VALVE OS&Y
3	8" FLEXIBLE EXPANSION JOINT
4	8" FLG x FLG DIP 90° ELBOW
5	8" DIP SPOOL FLG x PE CONTRACTOR TO VERIFY LENGTH
6	8" RMJ x RMJ DIP 90° ELBOW
7	8" MECHANICAL JOINT RESTRAINT
8	PIPE SUPPORT (SEE DETAIL)
9	MECHANICAL JOINT RESTRAINT

6 8" INLET DETAIL

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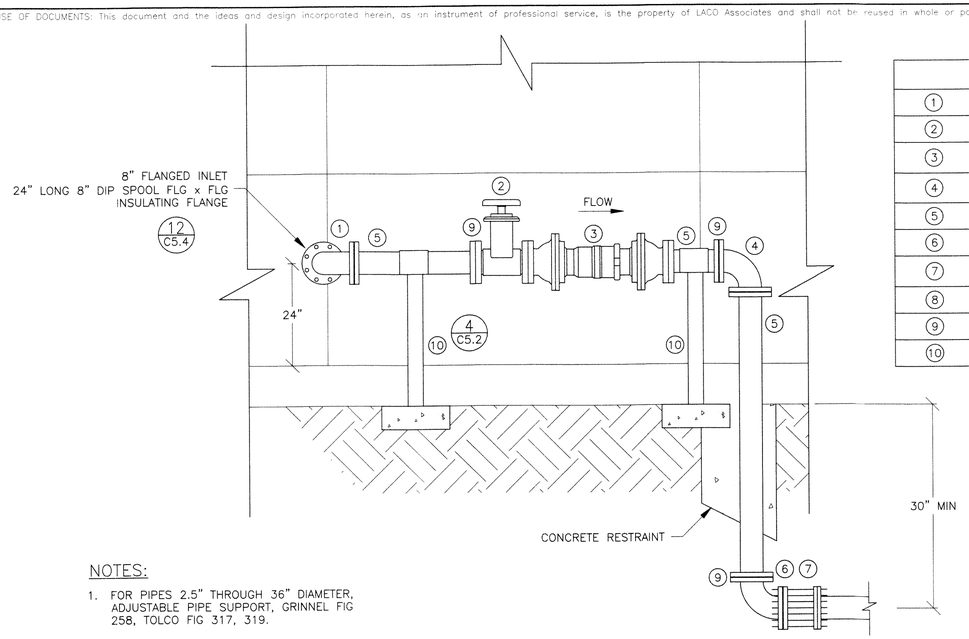
NO.	HISTORY / REVISION	BY	CHK.	DATE

GARBERVILLE SANITARY DISTRICT
ALDERPOINT ROAD TANK REPLACEMENT
DETAILS

GARBERVILLE SANITARY DISTRICT
GARBERVILLE, CA

DRAWN	JDB
CHECK	ACS
APPROVED	DTN
DATE	12/17/14
JOB NUMBER	7714.02
SHEET	C5.2



KEY NOTES	
1	8" FLG x FLG DIP 90° ELBOW
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3	8" FLEXIBLE EXPANSION JOINT
4	8" FLG x FLG DIP 90° ELBOW
5	8" DIP SPOOL FLG x PE CONTRACTOR TO VERIFY LENGTH
6	8" RMJ x RMJ DIP 90° ELBOW
7	8" MECHANICAL JOINT RESTRAINT
8	PIPE SUPPORT (SEE DETAIL 4 SHEET C5.2)
9	MECHANICAL JOINT RESTRAINT
10	ADJUSTABLE PIPE SUPPORT

NOTES:

1. FOR PIPES 2.5" THROUGH 36" DIAMETER, ADJUSTABLE PIPE SUPPORT, GRINNEL FIG 258, TOLCO FIG 317, 319.
2. FOR PIPES 4" THROUGH 36" DIAMETER, PIPE SUPPORT TO BE ADJUSTABLE SADDLE SUPPORT, GRINNELL FIG 259, TOLCO FIG, 318, 319, OR PRIOR APPROVED EQUAL.
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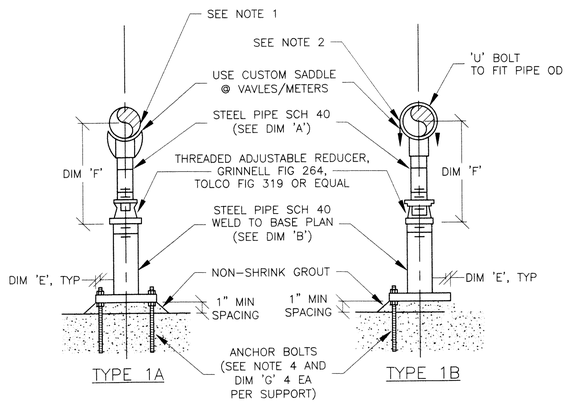
4. ANCHOR BOLTS SHALL BE HILTI THREADED BOLT w/ HY-50 EPOXY ADHESIVE. PROVIDE DOUBLE NUT AND WASHER FOR LEVELING. INSTALL PER MANUFACTURER'S RECOMMENDATIONS. SEE DIM. 'G' FOR DIMENSIONS.
5. USE SUPPORT TYPE 1B, UNLESS SUPPORT 1A IS SPECIFICALLY SHOWN ON THE DRAWINGS.
6. GALVANIZE ALL PARTS AFTER FABRICATION.

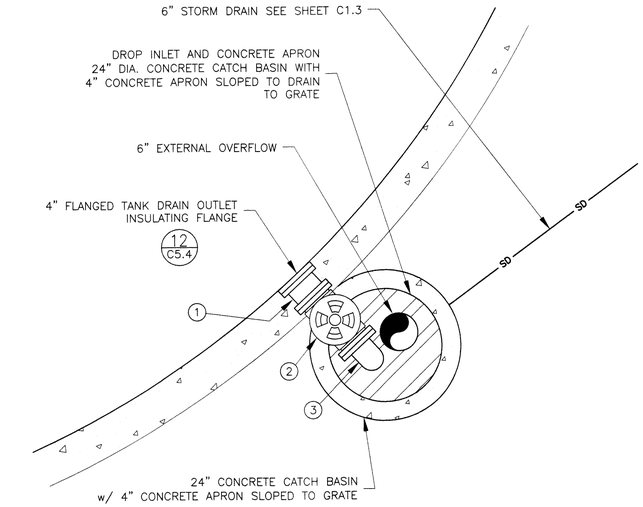


7 8" OUTLET DETAIL

N.T.S.

ADJUSTABLE PIPE SUPPORT TABLE
DIMENSIONS (INCHES)

NOMINAL PIPE SIZE	A	B	C	D	E	F (APPROX)		G ANCHOR BOLT	
						(MINIMUM)	(MAXIMUM)	DIA.	EMBED.
2 1/2	1 1/2	2	6	3/8	1	7	11 1/2	3/8	3
3	1 1/2	2	6	3/8	1	7 5/16	11 13/16	3/8	3
3 1/2	1 1/2	2	6	3/8	1	7 9/16	12 1/16	3/8	3
4	2 1/2 TO 3	3	7 1/2	1/2	1 1/8	10 1/4	14 3/4	1/2	3 1/2
6	2 1/2 TO 3	3	7 1/2	1/2	1 1/8	11 9/16	16 1/16	1/2	3 1/2
8	2 1/2 TO 3	3	7 1/2	1/2	1 1/8	13 9/16	16 1/16	1/2	3 1/2
10	2 1/2 TO 3	3	7 1/2	1/2	1 1/8	14 5/8	19 1/8	1/2	4
12	2 1/2 TO 3	3	7 1/2	1/2	1 1/8	15 5/8	20 1/8	1/2	4
14	3	4	9	5/8	1 1/4	18 7/8	23 3/8	5/8	4
16	2	4	9	5/8	1 1/4	19 7/8	24 3/8	5/8	4
18	4	6	11	3/4	1 1/2	22 1/4	26 3/4	3/4	5
20	4	6	11	3/4	1 1/2	23 1/4	27 3/4	3/4	6
24	4	6	11	3/4	1 1/2	26 1/2	31	3/4	7
30	4	6	11	3/4	1 1/2	29 5/8	34 1/8	3/4	8
36	4	6	11	3/4	1 1/2	32 5/8	37 1/8	3/4	8



KEY NOTES	
1	4" DIP SPOOL FLG x FLG
2	4" FLG x FLG GATE VALVE OS&Y
3	4" FLG x FLG DIP 90° ELBOW

8 DRAIN AND OVERFLOW DETAIL

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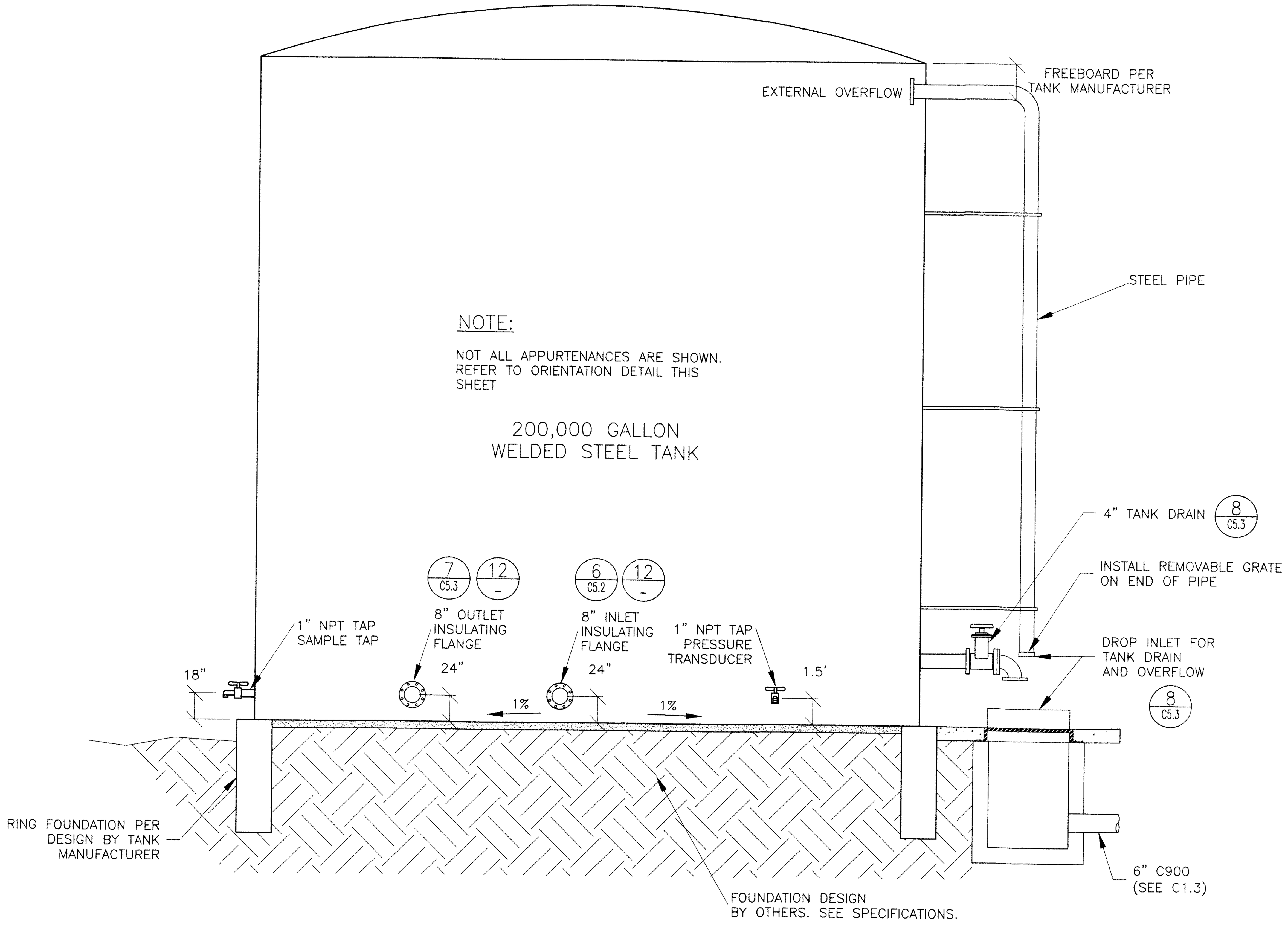
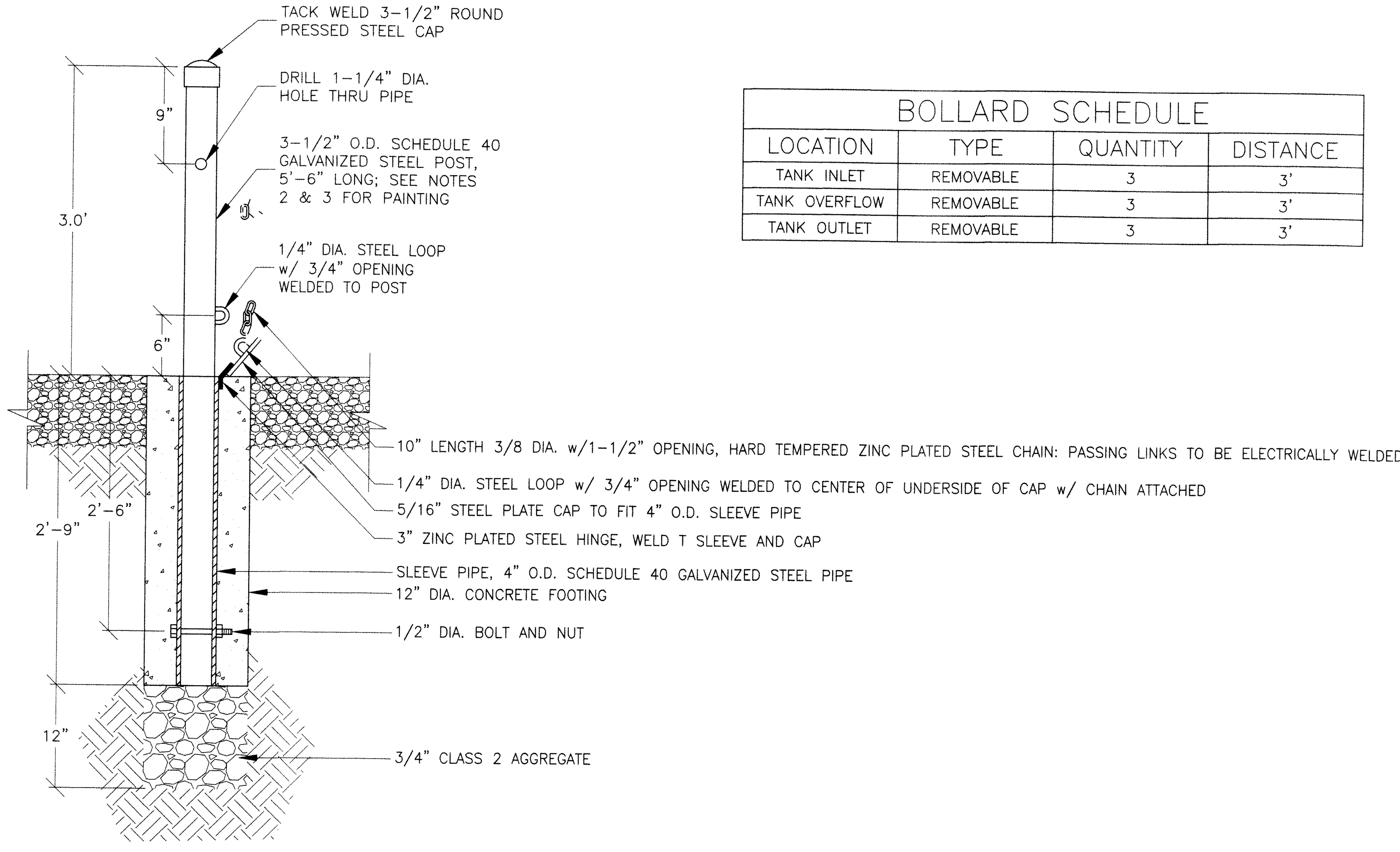


(10) **TANK ELEVATION SCHEMATIC**

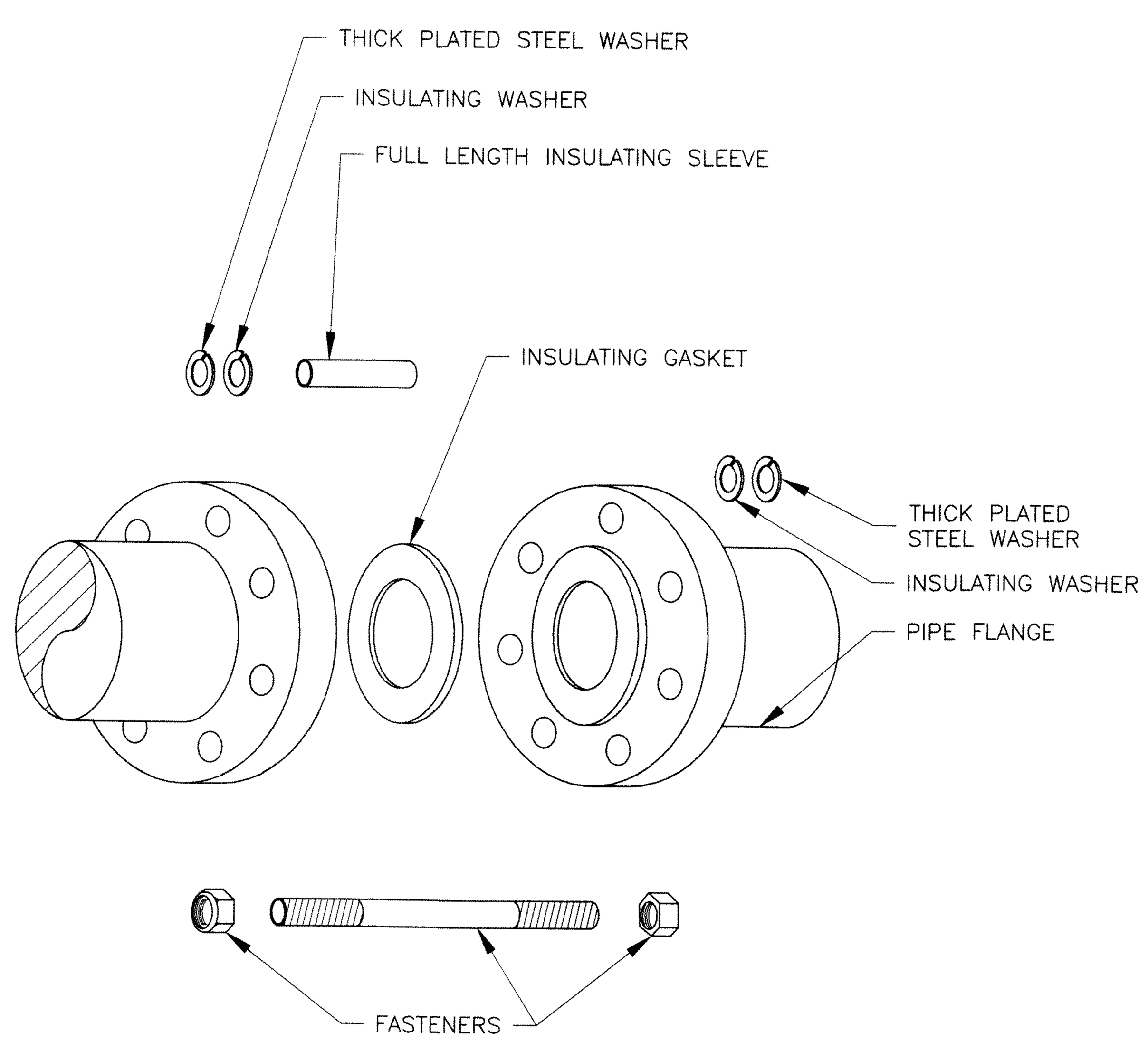
NOT TO SCALE, NOT TO PERSPECTIVE



BOLLARD SCHEDULE			
LOCATION	TYPE	QUANTITY	DISTANCE
TANK INLET	REMOVABLE	3	3'
TANK OVERFLOW	REMOVABLE	3	3'
TANK OUTLET	REMOVABLE	3	3'

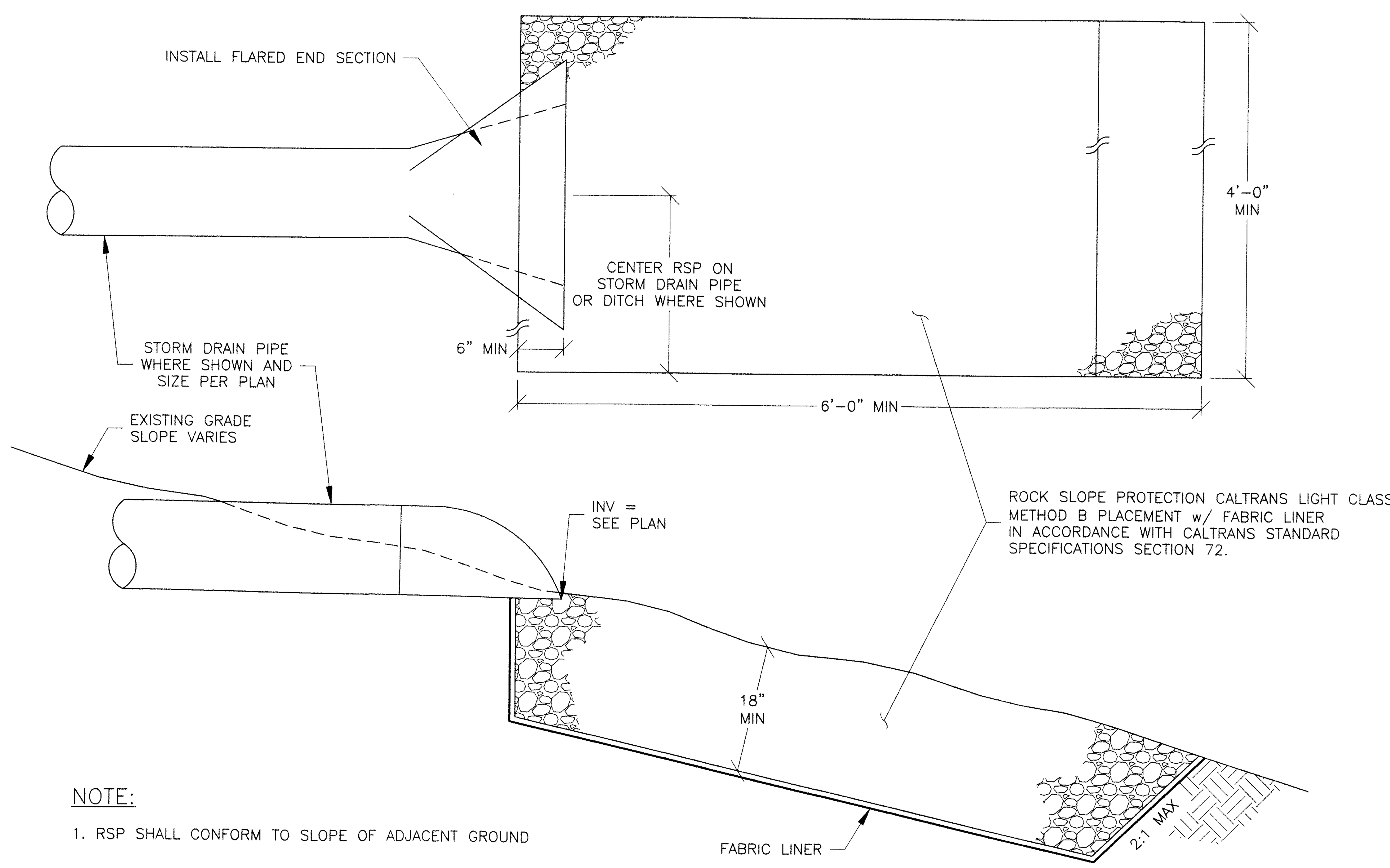
(11) **TYPICAL REMOVABLE BOLLARD**

N.T.S.



(12) **INSULATING FLANGE**

N.T.S.



NOTE:

1. RSP SHALL CONFORM TO SLOPE OF ADJACENT GROUND

(13) **ENERGY DISSIPATER**

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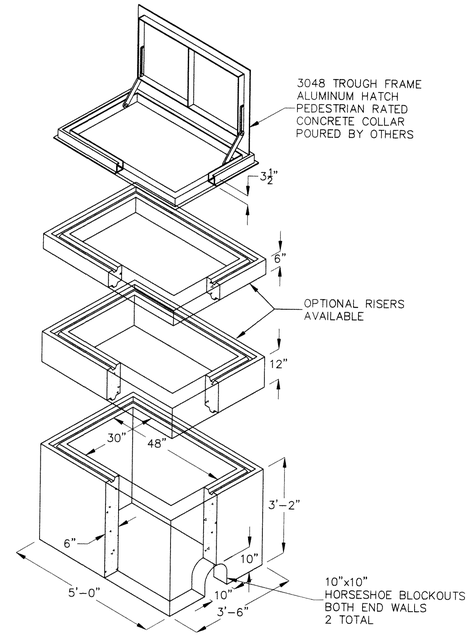

DESIGN LOAD: 300 PSF PEDESTRIAN LOADING

15 **VALVE VAULT**

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