

*Boondocks*  
*Lot 4A, Crown Point Filing #1*  
 LOCATED IN A PORTION OF THE SW 1/4 OF SECTION 3,  
 T6S, R66W, 6TH P.M., COUNTY OF DOUGLAS, STATE OF COLORADO.

*Utility Plan*

**LEGAL DESCRIPTION:**

Lot 4, Crown Point F#1, 14th Amendment-Reception # 2007081477 of the records of Arapahoe County, Colorado, Containing 847,936 square feet, 14.875 acres, More or Less.

**PROPOSED LEGAL DESCRIPTION:**

The following descriptions are a part of lot 4; Crown Point F # 1, 14th Amendment Rec # 2007081477, Arapahoe County, Colorado and describes two parcels (A&B) which are to be included in a replat of the said lot 4;

**Parcel A**  
 Beginning at the northeast corner of said lot 4;  
 Thence southerly along the east line of lot 4, which is coincident with west ROW line of E 470, S11°07'44"W, 191.10 feet;  
 Thence leaving said coincident east line with west ROW line of E470; N70°01'13"W; 586.59 feet;  
 Thence S00°00'00"E, 384.86 feet to a platted corner on said lot 4; said platted corner being the northeast corner of lot 2, Crown Point F #1, 14th Amendment, Reception # 20070081477; Arapahoe County, Colorado;  
 Thence along a common lot line of lot 24, lot 4, said Crown Point F#1, 14th amendment; N90°00'00"W, 238.60 ft to a common corner of lot 3, Crown Point F#1, 14th amendment, reception #2007081477, and lot 4;  
 Thence along a common property line of said lots 3 and 4 N00°06'31"W, 634.97 feet to a point on the south ROW line of Cottonwood Dr, Rec. # 00073633, Arapahoe County, Colorado;  
 Thence along said south ROW line on a curve to the right having a chord of S74°15'58"E 526.95 ft and a radius of 2,702.00 ft with a central angle of 11°11'30" with an arc length of 527.79 ft. to a point of Tangent;  
 Thence continuing along said south ROW line S68°40'13"E, 90.33 feet.;  
 Thence continuing along the said south ROW line S70°34'46"E, 240.13 ft. to the POINT OF BEGINNING.

Area of Parcel A 5.969 acres.

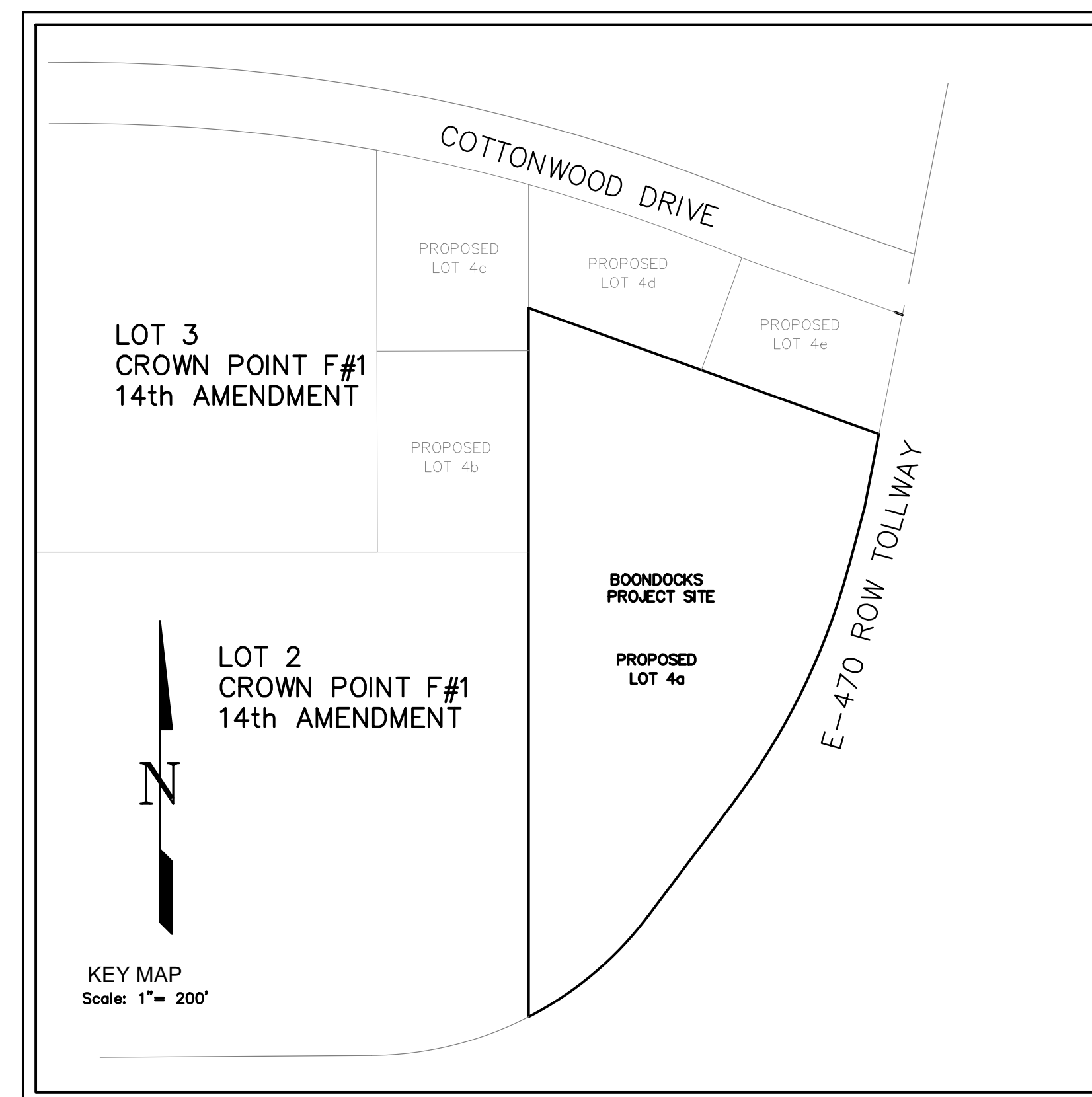
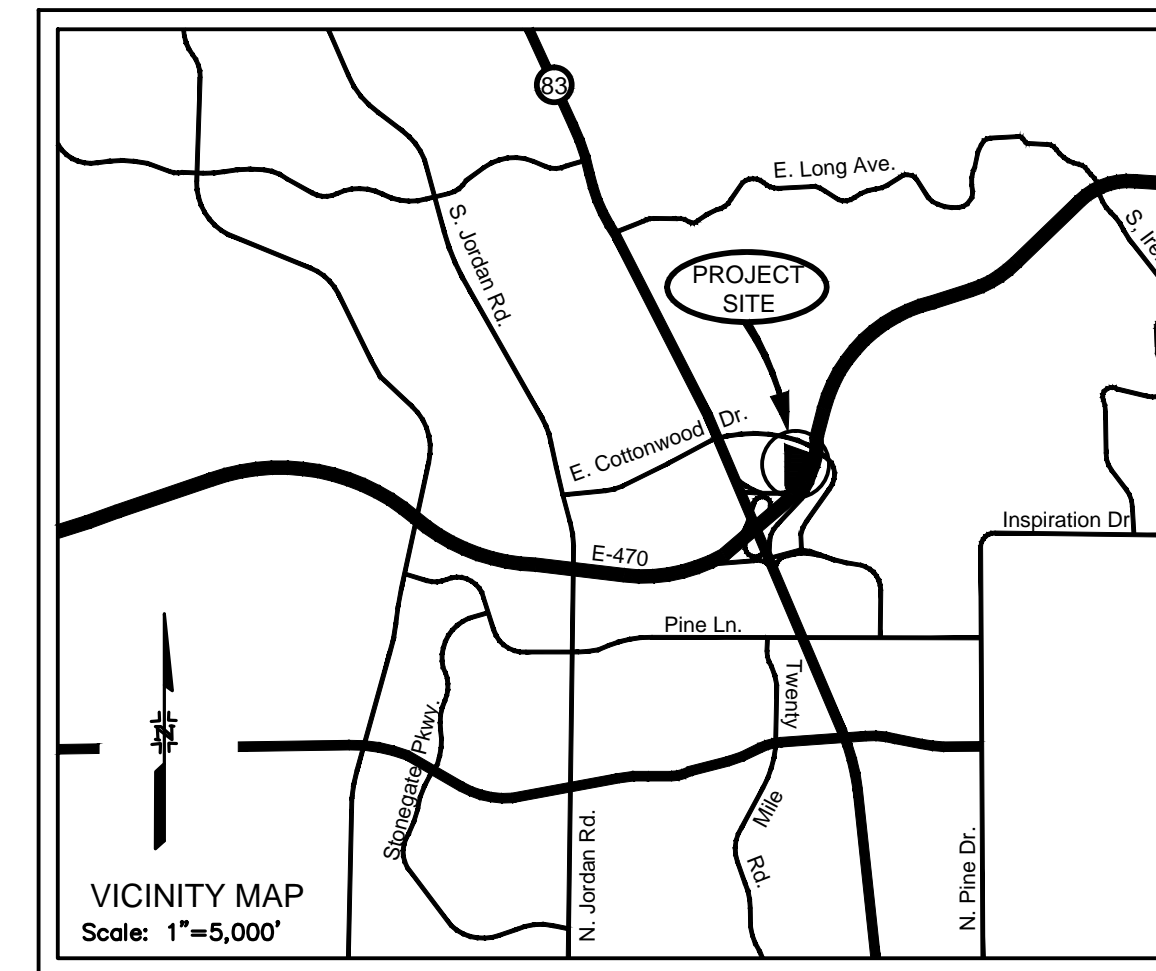
**Parcel B**  
 Beginning at the northeast corner of said lot 4;  
 Thence along the east line of lot 4 which is coincident of the west ROW of E 470; S4°07'44"W, 191.10 feet to the TRUE POINT OF BEGINNING;  
 Thence along the common lot line of lot 4 and west ROW of E 470 along the following 5 courses and distances;

- 1) Thence S11°07'44"W, 118.21 feet
  - 2) Thence S14°52'44"W, 95.13 feet to a point of curve;
  - 3) Thence on a curve to the right having a radius of 1,075.92'; a central angle of 22°03'52", an arc length of 414.33 ft and a chord of S25°54'40"W, 411.78 ft to a point of tangent.
  - 4) Thence S36°56'36"W, 228.17ft to a point of curve to the right;
  - 4) Thence on a curve to the right having a radius of 549.41 ft, a central angle of 25°49'10", an arc length of 247.58 ft and a chord of S49°51'11"W; 245.49 ft to the furthest south property corner of said lot 4;
- Thence leaving said E 470 ROW line and continuing north along the common lot line of lot 3, Crown Point F#1, 14th Amendment N00°00'00"E, 732.63 ft to the northeast corner of said lot 3, thence continuing N00°00'00"E, 384.46 ft;  
 Thence S70°13'01"E, 586.59 ft to the TRUE POINT OF BEGINNING of Parcel B

Parcel B contains 8.906 acres.

**BENCHMARK:**

A BRASS DISK SET IN CONCRETE FLUSH WITH THE GROUND AND MARKED WITH A DOUGLAS COUNTY FIBERGLASS WITNESS POST, 125 FEET NORTH OF THE CENTERLINE OF A DRIVEWAY, 84 FEET SOUTH OF A DOUBLE 36 IN. CULVERT, 25 FEET WEST OF THE EDGE OF PARKER ROAD, AND 25 FEET EAST OF THE WEST RIGHT OF WAY FENCE.  
 ELEVATION = 5734.24



**SHEET INDEX:**

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SHEET 4	SANITARY SEWER PLAN & PROFILE
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This review does not constitute approval of any private on site improvements which may be shown. Construction cannot commence until all required drainage/traffic report(s), final development plan(s), special review(s), grading permit, and/or other permits are complete, approved and on file with the Town of Parker.	
Cottonwood Water and Sanitation District	Date
South Metro Fire District	Date

Cottonwood Water & Sanitation District  
 Mr. Patrick F. Mulhern/Laurie Tatlock  
 2 Inverness Drive East, Suite 200  
 Englewood, CO 80112  
 (303) 649-9509

REVISION	DATE	<b>MM&amp;D ENGINEERING SERVICES, INC.</b>
COMMENTS	05/26/2015	
COMMENTS-2	07/07/2015	
William E. Miller, PE 13389 ENGINEERING CONSTRUCTION MANAGEMENT 9125 N. Clydesdale Road Castle Rock, Colorado 80108		PH (303) 908-0062 FAX (303) 708-8399
Boondocks Parker, Colorado Cover Sheet Utility Plan		submittal 03/10/2015 DATE 09/16/2014 DES/DFI/CHK WEM/km PROJ. NO. 13-343 SHEET 1 OF 8



Know what's below.  
 Call before you dig.

COTTONWOOD WATER AND SANITATION DISTRICT GENERAL NOTES

- ALL MAINS, SYSTEM PLANS AND CONSTRUCTION SHALL CONFORM TO THE COTTONWOOD WATER AND SANITATION DISTRICT (THE DISTRICT) SPECIFICATIONS AND SHALL BE SUBJECT TO CONSTRUCTION OBSERVATION BY DISTRICT PERSONNEL OR REPRESENTATIVES. ALL MATERIAL AND WORKMANSHIP SHALL BE IN CONFORMANCE WITH DISTRICT SPECIFICATIONS AND STANDARDS.
- THE OWNER, HIS/HER ENGINEER, OR CONTRACTOR SHALL SCHEDULE A PRECONSTRUCTION MEETING WITH THE DISTRICT MANAGER AND DISTRICT ENGINEER AT LEAST 48 HOURS PRIOR TO THE START OF CONSTRUCTION. PLANS WITH THE DISTRICT REVIEW STAMP WILL BE DISTRIBUTED PRIOR TO OR AT THE PRECONSTRUCTION MEETING. NO CONSTRUCTION WILL BE PERMITTED UNTIL FORMAL RECORDING OF EASEMENTS IS COMPLETE. NO CONSTRUCTION WILL BE PERMITTED PRIOR TO THE PRECONSTRUCTION MEETING.
- ALL WATER MAINS INSTALLED SHALL CONFORM TO DENVER WATER MATERIAL SPECIFICATIONS.  
 DUCTILE IRON PIPE MS-1 AWWA C151 CLASS 50 WITH POLYWRAP  
 POLYVINYL CHLORIDE (PVC) MS-2 AWWA C900-07 DR18 PC 235
- THE APPROVAL OF THE CONSTRUCTION PLANS SIGNIFIES ONLY THAT THE PLANS MEET THE MINIMUM REQUIREMENTS OF THE DISTRICT'S STANDARDS AND SPECIFICATIONS BASED ON THE INFORMATION PROVIDED BY THE DESIGN ENGINEER, OWNER-DEVELOPER, AND CONTRACTOR. APPROVAL IS NOT A REPRESENTATION OR WARRANTY THAT THE SYSTEM AND ASSOCIATED COMPONENTS WILL PERFORM ANY CERTAIN FUNCTIONS.
- THE DISTRICT, ITS REPRESENTATIVE, AND/OR THE DISTRICT ENGINEER, IS NOT A GUARANTOR OF THE CONSTRUCTION CONTRACTORS' OBLIGATIONS AND PERFORMANCE OF CONTRACT.
- OBSERVATION OF WORK IN PROGRESS AND ON-SITE VISITS ARE NOT TO BE CONSTRUED AS A GUARANTEE BY THE DISTRICT OR DISTRICT ENGINEER OF THE CONTRACTOR'S CONTRACTUAL COMMITMENT.
- THE DISTRICT AND/OR DISTRICT ENGINEER IS NOT RESPONSIBLE FOR SAFETY IN, ON, OR ABOUT THE PROJECT SITE, NOR FOR COMPLIANCE BY THE APPROPRIATE PARTY OF ANY REGULATIONS RELATING THERETO.
- THE DISTRICT AND/OR DISTRICT ENGINEER, EXERCISES NO CONTROL OF THE SAFETY OR ADEQUACY OF ANY EQUIPMENT, BUILDING COMPONENTS, SCAFFOLDING, FORMS, OR ANY OTHER WORK AIDS USED IN OR ABOUT THE PROJECT, OR IN THE SUPERINTENDING OF THE SAME.
- THE CONTRACTOR AGREES THAT HE/SHE 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; AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD 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, THE DESIGN ENGINEER, OR THE COUNTY.
- THE CONTRACTOR IS RESPONSIBLE FOR:
  - NOTIFYING ALL CUSTOMERS POSSIBLY AFFECTED BY OUTAGE OF WATER OR SEWER SERVICE DURING CONSTRUCTION PRIOR TO SHUTTING OFF SAID SERVICE.
  - OBTAINING, AT THE CONTRACTOR'S EXPENSE, ALL APPLICABLE LICENSES, PERMITS, BONDS, ETC. REQUIRED FOR MAIN INSTALLATION/SYSTEM MODIFICATIONS.
  - CONTACTING THE DISTRICT FOR A PRE-CONSTRUCTION MEETING AT 303-985-3636. CONSTRUCTION CANNOT START FOR AT LEAST 48 HOURS AFTER THE MEETING HAS BEEN HELD.
  - NOTIFYING THE DISTRICT 48 HOURS IN ADVANCE OF ANY NEEDS TO SHUT DOWN ANY PORTION OF THE EXISTING WATER AND/OR SANITARY SEWER SYSTEM.
  - NOTIFYING THE DISTRICT 48 HOURS IN ADVANCE FOR CONSTRUCTION OBSERVATIONS.
  - IN CASE OF AN EMERGENCY AFTER WORKING HOURS CALL THE DISTRICT OFFICE AT (303) 426-3167 FOR RECORDED INSTRUCTIONS.
- UNDERGROUND UTILITIES IN THE AREA OF CONSTRUCTION HAVE BEEN LOCATED FROM FIELD INVESTIGATION AND THE BEST AVAILABLE UTILITY RECORDS AND ARE APPROXIMATE ONLY. THE DISTRICT ENGINEER ASSUMES NO RESPONSIBILITY FOR UTILITY LOCATIONS. THE CONTRACTOR IS RESPONSIBLE TO FIELD VERIFY THE LOCATION OF ALL UTILITIES PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL UTILITY LINES WHETHER SHOWN ON THE PLANS OR NOT. THE CONTRACTOR SHALL COORDINATE HIS/HER ACTIVITIES WITH THE AFFECTED UTILITY COMPANIES AND SHALL NOTIFY THE UTILITY NOTIFICATION CENTER, PHONE NO. 1-800-922-1987, 48 HOURS PRIOR TO STARTING CONSTRUCTION.
- CONTRACTOR SHALL PERFORM POTHOLING ON EXISTING UTILITIES PRIOR TO THE CONSTRUCTION OF THE WATER AND/OR SANITARY SEWER LINES. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE INSTALLATION COST OF THE PIPELINE.
- THE CONTRACTOR SHALL HAVE IN HIS/HER POSSESSION AT ALL TIMES ONE (1) SIGNED COPY OF THE PROJECT PLANS SIGNED BY THE DISTRICT.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING AND REPLACING ANY EXISTING SIGNS, STRUCTURES, FENCES, ETC ENCOUNTERED ON THE JOB AND RESTORING THEM TO THEIR ORIGINAL CONDITION.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING ANY GROUNDWATER ENCOUNTERED DURING THE CONSTRUCTION OF ANY PORTION OF THIS PROJECT. GROUNDWATER SHALL BE PUMPED, PIPED, REMOVED AND DISPOSED OF IN A MANNER WHICH DOES NOT CAUSE FLOODING OF EXISTING STREETS NOR EROSION ON ABUTTING PROPERTIES IN ORDER TO CONSTRUCT THE IMPROVEMENTS SHOWN ON THESE PLANS. USE OF THE DISTRICTS SEWER SYSTEM FOR THE DISPOSAL OF GROUND WATER IS PROHIBITED WITHOUT WRITTEN CONSENT FROM THE DISTRICT. NO CONCRETE SHALL BE PLACED WHERE GROUNDWATER IS VISIBLE OR UNTIL THE GROUNDWATER TABLE HAS BEEN LOWERED BELOW THE PROPOSED IMPROVEMENTS. ANY UNSTABLE AREAS, AS A RESULT OF GROUNDWATER, ENCOUNTERED DURING THE CONSTRUCTION OF THE PROPOSED IMPROVEMENTS SHALL BE STABILIZED AS AGREED UPON BY THE DISTRICT AND THE DESIGN ENGINEER AT THE TIME OF THE OCCURRENCE.
- IT SHALL BE THE DESIGN ENGINEER'S RESPONSIBILITY TO RESOLVE CONSTRUCTION PROBLEMS WITH THE DISTRICT DUE TO CHANGED CONDITIONS ENCOUNTERED DURING THE PROGRESS OF ANY PORTION OF THE PROPOSED WORK. IF, IN THE OPINION OF THE DISTRICT, PROPOSED ALTERATIONS TO THE SIGNED CONSTRUCTION PLANS INVOLVES SIGNIFICANT CHANGES TO THE CHARACTER OF THE WORK, OR TO FUTURE CONTIGUOUS PUBLIC OR PRIVATE IMPROVEMENTS, THE DESIGN ENGINEER SHALL BE RESPONSIBLE FOR SUBMITTING REVISED PLANS TO THE DISTRICT FOR REVIEW PRIOR TO ANY FURTHER CONSTRUCTION RELATED TO THAT PORTION OF THE WORK.
- THE OWNER IS RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH PLAN REVIEW AND CONSTRUCTION OBSERVATION.
- MAINTAIN MINIMUM OF 10 FEET SEPARATION BETWEEN WATER AND SANITARY SEWER MAINS AND SERVICES IN ACCORDANCE WITH COLORADO STATE DEPARTMENT OF HEALTH AND ENVIRONMENT STANDARDS.
- THE CONTRACTOR WILL BE REQUIRED TO PROVIDE A TRAFFIC CONTROL PLAN TO DOUGLAS COUNTY AND TO CDOT PRIOR TO ISSUANCE OF A STREET CUT PERMIT.
- SHOP DRAWINGS ARE TO BE SUBMITTED AT LEAST 48 HOURS PRIOR TO THE INSTALLATION OF ANY MATERIALS FOR ALL PIPES, FITTINGS AND APPURTENANCES.

COTTONWOOD WATER NOTES

- EXISTING VALVES IN THE DISTRICT SERVICE AREA MAY ONLY BE OPERATED BY DISTRICT PERSONNEL.
- BEFORE ANY TAPS ARE MADE TO MAINS, APPLICATION(S) FOR THE TAPS MUST BE RECEIVED AND APPROVED BY THE DISTRICT.
- IRRIGATION DEMANDS MUST BE FORMALLY SUBMITTED FOR ALL PROJECT REQUIRING WATER FOR LANDSCAPING PURPOSES.
- FINAL PLUMBING PLANS MUST BE RECEIVED AND REVIEWED BY THE DISTRICT ENGINEER BEFORE WATER SERVICE TAPS CAN BE AWARDED IN ORDER TO PREFORM FIXTURE UNIT ANALYSIS TO VERIFY TAP SIZE FOR ALL COMMERCIAL, INDUSTRIAL AND MULTI-FAMILY DEVELOPMENTS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROCUREMENT OF ALL PERMITS NECESSARY FOR THE CONSTRUCTION OF THE WATER LINE WORK.
- PRIOR TO INSTALLATION OF WATER MAINS, ROAD CONSTRUCTION MUST HAVE PROGRESSED TO AT LEAST THE "SUB-GRADE" STAGE. SUB-GRADE IS DEFINED AS AN ELEVATION OF NO MORE THAN SEVEN (7) INCHES BELOW THE FINISHED STREET GRADE. THE CONTRACTOR WILL ADJUST ALL VALVE BOXES AND FIRE HYDRANTS TO THE FINAL FINISHED GRADE.
- ALL WATER MAINS SHALL HAVE A MINIMUM OF FOUR AND ONE-HALF (4-1/2) FEET OF COVER AND ARE TO BE THREE (3) FEET FROM THE EDGE OF THE GUTTER PAN.
- DISTANCE FOR WATERLINES IS THE HORIZONTAL DISTANCE BETWEEN CENTER OF FITTING TO CENTER OF VALVE, METER, ETC. THEREFORE, THE DISTANCES SHOWN ON THE PLANS ARE APPROXIMATE AND COULD VARY DUE TO VERTICAL ALIGNMENT AT FITTING DIMENSIONS.
- ALL HYDRANT LATERALS AND FIRE LINES SHALL BE DUCTILE IRON PIPE CLASS 50 AND FULLY RESTRAINED WITH POLYWRAP.
- ALL WATER LINE VALVES SHALL BE SET AT THE INTERSECTION OF THE EXTENDED PROPERTY LINE AND WATER LINE, EXCEPT WHERE THAT POINT FALLS IN THE FLOW LINE OF A CONCRETE CROSS PAN. IN THAT CASE, THE VALVE SHALL BE LOCATED SO THAT THE SURFACE DRAINAGE DOES NOT INFILTRATE THE VALVE BOX. IF A TAPPING TEE IS NOT LOCATED ON A PROPERTY LINE THEN THE ASSOCIATED VALVE WILL NOT BE REQUIRED AS SHOWN ON THE PLANS. VALVE BOXES SHALL BE SET AT AN ELEVATION IN ACCORDANCE WITH COUNTY PAVING REQUIREMENTS.
- ALL VALVES, VALVE BOXES, CURB STOPS AND/OR METER PIT COVERS SHALL HAVE THE WORD "WATER" STAMPED ON THEM. ALL POTABLE WATER VALVES SHALL BE OPENED IN A CLOCKWISE DIRECTION. ALL VALVE BOXES AND FIRE HYDRANTS WILL BE ADJUSTED TO THE FINAL FINISHED GRADE BY THE CONTRACTOR.
- ALL IRRIGATION AND NON-POTABLE PIPE SHALL BE PURPLE IN COLOR OR SHALL BE LABELED WITH PURPLE TAPE READING "CAUTION NONPOTABLE WATER" ALONG THE FULL LENGTH OF THE PIPE.
- POLYETHYLENE WRAPPINGS SHALL BE INSTALLED AROUND ALL DUCTILE IRON PIPE, FITTINGS, VALVES, FIRE HYDRANT BARRELS, AND RODS AND CLAMPS. THE POLYETHYLENE SHALL HAVE A MINIMUM THICKNESS OF EIGHT (8) MILS.
- TRACER WIRE, GAUGE 12 COPPER, SHALL BE INSTALLED ON ALL WATER LINES, FIRE HYDRANTS LATERALS AND APPURTENANCES.
- INDIVIDUAL SERVICE LINES ARE REQUIRED TO HAVE PRV'S WHEN SYSTEM PRESSURE EXCEEDS 80 PSI IN ACCORDANCE WITH UNIFORM PLUMBING CODE.
- A BACKFLOW PREVENTION DEVICE APPROVED BY DENVER WATER IS REQUIRED ON THE TREATED WATER SERVICE LINE FOR:
  - ALL COMMERCIAL AND MULTI-FAMILY DOMESTIC TAPS.
  - FIRE LINES
- ALL WATER LINES SHALL BE CHLORINATED IN ACCORDANCE WITH AWWA C-651, "DISINFECTING WATER MAINS." THE REQUIRED METHOD IS TO USE SUFFICIENT CHLORINE TABLET TO PRODUCE A 25 MG/L SOLUTION. THESE TABLETS SHALL BE ADHERED TO THE TOP OF THE PIPE WITH A FOOD GRADE ADHESIVE SUCH AS PERMATED CLEAR R.T.V. CHLORINATION OF 16-INCH AND LARGER PIPE REQUIRE A CHLORINE SLURRY. THE CHLORINATION OF ANY FINISHED PIPELINE SHALL BE COMPLETED PRIOR TO HYDROSTATIC TESTING.
- THE WATER QUALITY CONTROL DIVISION OF THE COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT (CDPHE) REQUIRES ALL WATER LINE CONTRACTORS TO POSSESS A CURRENT DISCHARGE PERMIT FOR DISCHARGES OF CHLORINATED AND PROCESS WATERS ASSOCIATED WITH THE INSTALLATION OF NEW MAINS OR CONDUITS. CONTACT CDPHE WATER QUALITY CONTROL DIVISION AT (303) 692-3539 FOR INFORMATION ON OBTAINING THE REQUIRED PERMIT.
- HYDROSTATIC TESTING: ALL WATER LINES SHALL BE HYDROSTATIC TESTED IN ACCORDANCE WITH AWWA C-600 SECTION 4 "HYDROSTATIC TESTING". ALL WATER LINES SHALL BE TESTED TO A MINIMUM OF 150 PSI. THE TEST SHALL BE SCHEDULED WITH THE DISTRICT AUTHORITY AND COORDINATED WITH ANY OTHER REVIEWING OR APPROVING AGENCY. THE CONTRACTOR SHALL FURNISH ALL EQUIPMENT FOR TESTING. THE ALLOWABLE LEAKAGE RATES ARE AS FOLLOWS:
 

PIPE I.D.	ALLOWABLE LEAKAGE PER 1000 FEET	
	D.I.P	PVC
4"	0.37 GAL/HOUR	0.33 GAL/HOUR
6"	0.55 GAL/HOUR	0.50 GAL/HOUR
8"	0.74 GAL/HOUR	0.66 GAL/HOUR
12"	1.10 GAL/HOUR	1.00 GAL/HOUR
16"	1.47 GAL/HOUR	
20"	1.84 GAL/HOUR	
- ONLY ONE (1) POINT OF CONNECTION WILL BE ALLOWED UNTIL ALL TESTING OF NEW INSTALLATIONS IS COMPLETED TO THE DISTRICT'S SATISFACTION.
- PROBATIONARY ACCEPTANCE OF THE NEW WATER LINES IS CONTINGENT UPON RECEIVING COPIES OF:
  - PASSING WATER LINE TRENCH COMPACTION TEST RESULTS;
  - PASSING HYDROSTATIC PRESSURE TEST RESULTS;
  - RECORD DRAWINGS
  - PASSING HEALTH DEPARTMENT TESTS (CHLORINE AND/OR CLEAR WATER AS REQUIRED)
- THE COST OF THE WATER LINE CONSTRUCTION IS \$\_\_\_\_\_
- THE STATIC PRESSURE MEASURED AT THE PUMP STATION LOCATED AT NORTH OF COTTONWOOD DRIVE IS 120 PSI.

COTTONWOOD SANITARY SEWER NOTES

- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROCUREMENT OF ALL PERMITS NECESSARY FOR THE CONSTRUCTION OF THE SANITARY SEWER LINE WORK.
- THE CONTRACTOR IS RESPONSIBLE FOR:
  - NOTIFYING THE DISTRICT 48 HOURS IN ADVANCE OF ANY NEED TO SHUT DOWN ANY PORTION OF THE EXISTING SANITARY SEWER SYSTEM.
  - NOTIFYING THE DISTRICT 48 HOURS IN ADVANCE OF THE WORK.
  - IN CASE OF AN EMERGENCY AFTER WORKING HOURS, CALL THE DISTRICT OFFICE AT (303) 986-2275 FOR RECORDED INSTRUCTIONS.
- UNDERDRAINS ARE NOT PART OF THE SANITARY SEWER LINES OR SYSTEM AND WILL NOT BE ALLOWED IN THE SAME TRENCH AS THE SANITARY SEWER MAINS. UNDERDRAINS SHALL NOT BE ACCEPTED, MAINTAINED OR SUBJECT TO CONSTRUCTION OBSERVATION BY THE DISTRICT. THE DISTRICT HAS NO SPECIFICATIONS FOR UNDERDRAINS AND WILL ONLY REVIEW THEIR PROPOSED LOCATION RELATIVE TO THE SANITARY SEWER LINES.
- THE CONTRACTOR SHALL VERIFY EXISTING MANHOLE INVERTS TO BE CONNECTED TO PRIOR TO CONSTRUCTION STAKING AND CONSTRUCTION.
- PRIOR TO INSTALLATION OF SANITARY SEWER MAINS, ROAD CONSTRUCTION MUST HAVE PROGRESSED TO AT LEAST THE SUB-GRADE STAGE. SUB-GRADE IS DEFINED AS AN ELEVATION OF NO MORE THAN SEVEN (7) INCHES BELOW THE FINISHED STREET GRADE. THE CONTRACTOR SHALL ADJUST ALL MANHOLE COVERS TO THE FINAL FINISHED GRADE.
- THE LENGTH OF SANITARY SEWER IS THE HORIZONTAL DISTANCE BETWEEN CENTERS OF MANHOLE. THEREFORE DISTANCES SHOWN ON THE PLANS ARE APPROXIMATE AND COULD VARY DUE TO VERTICAL ALIGNMENT AND MANHOLE DIMENSIONS.
- THE PIPE USED FOR SANITARY SEWER MAINS SHALL BE IN ACCORDANCE WITH ASTM D-3034 SDR 35 PVC PIPE IN PAVED RIGHTS-OF-WAY AND EASEMENTS, AND AWWA C-900 CLASS 165 (DR25) IN UNPAVED EASEMENTS OR AS NOTED ON THE PROJECT PLANS.
- MANHOLE RIMS SHALL BE SET AT AN ELEVATION RELATIVE TO THE PAVEMENT, IN ACCORDANCE WITH COUNTY STANDARDS. WHETHER THE MANHOLE IS IN A PAVED OR UNPAVED GRADE, A MAXIMUM ACCEPTABLE VERTICAL ADJUSTMENT UTILIZING CONCRETE RINGS IS TWELVE (12) INCHES.
- THE CONTRACTOR SHALL TAKE CARE TO PROPERLY SHAPE ALL MANHOLE INVERTS AND BENCHES IN ACCORDANCE WITH DISTRICT STANDARDS AND SPECIFICATIONS, TO PROMOTE SMOOTH FLOW THROUGH THE MANHOLE. INVERTS OF LINES INTERSECTING AT 90 DEGREES AND AT HIGHLY DIVERGENT OR FLAT SLOPES ARE ESPECIALLY CRITICAL. MANHOLE INVERTS SHALL BE CONSTRUCTED WITH A SMOOTH TROWEL FINISH, AND BENCHES FINISHED WITH A LIGHT BROOM, NON-SKID FINISH.
- TRACER WIRE, GAUGE 12 COPPER, SHALL BE INSTALLED ON ALL SEWER LINES, MANHOLES, AND CLEANOUTS.
- THE SANITARY SEWER SERVICE SHALL BE STUBBED OUT. THE END OF THE STUB SHALL BE WITNESSED BY A WOOD, CARBONITE OR METAL POST AT LEAST FOUR FEET LONG, BURIED TO EXPOSE ONE FOOT. THE CONTRACTOR SHALL FURNISH THE AUTHORITY WITH AN AS-BUILT LOCATION OF THE WYE.
- THE SANITARY SEWER SYSTEM WILL BE TESTED IN ACCORDANCE WITH THE DISTRICT STANDARDS AND SPECIFICATIONS. THE DISTRICT WILL REQUIRE THE DEVELOPER TO:
  - LOW PRESSURE AIR TEST 100% OF THE NEW SYSTEM, AND
  - DEFLECTION TEST, AT A MINIMUM 33% OF THE SYSTEM FIFTEEN (15) FEET OR LESS IN DEPTH, AND 100% OF THE SYSTEM GREATER THAN FIFTEEN (15) FEET IN DEPTH.
  - JET AND TV/VIDEO TAPE 100% OF THE SYSTEM.
- PROBATIONARY ACCEPTANCE OF THE NEW SANITARY SEWER MAINS IS CONTINGENT UPON RECEIVING COPIES OF:
  - SANITARY SEWER TRENCH COMPACTION TEST RESULTS,
  - RECORD DRAWINGS, AND
  - COMPLETION OF SYSTEM TESTING.
- CONNECTIONS TO EXISTING DISTRICT LINES WILL BE PERMITTED UPON ACCEPTANCE OF THE NEW SANITARY SEWER SYSTEM. EXISTING PIPE AT THE POINT OF CONNECTION SHALL NOT BE "BROKEN OUT" UNTIL THE NEW SYSTEM IS ACCEPTED.
- MONITORING MANHOLES ARE REQUIRED FOR ALL COMMERCIAL AND INDUSTRIAL SANITARY SERVICE LINES.
- PIPE BEDDING UP TO 16- FEET IN DEPTH IS TO BE SQUEEGEE. PIPE BEDDING IN EXCESS OF 16- FEET IN DEPTH IS TO BE 3/4-INCH AGGREGATE. PIPE BEDDING IN EXCESS OF 22- FEET MUST BE SPECIFIED BY THE DISTRICT ENGINEER.



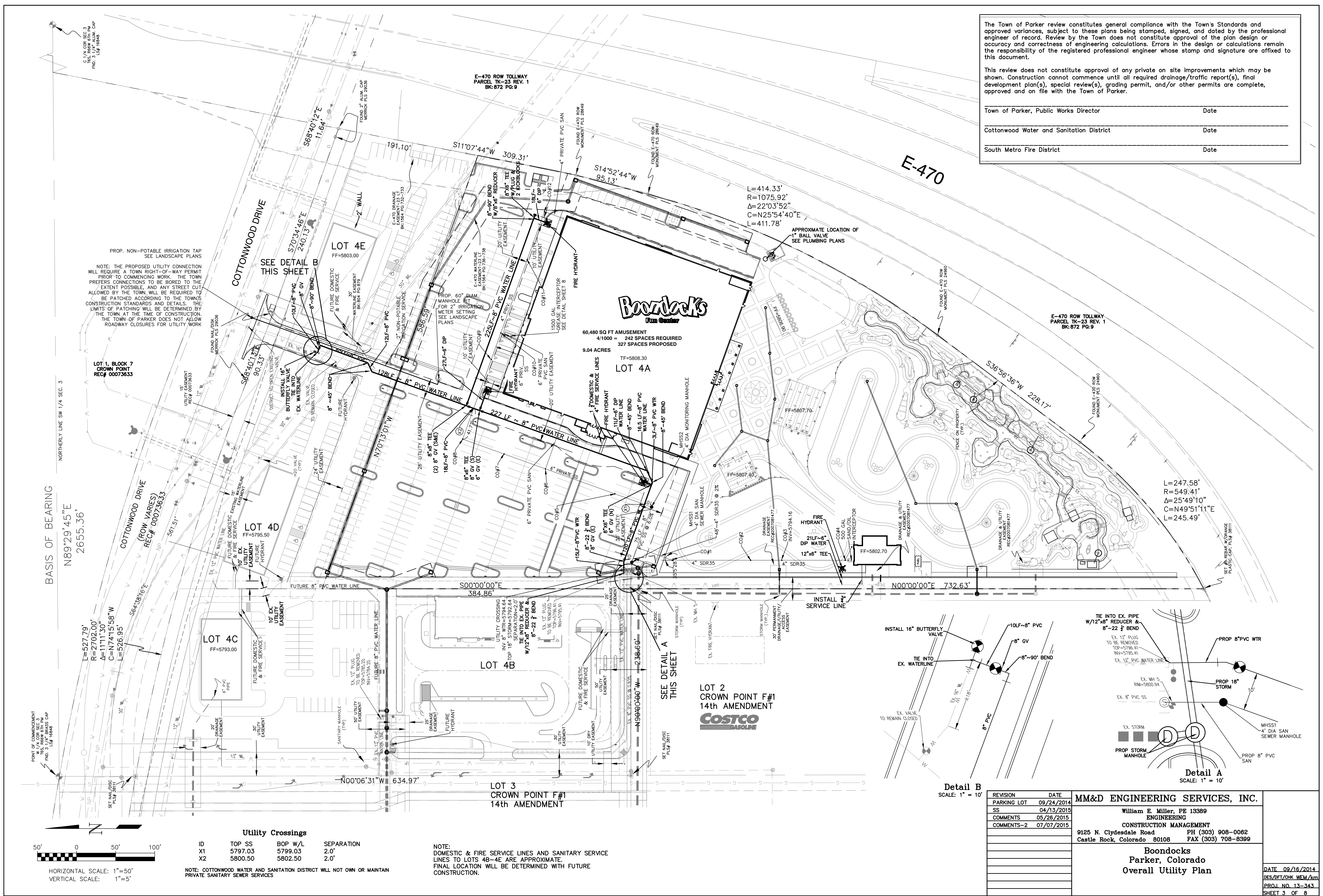
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REVISION	DATE	<b>MM&amp;D ENGINEERING SERVICES, INC.</b>
COMMENTS	05/26/2015	
COMMENTS-2	07/07/2015	William E. Miller, PE 13389 ENGINEERING CONSTRUCTION MANAGEMENT 9125 N. Clydesdale Road PH (303) 908-0062 Castle Rock, Colorado 80108 FAX (303) 708-8399
		Boondocks Parker, Colorado Water & Sanitary Sewer Notes Utility Plan
		submittal 03/10/2015 DATE 09/16/2014 DES/DFY/CHK WEM/km PROJ. NO. 13-343 SHEET 2 OF 8

The Town of Parker review constitutes general compliance with the Town's Standards and approved variances, subject to these plans being stamped, signed, and dated by the professional engineer of record. Review by the Town does not constitute approval of the plan design or accuracy and correctness of engineering calculations. Errors in the design or calculations remain the responsibility of the registered professional engineer whose stamp and signature are affixed to this document.

This review does not constitute approval of any private on site improvements which may be shown. Construction cannot commence until all required drainage/traffic report(s), final development plan(s), special review(s), grading permit, and/or other permits are complete, approved and on file with the Town of Parker.

Town of Parker, Public Works Director	Date
Cottonwood Water and Sanitation District	Date
South Metro Fire District	Date



BASIS OF BEARING  
N89°29'45"E  
2655.36'

PROP. NON-POTABLE IRRIGATION TAP  
SEE LANDSCAPE PLANS

NOTE: THE PROPOSED UTILITY CONNECTION WILL REQUIRE A TOWN RIGHT-OF-WAY PERMIT PRIOR TO COMMENCING WORK. THE TOWN PREFERS CONNECTIONS TO BE BORED TO THE EXTENT POSSIBLE, AND ANY STREET CUT ALLOWED BY THE TOWN WILL BE REQUIRED TO BE PATCHED ACCORDING TO THE TOWN'S CONSTRUCTION STANDARDS AND DETAILS. THE LIMITS OF PATCHING WILL BE DETERMINED BY THE TOWN AT THE TIME OF CONSTRUCTION. THE TOWN OF PARKER DOES NOT ALLOW ROADWAY CLOSURES FOR UTILITY WORK.

**Utility Crossings**

ID	TOP SS	BOP W/L	SEPARATION
X1	5797.03	5799.03	2.0'
X2	5800.50	5802.50	2.0'

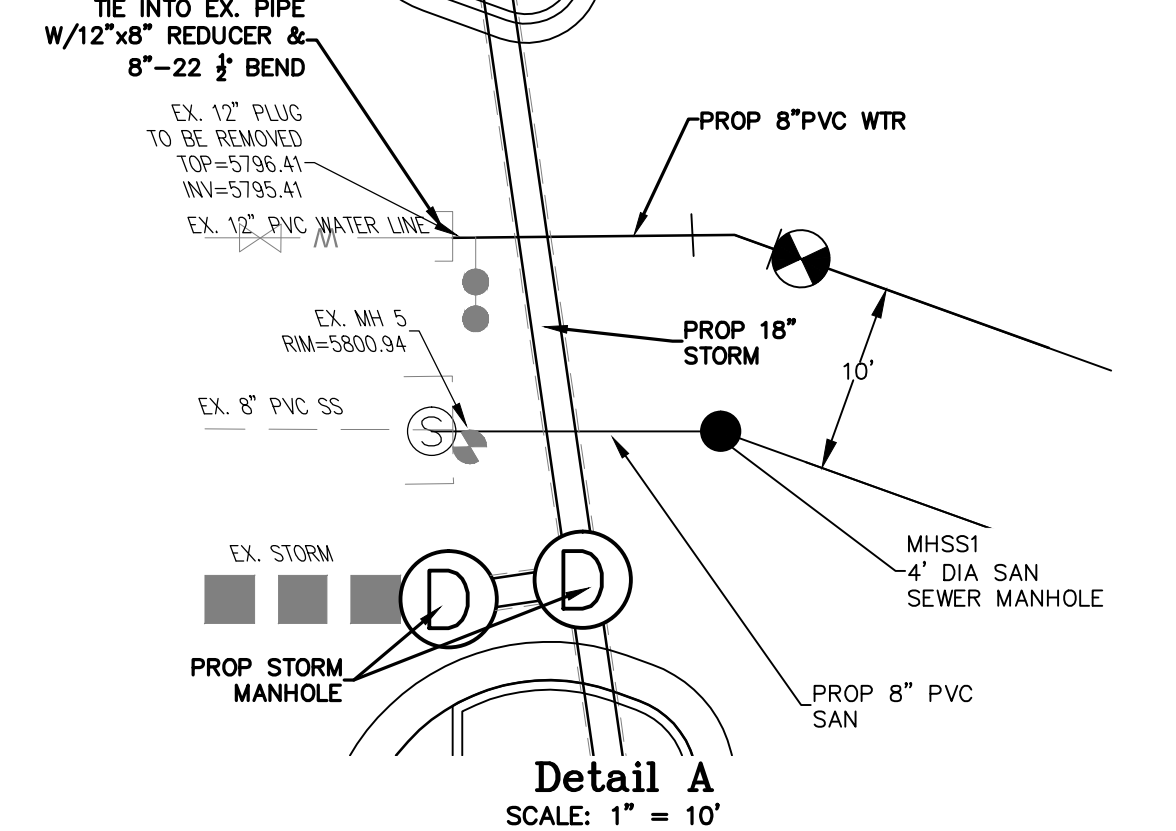
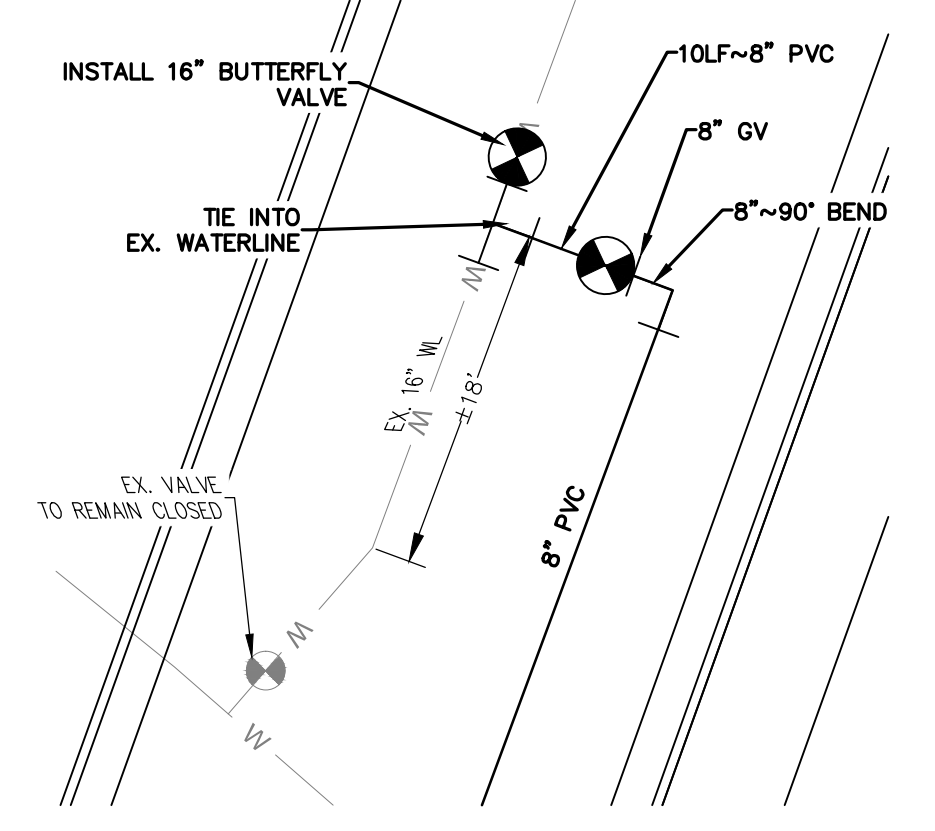
NOTE: COTTONWOOD WATER AND SANITATION DISTRICT WILL NOT OWN OR MAINTAIN PRIVATE SANITARY SEWER SERVICES

NOTE:  
DOMESTIC & FIRE SERVICE LINES AND SANITARY SERVICE LINES TO LOTS 4B-4E ARE APPROXIMATE. FINAL LOCATION WILL BE DETERMINED WITH FUTURE CONSTRUCTION.

L=414.33'  
R=1075.92'  
Δ=22°03'52"  
C=N25°54'40"E  
L=411.78'

APPROXIMATE LOCATION OF  
1" BALL VALVE  
SEE PLUMBING PLANS

L=247.58'  
R=549.41'  
Δ=25°49'10"  
C=N49°51'11"E  
L=245.49'

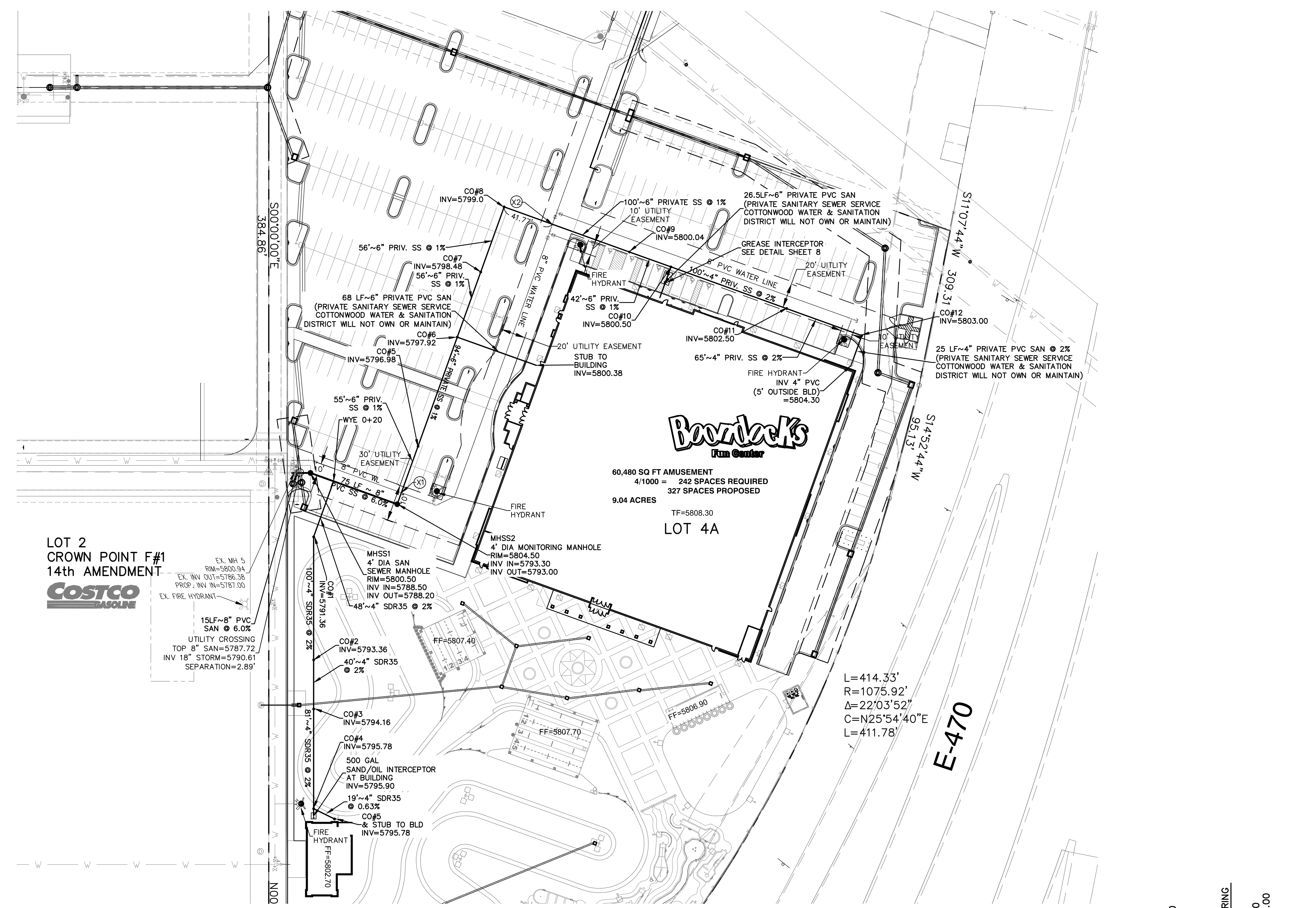


REVISION	DATE	MM&D ENGINEERING SERVICES, INC.
PARKING LOT	09/24/2014	William E. Miller, PE 13389
SS	04/13/2015	ENGINEERING
COMMENTS	05/26/2015	CONSTRUCTION MANAGEMENT
COMMENTS-2	07/07/2015	9125 N. Clydesdale Road PH (303) 908-0082 Castle Rock, Colorado 80108 FAX (303) 708-8399

**Boondocks  
Parker, Colorado  
Overall Utility Plan**

DATE	09/16/2014
DES/CHK	WEM/km
PROJ. NO.	13-343
SHEET	3 OF 8

NOTE:  
DOMESTIC & FIRE SERVICE LINES AND SANITARY SERVICE LINES TO LOTS 4B-4E, ARE APPROXIMATE. FINAL LOCATION WILL BE DETERMINED WITH FUTURE CONSTRUCTION.



LOT 2  
CROWN POINT F#1  
14th AMENDMENT  
**COSTCO**  
GASOLINE

L=414.33'  
R=1075.92'  
Δ=22°03'52"  
C=N25°54'40"E  
L=411.78'

E-470

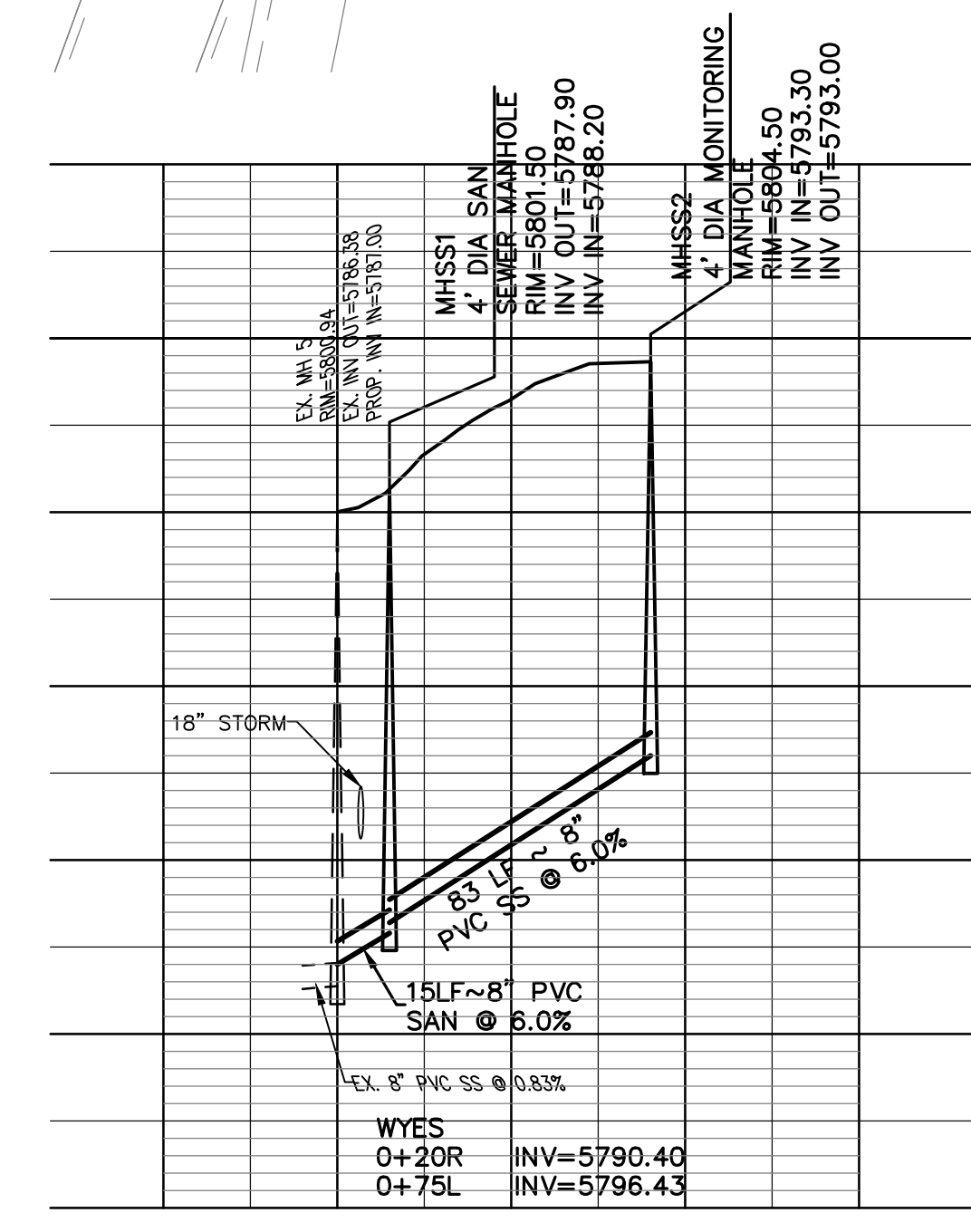
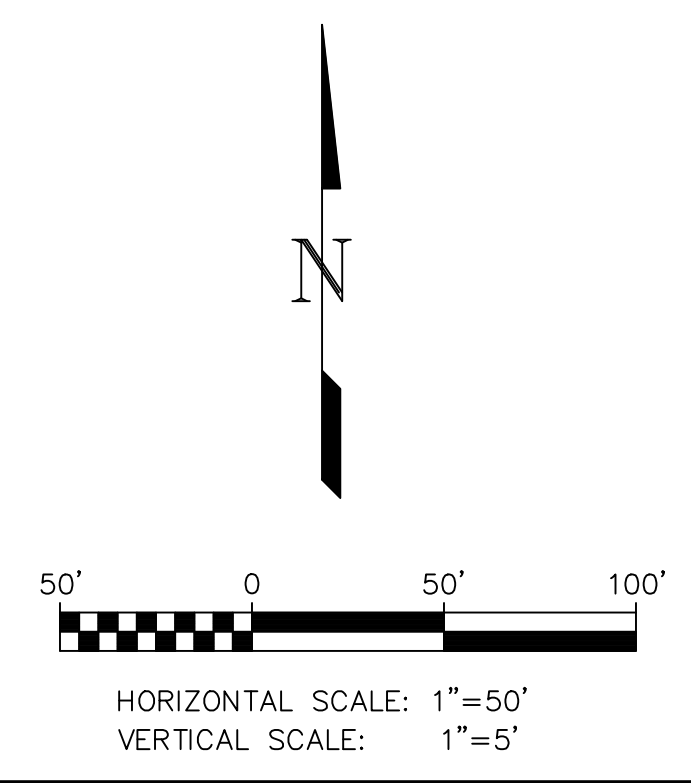
**Oil Interceptor Calculation**

EQUATION: $C = (5 + (A/100)) * 7.5$		EQUATION FROM IPC 2012	
C= MINIMUM CAPACITY OF SEPARATOR (CUBIC FEET)			
A= FLOOR AREA SERVED (SQUARE FEET)			
7.5= CONVERSION FROM CUBIC FEET TO GALLONS			
ZONE	A	C EXACT (GAL)	C (GAL) WITH ~ 1.5 SAFETY FACTOR
MAINTENANCE BLD	1725	166.9	251

**Utility Crossings**

ID	TOP SS	BOP W/L	SEPARATION
X1	5797.03	5799.03	2.0'
X2	5800.50	5802.50	2.0'

NOTE: COTTONWOOD WATER AND SANITATION DISTRICT WILL NOT OWN OR MAINTAIN PRIVATE SANITARY SEWER SERVICES



REVISION	DATE	MM&D ENGINEERING SERVICES, INC.
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**Boondocks  
Parker, Colorado  
Sanitary Sewer Plan  
& Profile**

DATE 09/16/2014  
DES/DFT/CHK WEM/km  
PROJ. NO. 13-343  
SHEET 4 OF 8

RING AND COVER ELEVATION SHALL BE IN ACCORDANCE WITH THE CITY/ COUNTY REQUIREMENTS.

CEMENT GROUT OR MORTAR

24" MH RING AND COVER (SEE DETAIL)

BRICK LEVELING COURSE OR CONCRETE RISER SECTION (12" VERTICAL ADJUSTMENT MAX.)

1 BRICK COURSE MIN. 4 BRICK COURSE MAX.

ECCENTRIC CONE

NOTES:

- MANHOLE BARREL MIN. DIA. SHALL CONFORM TO TABLE BELOW.
- SHAPING FOR SMOOTH MANHOLE INVERTS MUST BE DONE BY FORMING OR SHAPING BASE CONCRETE.
- MANHOLE STEPS SHALL BE ALCOA NO. 12653B OR APPROVED EQUAL (SEE ALUMINUM STEP DETAIL FOR FURTHER INFORMATION)
- PRECAST CONCRETE SECTIONS SHALL CONFORM TO ASTM C-478.
- BLOCK-OUTS WHEN APPROVED SHALL EXTEND A MAX. OF 6" PAST MANHOLE O.D. AND BE SATISFACTORILY PLUGGED AND SEALED.
- CONCRETE MANHOLES MAY BE POURED IN PLACE ONLY WITH PRIOR APPROVAL.
- ALL MORTAR GROUT SHALL BE MIXED WITH TYPE II CEMENT.
- BENCH MUST HAVE A BRUSHED, NON-SKID SURFACE.
- OUTFALL OR DROP MANHOLES SHALL BE LINED WITH STRONG SEAL, POLYTRIPLEX SENER SHIELD, OR AN APPROVED EQUAL, COATED WITH 20 MIL. MIN. APPLIED IN 4-7 MIL. LAYERS, PER MANUFACTURER'S SPECIFICATIONS.
- PRE-CAST CONCRETE BASES SHALL NOT BE USED WITHOUT PRIOR APPROVAL OF THE DISTRICT.

PIPE I.D.	MANHOLE I.D.	RING & COVER
18" & SMALLER	4'-0"▲	24"
21" TO 48"	5'-0"	30"
54"	6'-0"	30", 36" W/ 24"
60" & LARGER	SPECIAL DESIGN	INNER COVER

▲WHENEVER MORE THAN A TWO WAY MANHOLE OF MAX. PIPE I.D. IS REQUIRED, THE MANHOLE SHOULD BE INCREASED TO LARGER DIA., EG. 18"x18"x18", REQUIRES 5'-0" I.D.

**Kennedy/Jenks Consultants** **COTTONWOOD WATER AND SANITATION DISTRICT** **PRECAST MANHOLE**  
 (303) 985-3636 DRAWING NO.: CTWD-2S DATE: 7/2013

**THROUGH MANHOLE**

**INTERMEDIATE ANGLE**

**SHARP ANGLE**

CURVED DEFLECTOR "POINT" SHALL EXTEND COMPLETELY ACROSS THE OPPOSED LATERALS AS SHOWN.

CURVED DEFLECTOR "POINTS" SHALL EXTEND ACROSS THE CENTERLINE OF THE OPPOSING PIPES AS SHOWN.

**THROUGH MANHOLE ONE COLLECTION LINE**

**THROUGH MANHOLE TWO COLLECTION LINES**

NOTES:

- PIPE INVERT ELEVATIONS AND DROP THROUGH MANHOLES SHALL BE IN CONFORMANCE WITH THE REVIEWED AND SIGNED CONSTRUCTION PLANS. THE INTENTION IS TO PROMOTE SMOOTH, NON-TURBULENT FLOW THROUGH THE MANHOLES BY KEEPING THE LARGER LINES LOWER IN THE MANHOLE AND BRINGING THE SMALLER LINES IN SLIGHTLY HIGHER.
- MAXIMUM INSIDE DROP THROUGH ANY MANHOLE SHALL BE 12 INCHES.
- MINIMUM DROP THROUGH ANY MANHOLE SHALL BE 0.2 FT.
- ALL INVERT DEFLECTORS SHALL BE CURVED IN SHAPE TO PROVIDE SMOOTH FLOW TRANSITIONS AS SHOWN ON THIS DETAIL.
- MINIMUM ANGLE BETWEEN THE CENTERLINE OF ANY INCOMING PIPE AND THE CENTERLINE OF THE OUTGOING PIPE SHALL BE 90 DEGREES.

**Kennedy/Jenks Consultants** **COTTONWOOD WATER AND SANITATION DISTRICT** **BASE AND DEFLECTOR**  
 (303) 985-3636 DRAWING NO.: CTWD-3S DATE: 7/2013

**PLASTIC STEP**

COPOLYMER POLYPROPYLENE PLASTIC

1-3/16"

9-3/4"

3-3/8"

15-7/16"

14"

6-3/8"

1/2" GRADE 60 STEEL REINFORCEMENT

**SECTION-A-A**

**Kennedy/Jenks Consultants** **COTTONWOOD WATER AND SANITATION DISTRICT**  
 (303) 985-3636 DRAWING NO.: CTWD-5S DATE: 7/2013

**24" MANHOLE RING AND COVER**

RAISED LETTERS (1/8"±)

SEWER 1 1/8"

4 3/4"

25 3/4"±

LIFTING NOTCH

PLAN

FRONT VIEW

SIDE VIEW

LIFTING NOTCH

SECTION A-A

NOTE:

- CASTING SPECIFICATIONS: ASTM A-48 WITH A MINIMUM TENSILE STRENGTH OF 25 KSI (CLASS 25)
- ALL CASTINGS TO BE DIPPED IN ASPHALT BASE PAINT (OR APPROVED EQUAL)
- CASTINGS SHALL BE AS SPECIFIED BELOW OR EQUAL: (CAST IRON ONLY)

MANUFACTURES CAT. #  
 NEENAH R-1706  
 CASTINGS, INC. MH-400-24 C.I.  
 HUTCHINSON FDRY. & STL. INC. MH-400

**Kennedy/Jenks Consultants** **COTTONWOOD WATER AND SANITATION DISTRICT**  
 (303) 985-3636 DRAWING NO.: CTWD-6S DATE: 7/2013

**IN-LINE CLEANOUT**

SURFACE

12" 12"

LAMP HOLE COVER (SEE DETAIL BELOW)

CONCRETE PAD POURED AT TIME OF FINAL GRADE

4" REDUCER

PVC

45° BEND

CONCRETE CRADLE

PLAN VIEW

COVER DETAIL

NOTES:

- COVER SHALL HAVE A LOCKING LID MARKED "SEWER".
- TYLER SERIES 6855 SLIP TYPE TOP SECTION, D & L SUPPLY SERIES M8056 OR EQUAL.
- I.D. = 6 1/8"

**Kennedy/Jenks Consultants** **COTTONWOOD WATER AND SANITATION DISTRICT**  
 (303) 985-3636 DRAWING NO.: CTWD-10S DATE: 7/2013

**TYPICAL TRENCH SECTION**

IN OPEN FIELD

IN STREET

NEW STREET SURFACE

UNIFORM OUT LINE ASPHALT/CONCRETE

EXISTING STREET SURFACE

EXISTING BASE COURSE

NEW BASE COURSE

COMPACTED BACKFILL

WIDTH SEE NOTE 4

PIPE LINE

BEDDING TO BE EITHER SQUEEGEE OR SAND

NOTES:

- MINIMUM COVER TO BE 4.5' BELOW OFFICIAL STREET GRADE.
- TRENCH TO BE BRACED OR SHEETED AS NECESSARY FOR THE SAFETY OF THE WORKMEN AND PROTECTION OF OTHER UTILITIES IN ACCORDANCE WITH APPLICABLE LOCAL, STATE AND FEDERAL SAFETY REGULATIONS.
- PIPE SHALL BE BEDDED FROM 6" BELOW THE BOTTOM OF THE PIPE TO 12" ABOVE THE TOP OF THE PIPE.
- TRENCH WIDTH SHALL NOT BE MORE THAN 16" NOR LESS THAN 12" WIDER THAN THE LARGEST OUTSIDE DIAMETER OF THE PIPE.
- SHOULD THE TRENCH BE EXCAVATED WIDER THAN ALLOWED, A CONCRETE CRADLE SHALL BE PLACED WITH 2500 P.S.I. CONCRETE FROM TRENCH BOTTOM TO PIPE SPRINGLINE.
- COMPACTION SHALL BE AS FOLLOWS: PIPE ZONE BEDDING 6" UNDER AND 12" OVER PIPE WILL REQUIRE 70% RELATIVE DENSITY TRENCH ZONE ABOVE BEDDING MATERIALS, FULL TRENCH SECTION IN ROADWAY OR STREET R.O.W. LIMITS WILL REQUIRE 95% S.P.D. TRENCH ZONE ABOVE BEDDING MATERIALS, OUTSIDE OF STREET R.O.W. WILL REQUIRE 90% S.P.D.

**Kennedy/Jenks Consultants** **COTTONWOOD WATER AND SANITATION DISTRICT** **STANDARD BEDDING**  
 (303) 985-3636 DRAWING NO.: CTWD-14S DATE: 7/2013

**SEWER SERVICE CONNECTION TO NEW**

PVC PIPE "WYE"

3'-0" MIN.

3'-0" MIN.

**SECTION A-A**

NOTE:

TAPS IN STAGGERED CONFIGURATION AT 10 O'CLOCK OR 2 O'CLOCK POSITION

NOTES:

- SANITARY SEWER SERVICE TAPS SHALL BE LOCATED ON THE MAIN AT THE 2 O'CLOCK OR 10 O'CLOCK POSITION.
- THE MINIMUM DISTANCE BETWEEN ANY TWO CONSECUTIVE FITTINGS SHALL BE 3 FEET, MEASURED BETWEEN FITTING CENTERLINES.
- SANITARY SEWER SERVICE TAPS SHALL NOT BE MADE WITHIN 3 FEET OF A PIPE JOINT, OR 5 FEET FROM EDGE OF MANHOLE BASE.
- A MAXIMUM OF FOUR SERVICE TAPS ARE ALLOWED PER 20 FOOT LENGTH OF PIPE.
- ALL SANITARY SEWER TAPS SHALL USE "WYE" STYLE FITTINGS. TEES ARE NOT ALLOWED.
- SERVICE CONNECTIONS TO MANHOLES SHALL BE PERFORMED IN ACCORDANCE WITH THE "SERVICE CONNECTION TO DEAD-END MANHOLE" CONSTRUCTION DETAIL.

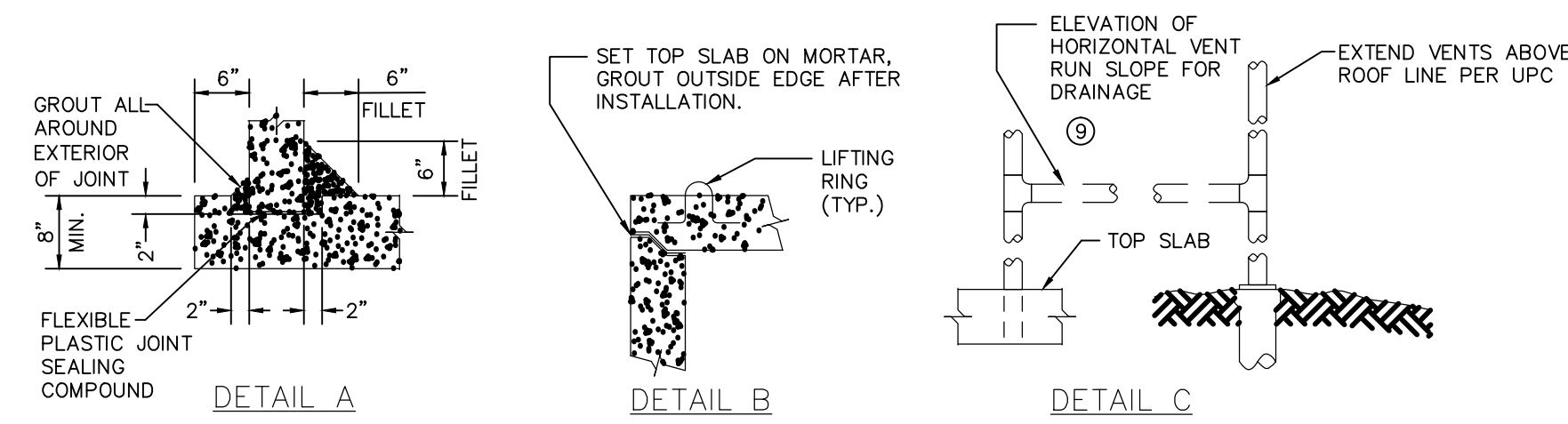
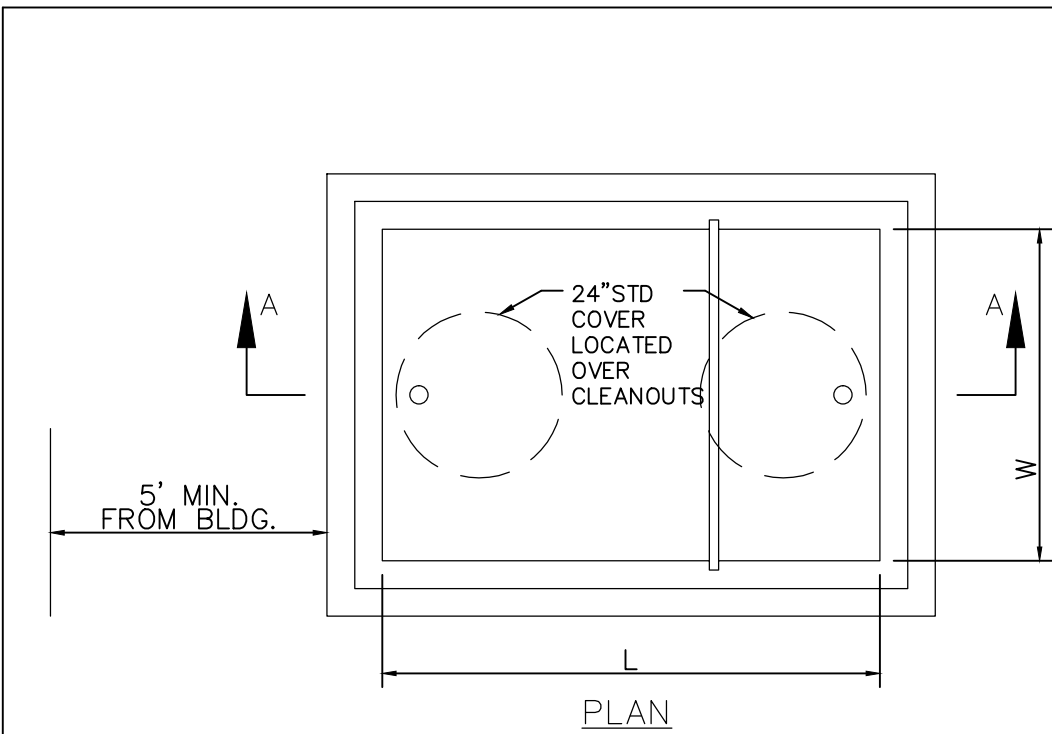
**Kennedy/Jenks Consultants** **COTTONWOOD WATER AND SANITATION DISTRICT**  
 (303) 985-3636 DRAWING NO.: CTWD-19BS DATE: 7/2013



Know what's below.  
 Call before you dig.

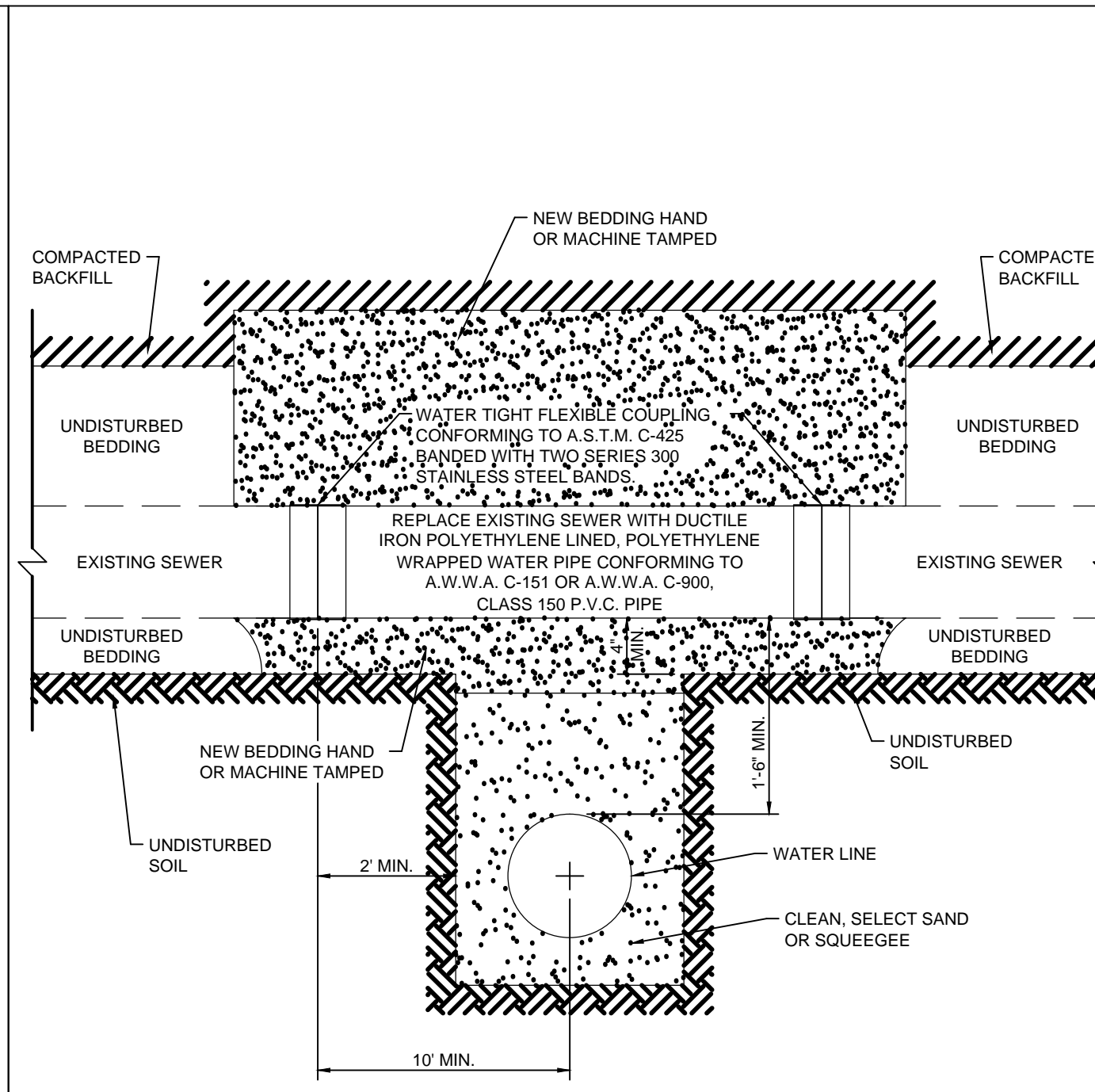
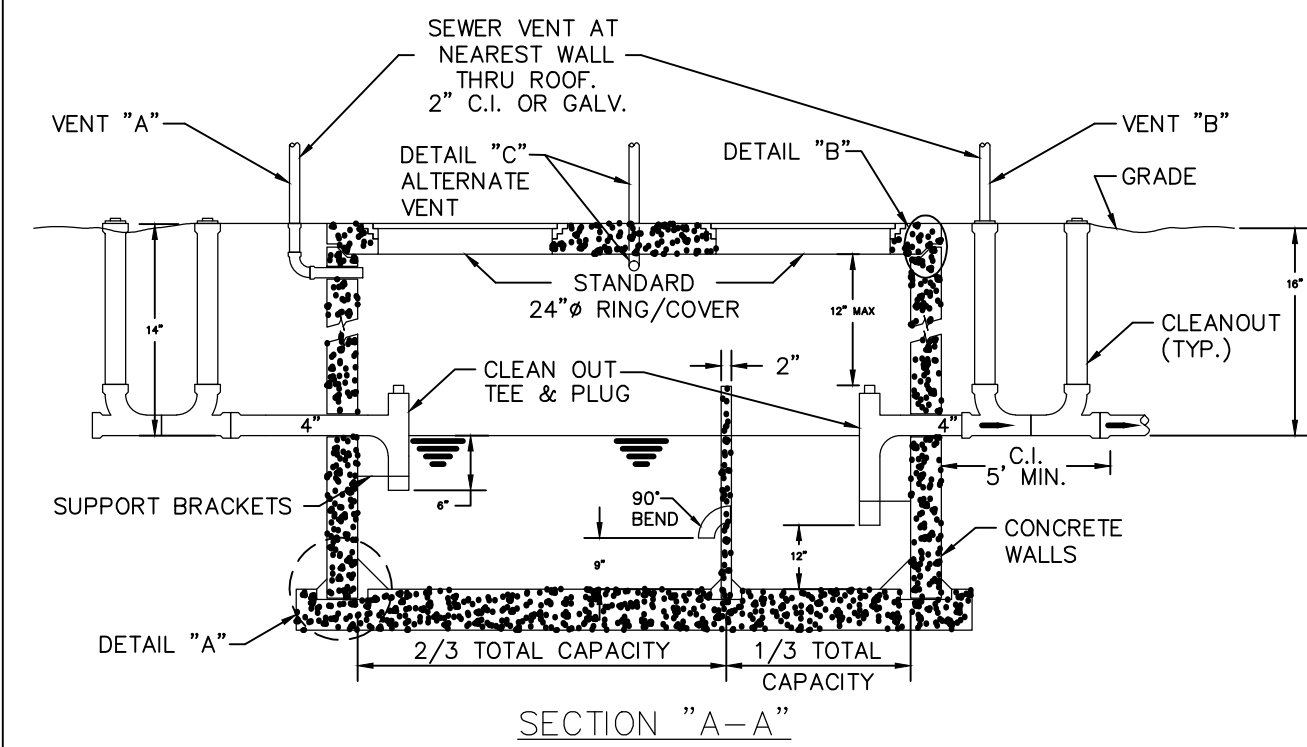
REVISION	DATE	MM&D ENGINEERING SERVICES, INC.
COMMENTS	05/26/2015	William E. Miller, PE 13389 ENGINEERING
COMMENTS-2	07/07/2015	CONSTRUCTION MANAGEMENT
		9125 N. Clydesdale Road PH (303) 908-0062
		Castle Rock, Colorado 80108 FAX (303) 708-8399
		Boondocks
		Parker, Colorado
		Sanitary Sewer Details
		Utility Plan

submittal 03/10/2015  
 DATE 09/16/2014  
 DES/DFY/CHK WEM/km  
 PROJ. NO. 13-343  
 SHEET 5 OF 8

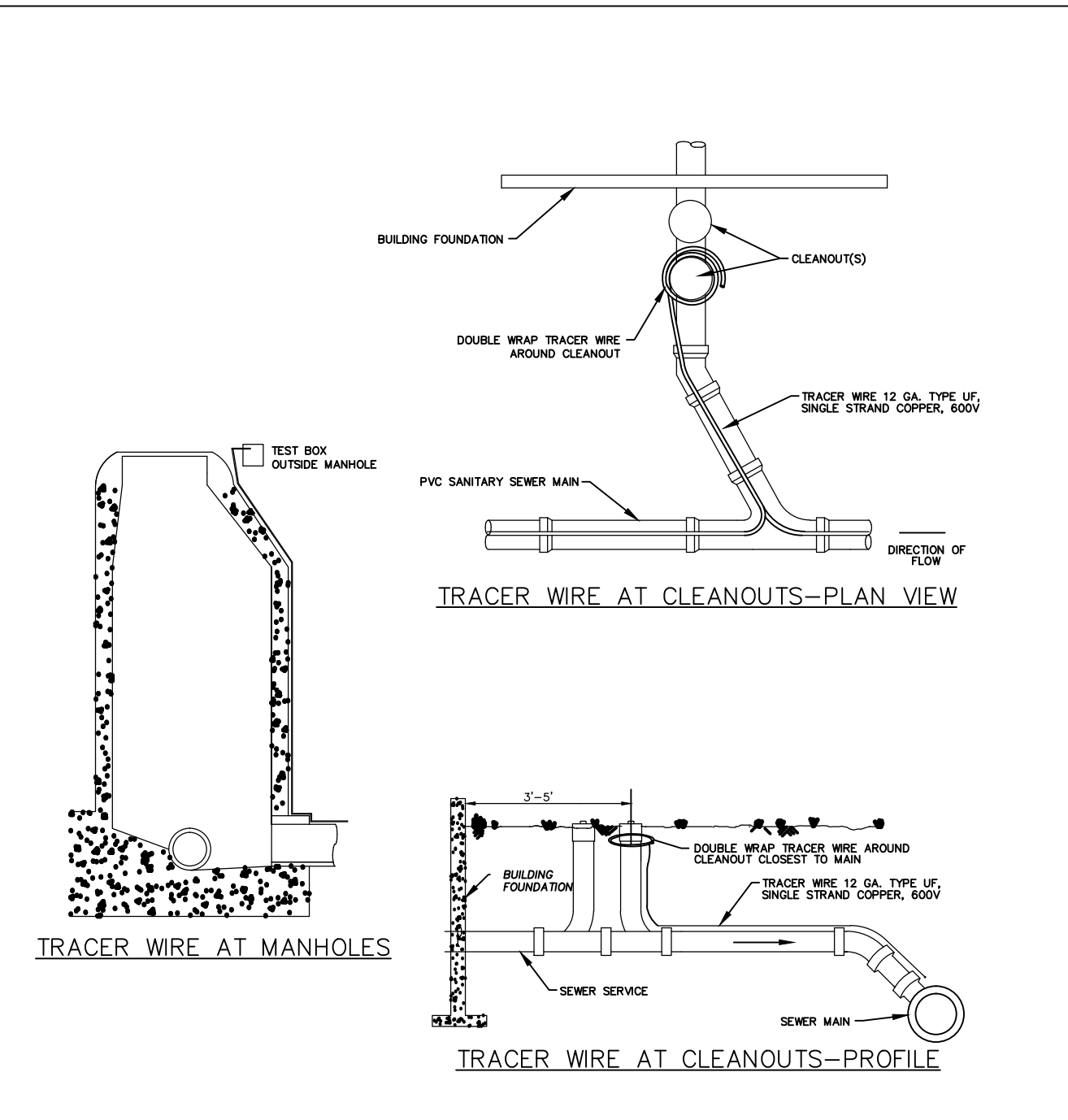


- GENERAL NOTES:**
- THESE STANDARD DETAILS SHALL ONLY BE CONSTRUED TO SHOW CONCEPTUAL AND STANDARD DIMENSIONAL REQUIREMENTS FOR SAND & OIL INTERCEPTOR AND SHALL NOT BE USED FOR CONSTRUCTION. THE ARCHITECT/ENGINEER SHALL FURNISH STRUCTURAL DESIGN CRITERIA, HYDRAULIC LOADING, VOLUME & RETENTION TIME REQUIREMENTS AND DETAILED CONSTRUCTION DRAWINGS, INCLUDING SITE PLAN FOR APPROVAL PRIOR TO CONSTRUCTION.
  - SECONDARY TANK HAS VOLUME EQUAL TO 1/3 OF TOTAL CAPACITY.
  - ALL PIPE AND FITTINGS TO BE SCHEDULE 40 PVC EXCEPT WHERE NOTED OTHERWISE AND SHALL BE 4" MINIMUM DIAMETER.
  - WELLS, BOTTOM AND TOP SLAB TO BE REINFORCED THROUGHOUT. ADDITIONAL DIAGONAL REINFORCING TOP AND BOTTOM IS REQUIRED AROUND ACCESS OPENINGS. ALL REBAR SHALL HAVE A 3" MINIMUM COVER TO FACE OF CONCRETE.
  - THICKNESS OF WALLS, BOTTOM AND TOP SLAB TO BE DETERMINED FROM STRUCTURAL LOADING REQUIREMENTS BY ARCHITECT/ENGINEER. CAST-IN-PLACE BOTTOM SLAB SHALL NOT BE LESS THAN 8" THICK.
  - INLET AND OUTLET PIPE SIZES SHALL BE DETERMINED BY ARCHITECT/ENGINEER BUT SHALL NOT BE LESS THAN 4" DIAMETER (OUTLET PIPE INVERT TO BE 2" LOWER THAN INLET).
  - REINFORCED CONCRETE BOTTOM SLAB SHOWN. (MAY BE INTEGRALLY CAST WITH PRE-CAST WALL SECTIONS AT CONTRACTOR'S OPTION).
  - ALL JOINTS IN PRE-CAST SECTIONS TO BE SEALED WITH FLEXIBLE PLASTIC JOINT SEALING COMPOUND TO FED. SPEC. S-SS-00210 (EXCEPT TOP SLAB).
  - VENT PIPE MATERIALS AND LOCATION SHALL BE IN ACCORDANCE WITH THE PLUMBING CODE.
  - ROUND OR CIRCULAR GREASE INTERCEPTOR WILL REQUIRE SPECIAL DESIGN AND APPROVAL.
  - PRE-CAST CONCRETE SHAPES ARE SHOWN. CAST-IN-PLACE CONCRETE STRUCTURE IS OPTIONAL.
  - PRE-CAST REINFORCED CONCRETE SECTIONS SHALL BE IN ACCORDANCE WITH ASTM-C-478.
  - DESIGN CRITERIA: (MINIMUM)
 

UNIT WEIGHT OF "SOIL"	120 PCF
EQUIVALENT FLUID PRESSURE	30 PCF
LIVELOADS (IF APPLICABLE)	ASHOTO H=20
CONCRETE STRENGTH (F'c)(TYPE II CEMENT)	4000 PSI
  - TOP SLAB MAY BE ONE PIECE OF MULTIPLE SEGMENT CONSTRUCTION AT CONTRACTOR'S OPTION.
  - SUPPORT BRACKETS AND CLEAN-OUT PLUGS SHALL BE BRASS.
  - OTHER VARIOUS COMBINATIONS OF TANK DIMENSIONS MAY BE SUBMITTED FOR APPROVAL, PROVIDED THAT ANY ALTERNATE DESIGN SHALL HAVE THE SAME BASIC PROPORTIONAL DIMENSIONS, COMPARABLE VOLUMES AND FUNCTIONAL CAPABILITIES AS THESE STANDARD DETAILS.
  - DRAWINGS ARE NOT TO SCALE.
  - DEPENDING ON THE SEWAGE LOADING TYPE, A SAMPLING STATION OR MANHOLE MAY BE REQUIRED. DISTRICT TO DETERMINE UPON REVIEW.
  - VENT "A" MAY RISE A MINIMUM OF 42" ABOVE FUTURE FLOOD LINE AND MAY COMBINE WITH VENT "B" ABOVE THE 42" LINE TO FORM A SINGLE VENT THROUGH THE ROOF.
  - PLUMBING PER CITY/COUNTY STANDARDS.
  - MINIMUM CAPACITY SHALL BE 500 GALLONS UNLESS OTHERWISE APPROVED BY THE DISTRICT.
  - SUBMIT SHOP DRAWING DETAILS TO DISTRICTS ENGINEER, FOR APPROVAL, PRIOR TO CONSTRUCTION.



- NOTES:**
- THIS STANDARD APPLIES ONLY FOR NON-PRESSURIZED SANITARY SERVICE TAPS AND SANITARY SEWERS EIGHT (8) INCH AND SMALLER. SANITARY SEWERS MAY NOT BE CUT WITHOUT THE EXPRESSED CONSENT OF THE DISTRICT. A DISTRICT REPRESENTATIVE WILL BE ON SITE DURING CONSTRUCTION.
  - DUCTILE IRON PIPE USED TO REPLACE SECTION OF SANITARY SEWER SHALL BE PLACED IN A TRENCH, BEDDED, BACKFILLED AND COMPACTED IN ACCORDANCE WITH THE DISTRICT SPECIFICATIONS.

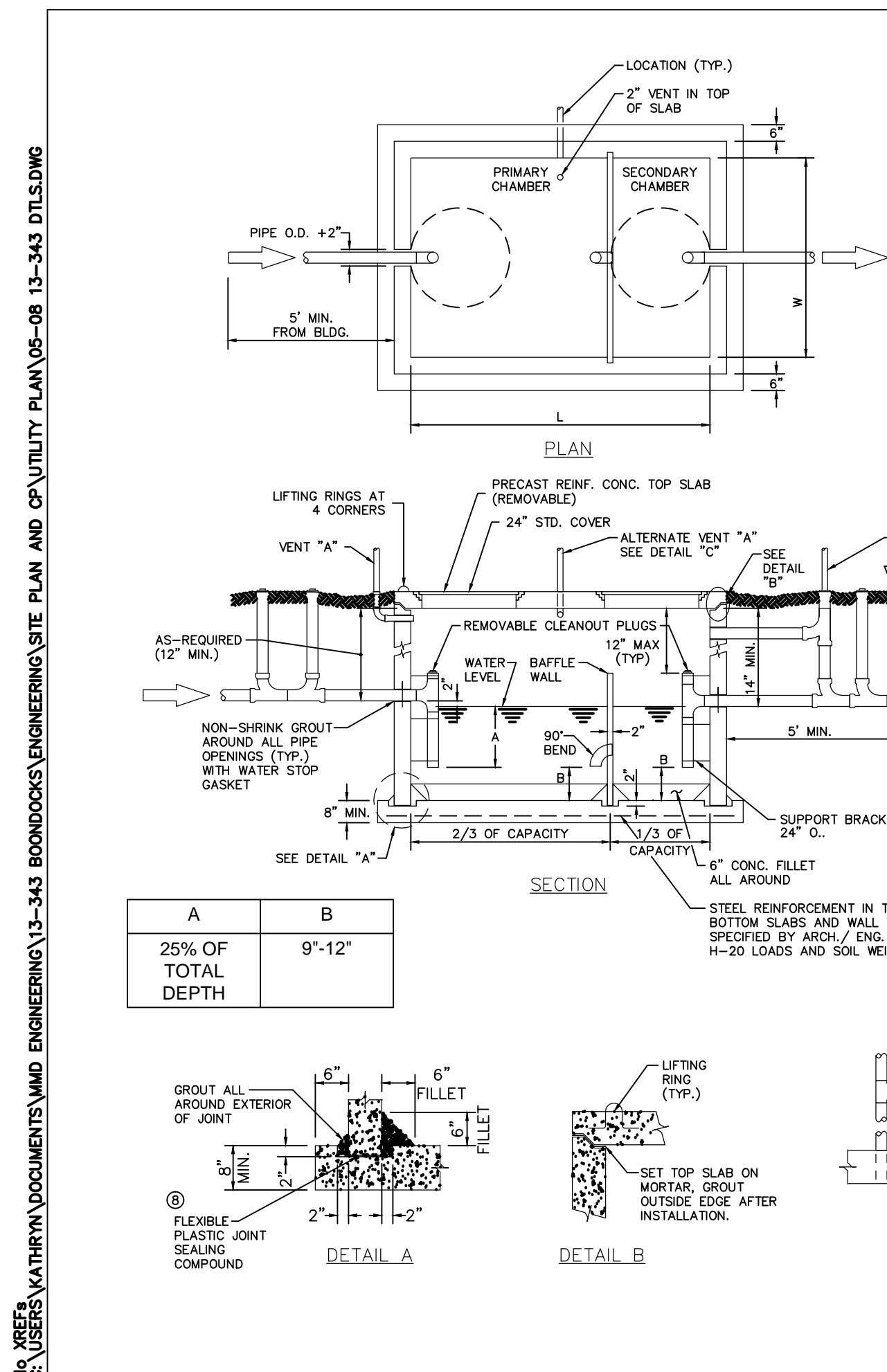


PVC SANITARY SEWER MAIN & SERVICE TRACER WIRE INSTALLATION DETAIL

Kennedy/Jenks Consultants  
**COTTONWOOD WATER AND SANITATION DISTRICT**  
 CLASS A COMMERCIAL OIL AND SAND TRAP  
 (303) 985-3636 DRAWING NO.: CTWD-215 DATE: 8/2014

Kennedy/Jenks Consultants  
**COTTONWOOD WATER AND SANITATION DISTRICT**  
 SEWER CROSSING  
 (303) 985-3636 DRAWING NO.: DATE:

Kennedy/Jenks Consultants  
**COTTONWOOD WATER AND SANITATION DISTRICT**  
 TRACER WIRE  
 (303) 985-3636 DRAWING NO.: DATE:



- GENERAL NOTES:**
- THESE STANDARD DETAILS SHALL ONLY BE CONSTRUED TO SHOW CONCEPTUAL AND STANDARD DIMENSIONAL REQUIREMENTS FOR GREASE INTERCEPTOR AND SHALL NOT BE USED FOR CONSTRUCTION. THE ARCHITECT/ENGINEER SHALL FURNISH STRUCTURAL DESIGN CRITERIA, HYDRAULIC LOADING, VOLUME & RETENTION TIME REQUIREMENTS AND DETAILED CONSTRUCTION DRAWINGS, INCLUDING SITE PLAN FOR APPROVAL PRIOR TO CONSTRUCTION.
  - SECONDARY TANK HAS VOLUME EQUAL TO 1/3 OF TOTAL CAPACITY.
  - ALL PIPE AND FITTINGS TO BE SCHEDULE 40 PVC EXCEPT WHERE NOTED OTHERWISE AND SHALL BE 4" MINIMUM DIAMETER.
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  - REINFORCED CONCRETE BOTTOM SLAB SHOWN. (MAY BE INTEGRALLY CAST WITH PRE-CAST WALL SECTIONS AT CONTRACTOR'S OPTION).
  - ALL JOINTS IN PRE-CAST SECTIONS TO BE SEALED WITH FLEXIBLE PLASTIC JOINT SEALING COMPOUND TO FED. SPEC. S-SS-00210 (EXCEPT TOP SLAB).
  - VENT PIPE MATERIALS AND LOCATION SHALL BE IN ACCORDANCE WITH THE PLUMBING CODE.
  - ROUND OR CIRCULAR GREASE INTERCEPTOR WILL REQUIRE SPECIAL DESIGN AND APPROVAL.
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  - DESIGN CRITERIA: (MINIMUM)
 

UNIT WEIGHT OF "SOIL"	120 PCF
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  - DRAWINGS ARE NOT TO SCALE.
  - REFER TO LITTLETON/ENGLEWOOD WASTEWATER TREATMENT PLANT FATS, OILS, AND GREASE POLICY FOR GREASE INTERCEPTOR SIZING.

A	B
25% OF TOTAL DEPTH	9'-12"

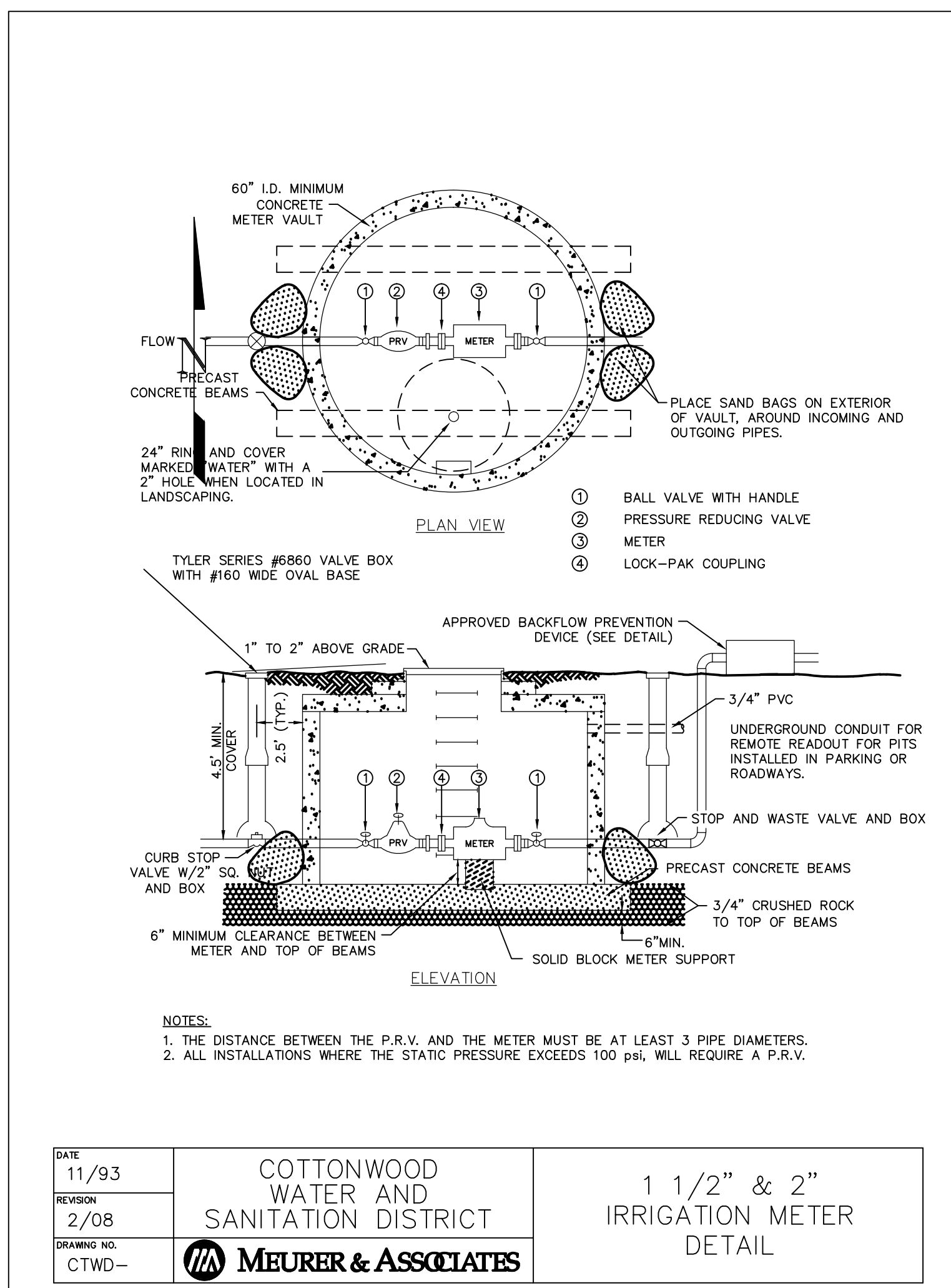
Kennedy/Jenks Consultants  
**COTTONWOOD WATER AND SANITATION DISTRICT**  
 GREASE INTERCEPTOR  
 (303) 985-3636 DRAWING NO.: CTWD-275 DATE: 7/2013



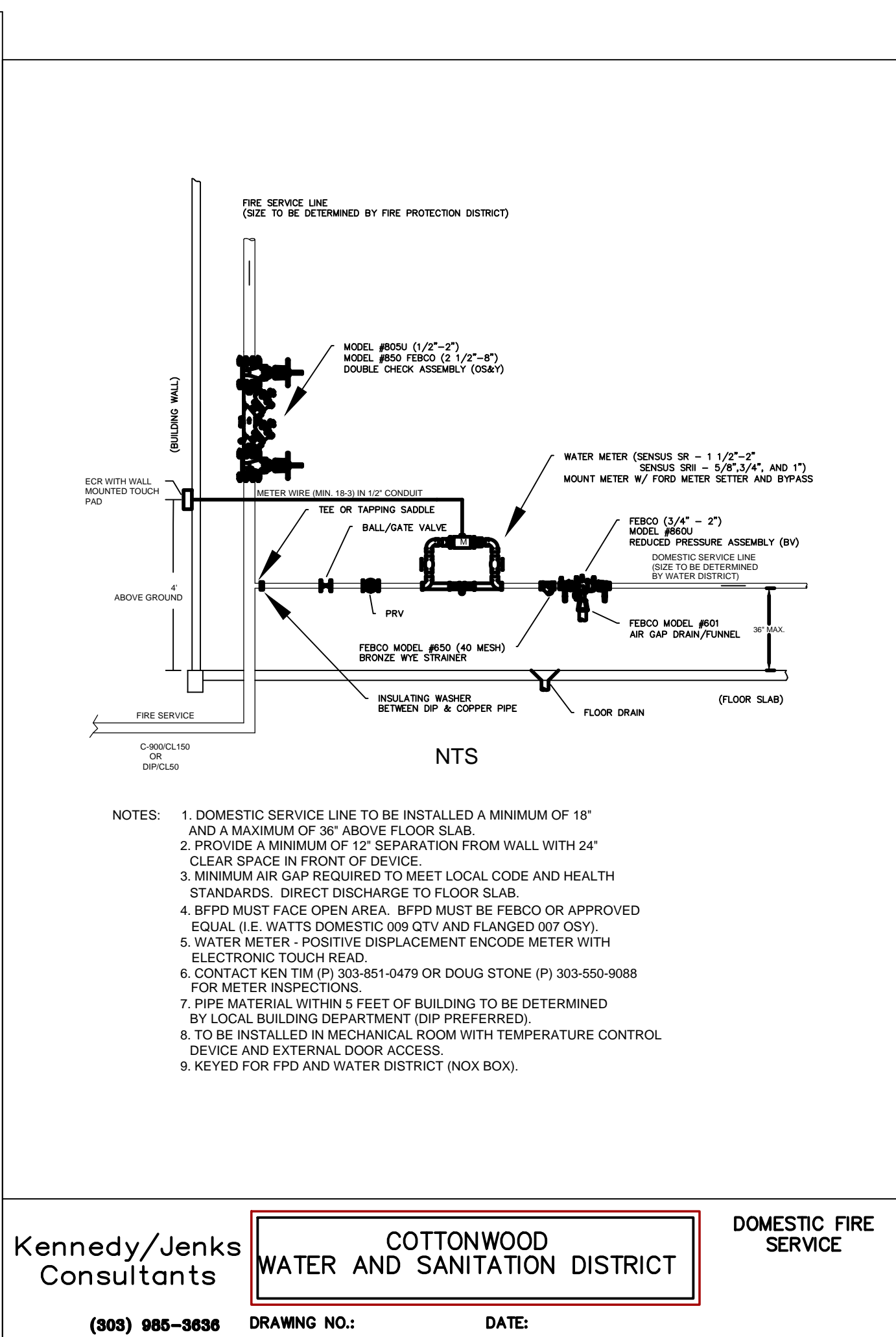
Know what's below. Call before you dig.

REVISION	DATE	<b>MM&amp;D ENGINEERING SERVICES, INC.</b>
COMMENTS	05/26/2015	
COMMENTS-2	07/07/2015	
		William E. Miller, PE 13389 ENGINEERING
		CONSTRUCTION MANAGEMENT
		9125 N. Clydesdale Road PH (303) 908-0062
		Castle Rock, Colorado 80108 FAX (303) 708-8399
		Boondocks Parker, Colorado
		Sanitary Sewer Details
		Utility Plan
		submittal 03/10/2015
		DATE 09/16/2014
		DES/DF/CHK WEM/km
		PROJ. NO. 13-343
		SHEET 6 OF 8

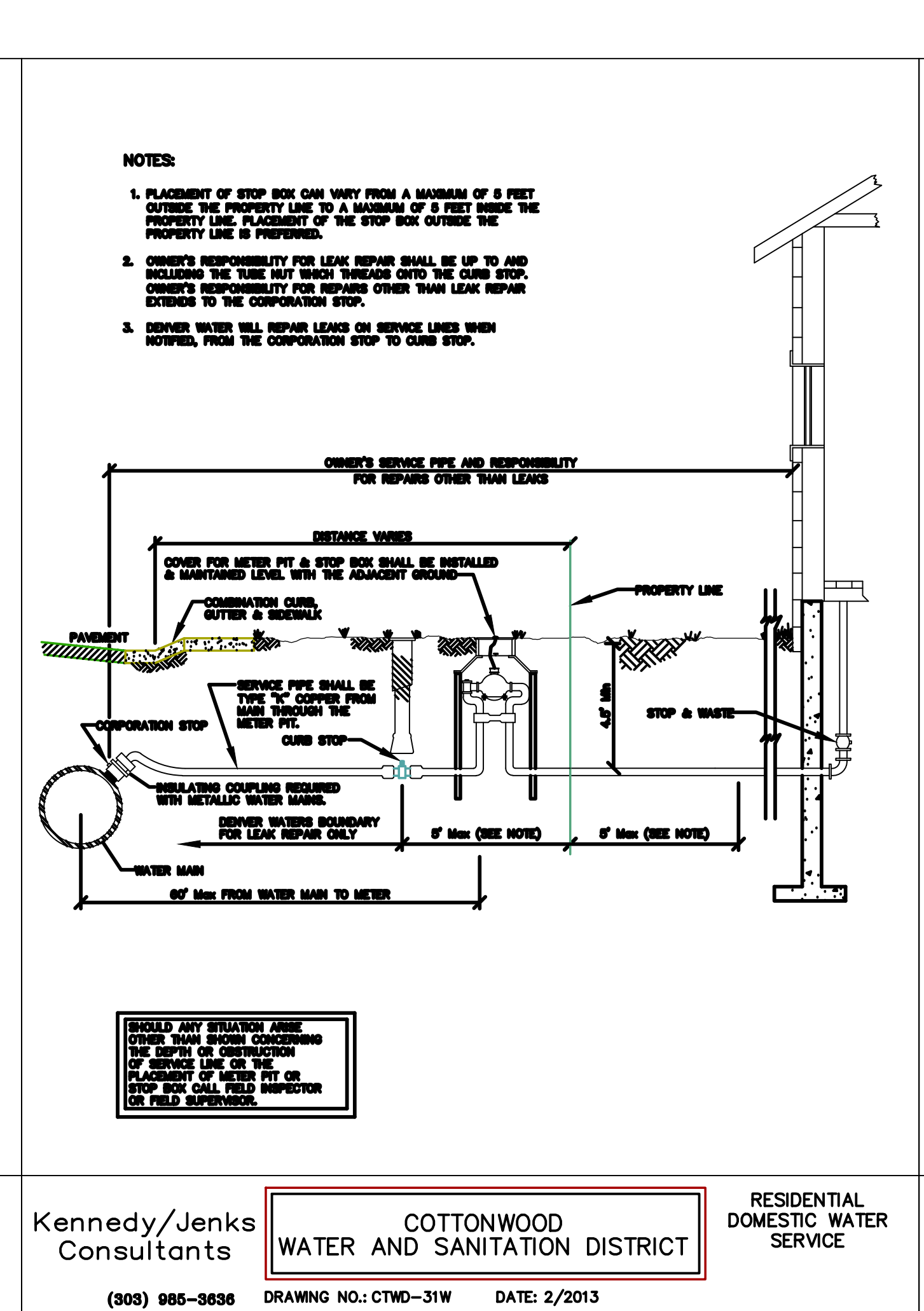
NO. XREFS TO THESE KATHRYN DOCUMENTS VMD ENGINEERING 13-343 BOONDocks ENGINEERING SITE PLAN AND CP UTILITY PLAN 05-08 13-343 DTLS.DWG



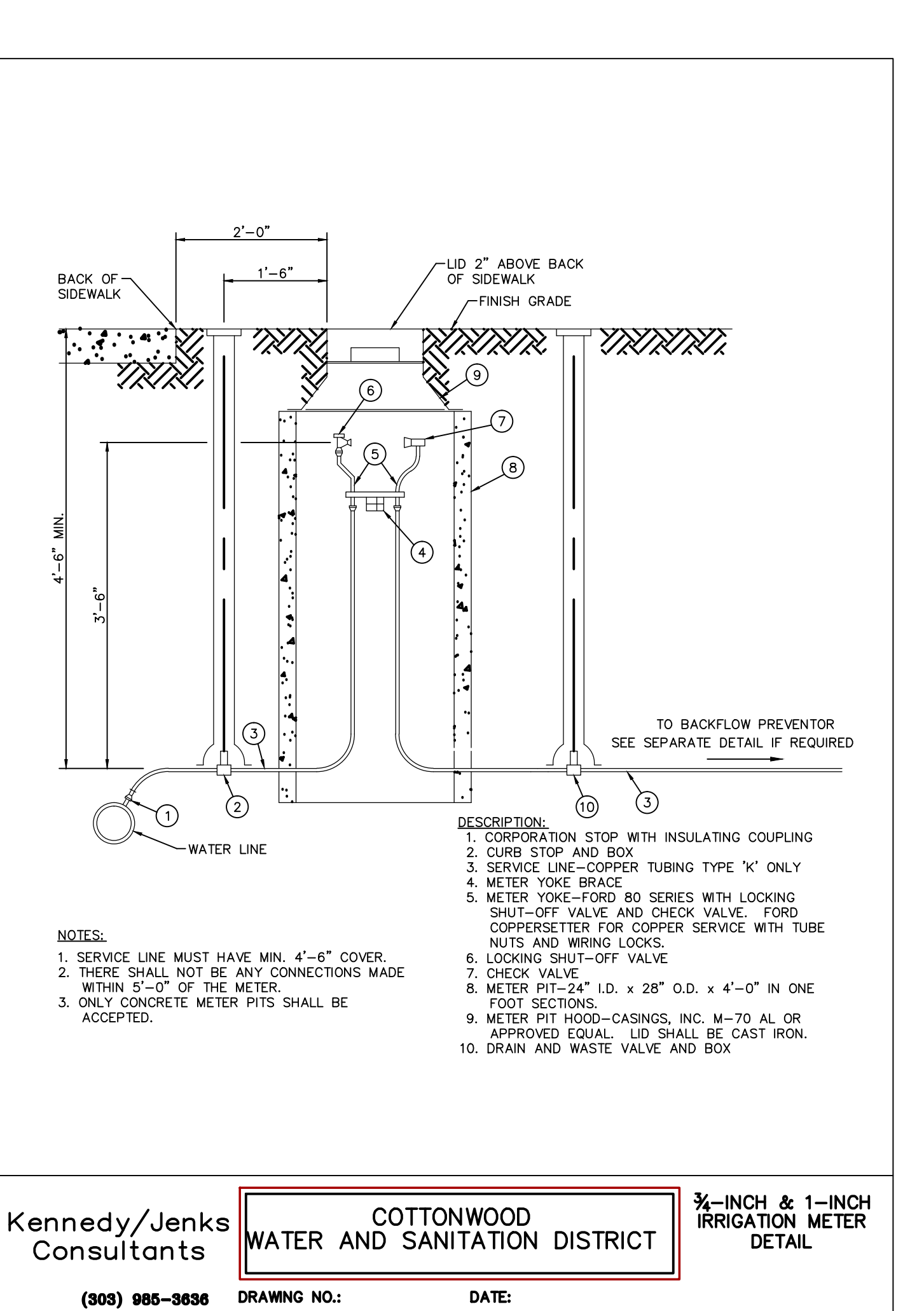
DATE 11/93	COTTONWOOD WATER AND SANITATION DISTRICT	1 1/2" & 2" IRRIGATION METER DETAIL
REVISION 2/08		
DRAWING NO. CTWD-	MEURER & ASSOCIATES	



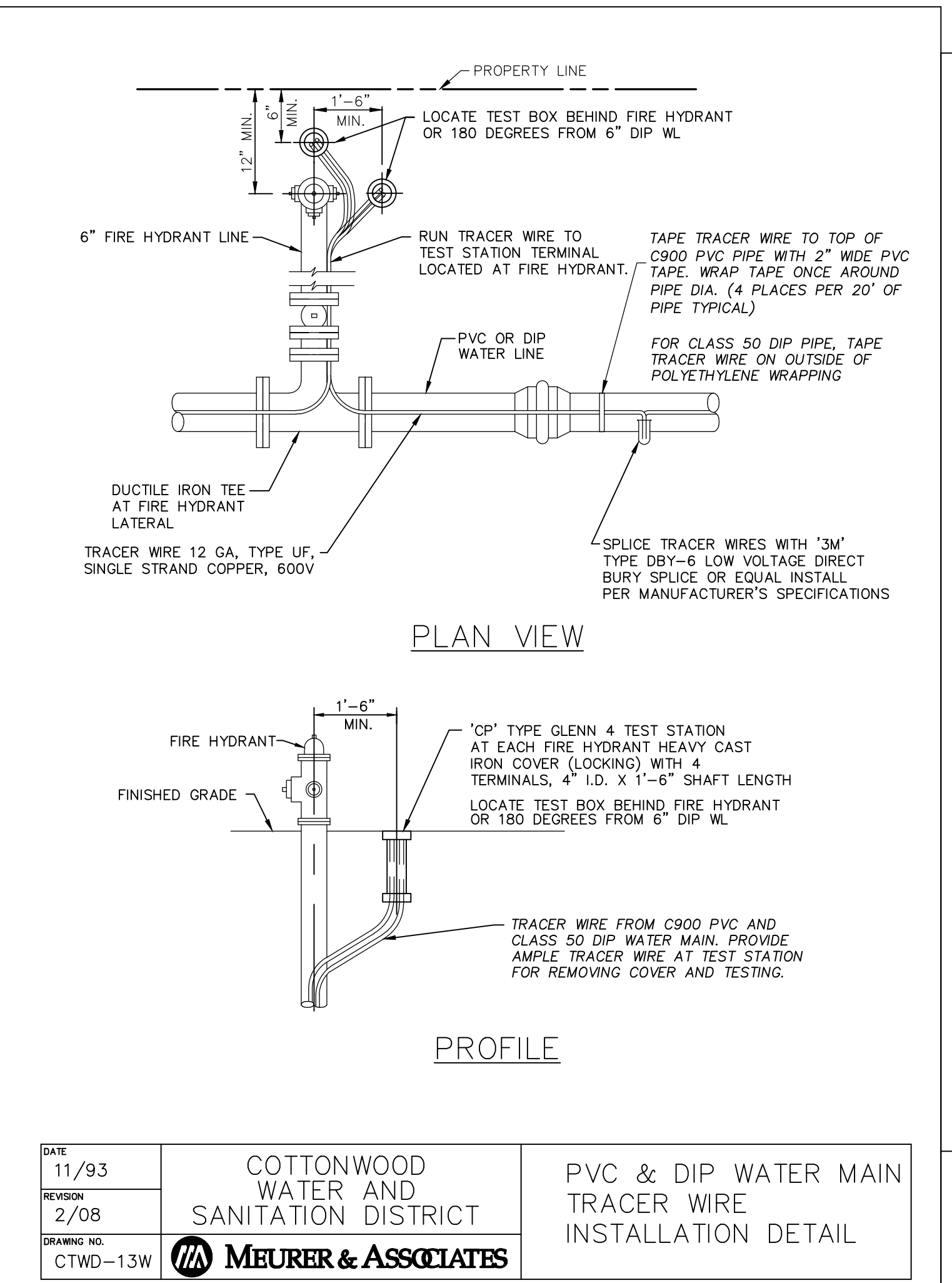
Kennedy/Jenks Consultants	COTTONWOOD WATER AND SANITATION DISTRICT	DOMESTIC FIRE SERVICE
(303) 985-3636	DRAWING NO.: DATE:	



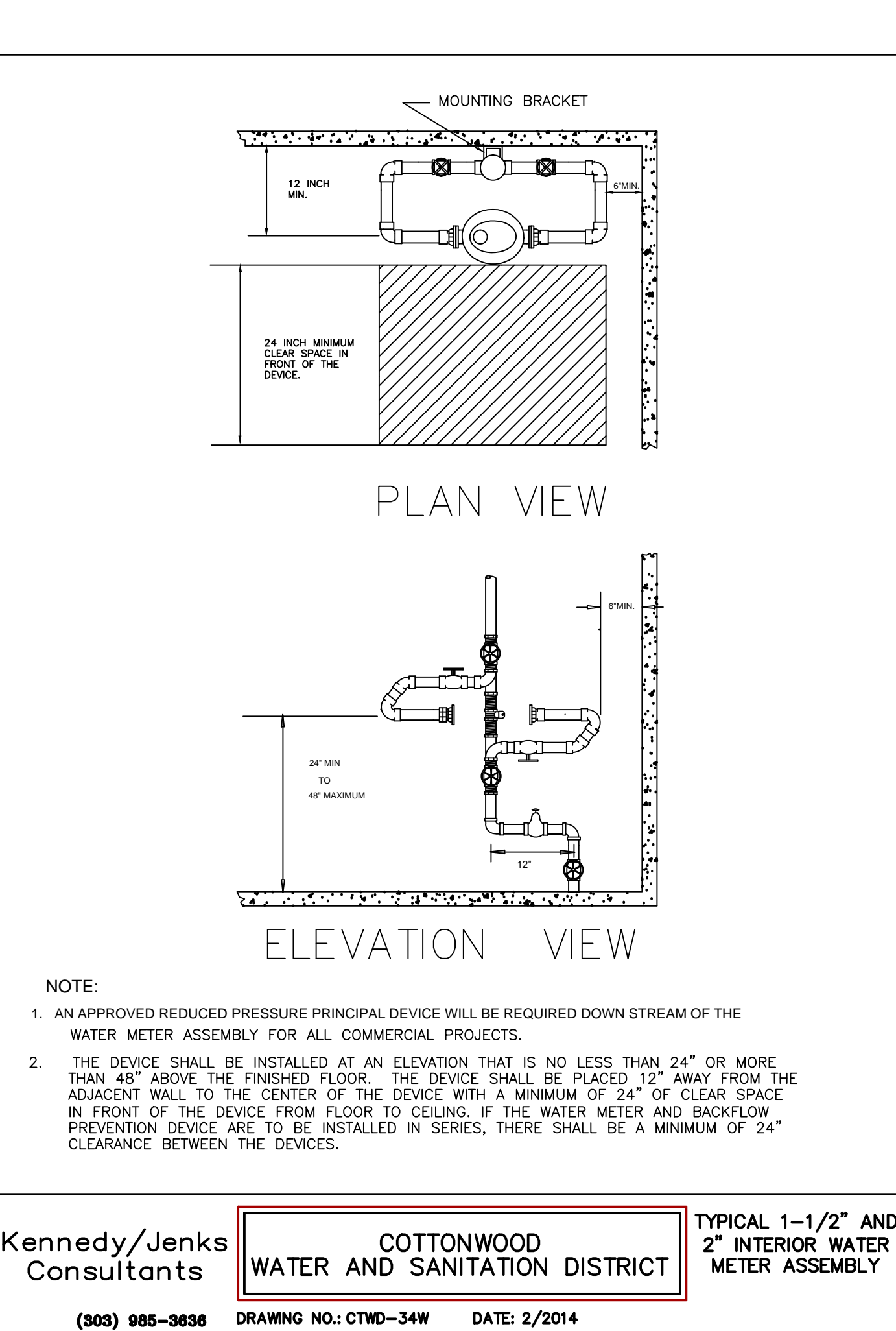
Kennedy/Jenks Consultants	COTTONWOOD WATER AND SANITATION DISTRICT	RESIDENTIAL DOMESTIC WATER SERVICE
(303) 985-3636	DRAWING NO.: CTWD-31W DATE: 2/2013	



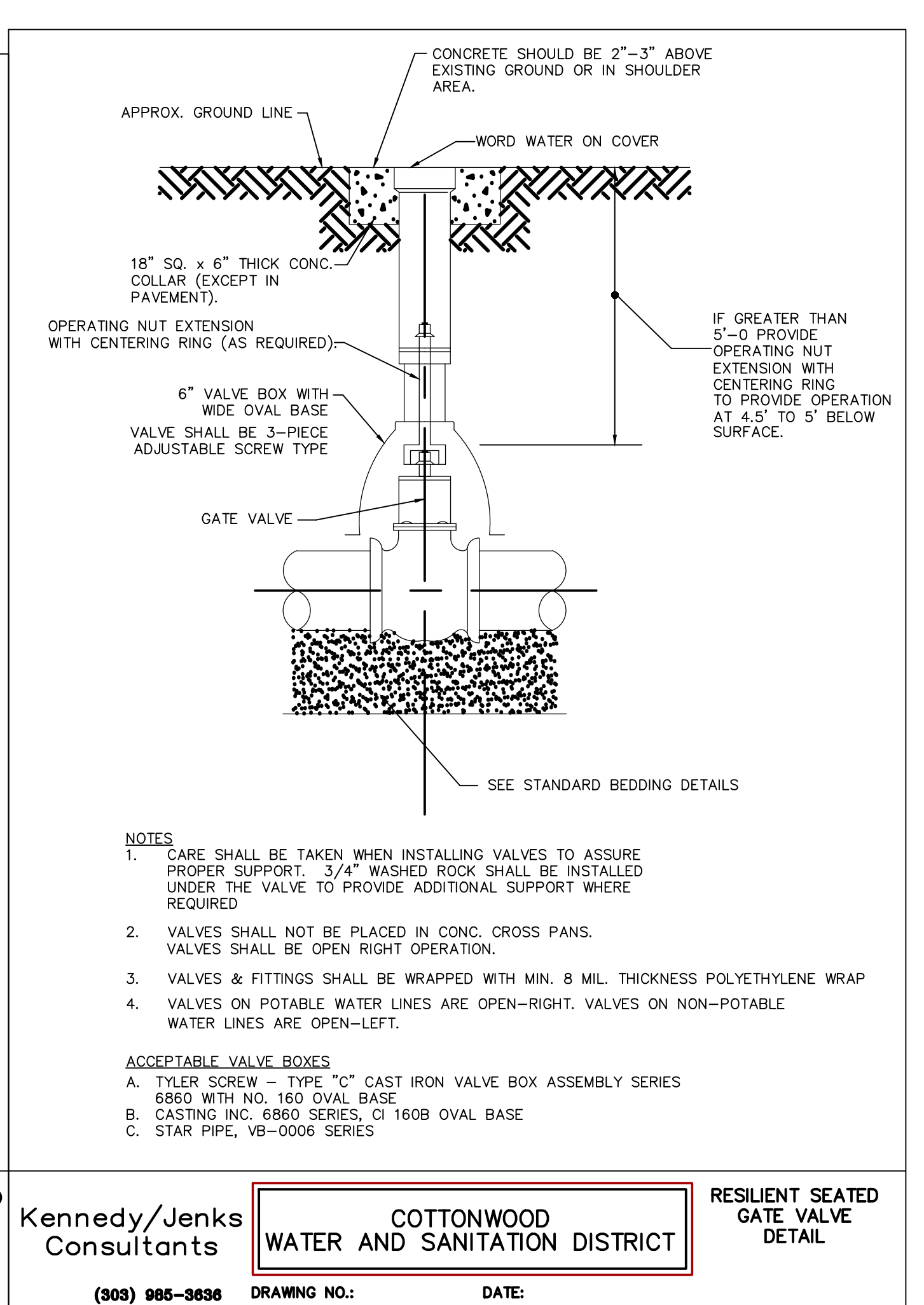
Kennedy/Jenks Consultants	COTTONWOOD WATER AND SANITATION DISTRICT	3/4-INCH & 1-INCH IRRIGATION METER DETAIL
(303) 985-3636	DRAWING NO.: DATE:	



DATE 11/93	COTTONWOOD WATER AND SANITATION DISTRICT	PVC & DIP WATER MAIN TRACER WIRE INSTALLATION DETAIL
REVISION 2/08		
DRAWING NO. CTWD-13W	MEURER & ASSOCIATES	



Kennedy/Jenks Consultants	COTTONWOOD WATER AND SANITATION DISTRICT	TYPICAL 1-1/2" AND 2" INTERIOR WATER METER ASSEMBLY
(303) 985-3636	DRAWING NO.: CTWD-34W DATE: 2/2014	



Kennedy/Jenks Consultants	COTTONWOOD WATER AND SANITATION DISTRICT	RESILIENT SEATED GATE VALVE DETAIL
(303) 985-3636	DRAWING NO.: DATE:	



Know what's below.  
Call before you dig.

REVISION COMMENTS-2	DATE 05/26/2015 07/07/2015	<b>MM&amp;D ENGINEERING SERVICES, INC.</b>  William E. Miller, PE 13389 ENGINEERING CONSTRUCTION MANAGEMENT 9125 N. Clydesdale Road Castle Rock, Colorado 80108 PH (303) 908-0062 FAX (303) 708-8399
		Boondocks Parker, Colorado Water Details Utility Plan
		submittal 03/10/2015 DATE 09/16/2014 DES/DFY/CHK WEM/km PROJ. NO. 13-343 SHEET 7 OF 8

**ROD DIAMETER, GRADE & LENGTH OF RESTRAINED PIPE**

ONLY THE FOLLOWING FIRE HYDRANTS AND VALVE BOXES LISTED BELOW SHALL BE ACCEPTED FOR CONSTRUCTION.

**FIRE HYDRANTS**

A. AMERICAN A.W. SERIES 27  
 B. MULLER CENTURION MODEL A-473  
 C. WATEROUS PACER MODEL WB-67-250.

**ACCEPTABLE VALVE BOXES**

A. TYLER SCREW - TYPE "C" CAST IRON VALVE BOX ASSEMBLY SERIES 6860 WITH NO. 160 OVAL BASE  
 B. CASTING INC. 6860 SERIES, CI 160B OVAL BASE  
 C. STAR PIPE, VB-0006 SERIES

**COTTONWOOD WATER AND SANITATION DISTRICT**

Kennedy/Jenks Consultants

(303) 985-3636 DRAWING NO.: WB-4W DATE: 8/2014

PIPE SIZE	4"		6"		8"		12"		16"		20"		24"	
	D	L	D	L	D	L	D	L	D	L	D	L	D	L
90° BEND, TEE, PLUG	3/4"	2'	3/4"	4'	3/4"	6'	3/4"	10'	3/4"	10'	3/4"	12'	-	-
VALVE	3/4"	2'	3/4"	4'	3/4"	6'	3/4"	10'	3/4"	10'	3/4"	12'	-	-
45° BEND	3/4"	1'	3/4"	1'	3/4"	1'	3/4"	1'	3/4"	1'	3/4"	1'	-	-
22 1/2° BEND	3/4"	1'	3/4"	1'	3/4"	1'	3/4"	1'	3/4"	1'	3/4"	1'	-	-
11 1/4° BEND	-	-	-	-	3/4"	1'	3/4"	1'	3/4"	1'	3/4"	1'	-	-

**NOTES:**

- LENGTH OF RESTRAINED PIPE MEASURED EACH WAY FROM VALVES AND BENDS.
- CLAMPS, RODS & MEGALUGS NOT ALLOWED FOR 24" & LARGER PIPES.
- D=DIAMETER, L=LENGTH, G=GRADE, MS=MILD STEEL, HS=HIGH STRENGTH.
- MIN 4.5" GROUND COVER REQD.
- BASED ON 150 PSI INTERNAL PRESSURE.
- MS = MILD STEEL ROD ASTM A 36.
- HS = HIGH STRENGTH ROD ASTM A 193 GRADE B7.
- NUTS SHALL BE ASTM A 307 GRADE A OR B HEXAGON HEAVY SERIES. HS NUTS SHALL CONFORM TO MS-22.
- SEE TIE ROD DETAIL DRAWING, ALSO, TIE ROD COUPLING DETAILS, CLAMP DETAILS AND SET CLAMP DETAILS.
- LENGTH REFERS TO THE AMOUNT OF PIPE WHICH MUST BE RESTRAINED TOGETHER AND IS NOT NECESSARILY THE LENGTH OF THE JOINT RESTRAINT FOR MEGALUGS.
- LENGTH OF RESTRAINED PIPE CHART IS ALSO FOR THE LENGTH OF JOINT RESTRAINT FOR MEGALUGS.
- CROSSES MUST BE RESTRAINED IN ALL APPLICABLE DIRECTIONS.
- 12" AND SMALLER IN LINE VALVES AND TEES SHALL HAVE A MECHANICAL JOINT RESTRAINT DEVICE ON EACH SIDE OF THE FITTING OR VALVE. MECHANICAL JOINT RESTRAINT DEVICE SHALL BE PER MS-2.
- A SECOND VALVE WILL BE REQD TO BE CLOSED WHEN EXCAVATING NEXT TO A EXIST VALVE.
- ON PLUGS, TEES AND BENDS KICKBLOCK SHALL BE USED IN ADDITION TO RESTRAINT.
- WHEN REDUCERS ARE USED ON VALVE INSTALLATIONS THE LENGTH OF RESTRAINT SHALL BE BASED ON THE SIZE OF THE PIPE NOT THE SIZE OF THE VALVE.

**COTTONWOOD WATER AND SANITATION DISTRICT**

Kennedy/Jenks Consultants

(303) 985-3636 DRAWING NO.: WB-9W DATE: 8/2014

**POLYETHYLENE WRAP DETAIL**

**FIELD INSTALLATION-POLYETHYLENE WRAP**

**STEP-1** PLACE TUBE OF POLYETHYLENE MATERIAL AROUND PIPE PRIOR TO LOWERING PIPE INTO TRENCH.

**STEP-2** PULL THE TUBE OVER THE LENGTH OF THE PIPE. TUBE TIE TO PIPE AT JOINT. FIELD MATERIAL AROUND THE JOINT MUST BE TIGHT AND WRAP WITH THREE CONCENTRIC TURNS OF TWO-INCH WIDE PLASTIC TAPE TO HOLD PLASTIC TUBE AROUND JOINT.

**STEP-3** ADHESIVE TAPE OVERLAPS FIRST TUBE AND IS SECURED WITH PLASTIC ADHESIVE TAPE. THE POLYETHYLENE TUBE MATERIAL COVERING THE PIPE WILL BE LOOSE. EXCESS MATERIAL SHALL BE NEATLY SHOWN UP AROUND THE PIPE JOINT, FOLDED INTO AN OVERLAP ON TOP OF THE PIPE AND HELD IN PLACE BY MEANS OF PIECES OF THE PLASTIC TAPE AT APPROXIMATELY THREE TO FIVE FOOT INTERVALS.

**COTTONWOOD WATER AND SANITATION DISTRICT**

Kennedy/Jenks Consultants

(303) 985-3636 DRAWING NO.: CTWD-10W DATE: 8/2014

**KICKBLOCK**

**MINIMUM BEARING SURFACE AREA (IN SQUARE FEET)**

SIZE OF PIPE	B E N D S				TEE OR DEAD END
	11.25"	22.5"	45"	90"	
4"	1.00	1.00	1.00	2.00	1.50
6"	1.00	1.25	2.25	4.25	3.00
8"	1.00	2.00	4.00	7.50	5.25
12"	2.25	4.50	8.75	16.00	11.25
16"	3.75	7.50	14.50	27.00	19.00
20"	5.00	10.00	19.50	35.50	25.00
24"	7.00	14.00	27.75	51.00	36.00

**NOTES:**

- BEARING AREAS SHOWN ON THE CHART ARE MINIMUM AREAS AND ARE DESIGNED USING THE FOLLOWING CRITERIA:
  - INTERNAL WORKING PRESSURE OF 150 PSI.
  - TRANSIENT (WATER HAMMER) PRESSURE OF 120 PSI FOR 6 AND 8-INCH DIAMETER LINES, 110 PSI FOR 12-INCH LINES, AND 90 PSI FOR 16-INCH AND 20-INCH LINES.
  - MINIMUM UNDISTURBED SOIL BEARING CAPACITY OF 3000 PSI.
- ALL SIZES OF BENDS, TEES, AND DEAD ENDS SHALL HAVE KICKBLOCKS.
- RODDING IS ALSO REQUIRED ON FITTINGS. SEE LENGTH OF PIPE RESTRAINT DETAIL FOR SPECIFIC REQUIREMENTS.
- ALL BENDS SHALL BE RESTRAINED.

**COTTONWOOD WATER AND SANITATION DISTRICT**

Kennedy/Jenks Consultants

(303) 985-3636 DRAWING NO.: CTWD-12W DATE: 8/2014

**STANDARD BEDDING**

**NOTES:**

- MINIMUM COVER TO BE 4.5" BELOW OFFICIAL STREET GRADE.
- TRENCH TO BE BRACED OR SHEETED AS NECESSARY FOR THE SAFETY OF THE WORKMEN AND PROTECTION OF OTHER UTILITIES IN ACCORDANCE WITH APPLICABLE LOCAL, STATE AND FEDERAL SAFETY REGULATIONS.
- PIPE SHALL BE BEDDED FROM 6" BELOW THE BOTTOM OF THE PIPE TO 12" ABOVE THE TOP OF THE PIPE.
- TRENCH WIDTH SHALL NOT BE MORE THAN 16" NOR LESS THAN 12" WIDER THAN THE LARGEST OUTSIDE DIAMETER OF THE PIPE.
- SHOULD THE TRENCH BE EXCAVATED WIDER THAN ALLOWED, A CONCRETE CRADLE SHALL BE PLACED WITH 2500 P.S.I. CONCRETE FROM TRENCH BOTTOM TO PIPE SPRINGLINE.
- COMPACTION SHALL BE AS FOLLOWS: PIPE ZONE BEDDING 6" UNDER AND 12" OVER PIPE WILL REQUIRE 70% RELATIVE DENSITY TRENCH ZONE ABOVE BEDDING MATERIALS, FULL TRENCH SECTION IN ROADWAY OR STREET R.O.W. LIMITS WILL REQUIRE 95% S.P.D. TRENCH ZONE ABOVE BEDDING MATERIALS, OUTSIDE OF STREET R.O.W. WILL REQUIRE 90% S.P.D.

**COTTONWOOD WATER AND SANITATION DISTRICT**

Kennedy/Jenks Consultants

(303) 985-3636 DRAWING NO.: CTWD-16 DATE: 2/2014

**DOMESTIC WATER TAPPING DETAIL**

**WATER SERVICE TAPS - WATER SERVICE TAPS SHALL BE MADE AT EITHER THE 2 O'CLOCK OR THE 10 O'CLOCK POSITION ON THE CIRCUMFERENCE OF A WATER MAIN. THE MINIMUM DISTANCE BETWEEN A TAP MADE AT THE 2 O'CLOCK POSITION AND THE ONE MADE AT THE 10 O'CLOCK POSITION SHALL BE 18-INCHES MEASURED ALONG THE PIPE. THE MINIMUM DISTANCE BETWEEN SUCCESSIVE TAPS MADE EITHER AT THE 2 O'CLOCK OR THE 10 O'CLOCK POSITION SHALL BE 3-FEET. THE MINIMUM DISTANCE FROM EITHER THE BELL OR THE SPIGOT END OF A PIPE TO A TAP SHALL BE 2-FEET. A MAXIMUM OF 4 WATER SERVICE TAPS SHALL BE ALLOWED PER LENGTH OF PIPE. REFERENCE IS MADE TO THE DENVER WATER DEPARTMENT ENGINEERING STANDARDS CHAPTER 3, SECTION 3.07, FOR THE REQUIREMENTS ON TAPPING METHODS AND CONNECTIONS. ALL TAPS SHALL BE MADE USING BRASS SADDLES CONFORMING TO DISTRICT AND DENVER WATER DEPARTMENT SPECIFICATIONS.**

**COTTONWOOD WATER AND SANITATION DISTRICT**

Kennedy/Jenks Consultants

(303) 985-3636 DRAWING NO.: CTWD-20W DATE: 2/2014

**MECHANICAL JOINT RESTRAINT**

**DIMENSIONS**

NOMINAL PIPE SIZE	NO. OF BOLTS	NO. OF WEDGES	K2 INCHES	J INCHES	F INCHES	M INCHES
4"	2	2	9.13	7.50	4.90	0.50
6"	6	3	11.13	9.50	7.00	0.50
8"	6	4	13.38	11.75	9.15	0.62
10"	8	6	15.63	14.00	11.20	0.62
12"	8	8	17.88	16.25	13.30	0.62
4"	4	2	9.12	7.50	4.90	0.75
6"	6	3	11.12	9.50	7.00	0.88
8"	6	4	13.37	11.75	9.15	1.00
10"	8	6	15.62	14.00	11.20	1.00
12"	8	8	17.88	16.25	13.30	1.25

**NOTES:**

- USE EBAA IRON "MEGALUG", SERIES 1100 (D.I.P.), SERIES 2000PV (P.V.C.) OR APPROVED EQUAL.
- IF ENCASED IN CONCRETE, POLYETHYLENE WRAP MUST BE USED TO PREVENT CONCRETE INTRUSION INTO WEDGE PACKET.

**COTTONWOOD WATER AND SANITATION DISTRICT**

Kennedy/Jenks Consultants

(303) 985-3636 DRAWING NO.: CTWD-23W DATE: 8/2014

**BUTTERFLY VALVE AND VAULT ASSEMBLY DETAIL**

**COTTONWOOD WATER AND SANITATION DISTRICT**

Kennedy/Jenks Consultants

(303) 985-3636 DRAWING NO.: CTWD-23W DATE: 8/2014



Know what's below.  
Call before you dig.

REVISION	DATE	MM&D ENGINEERING SERVICES, INC.
COMMENTS	05/26/2015	<b>William E. Miller, PE 13389 ENGINEERING</b> CONSTRUCTION MANAGEMENT 9125 N. Clydesdale Road PH (303) 908-0062 Castle Rock, Colorado 80108 FAX (303) 708-8399
COMMENTS-2	07/07/2015	

**Boondocks Parker, Colorado Water Details Utility Plan**

submittal 03/10/2015  
 DATE 09/16/2014  
 DES/DFT/CHK WEM/km  
 PROJ. NO. 13-343  
 SHEET 8 OF 8

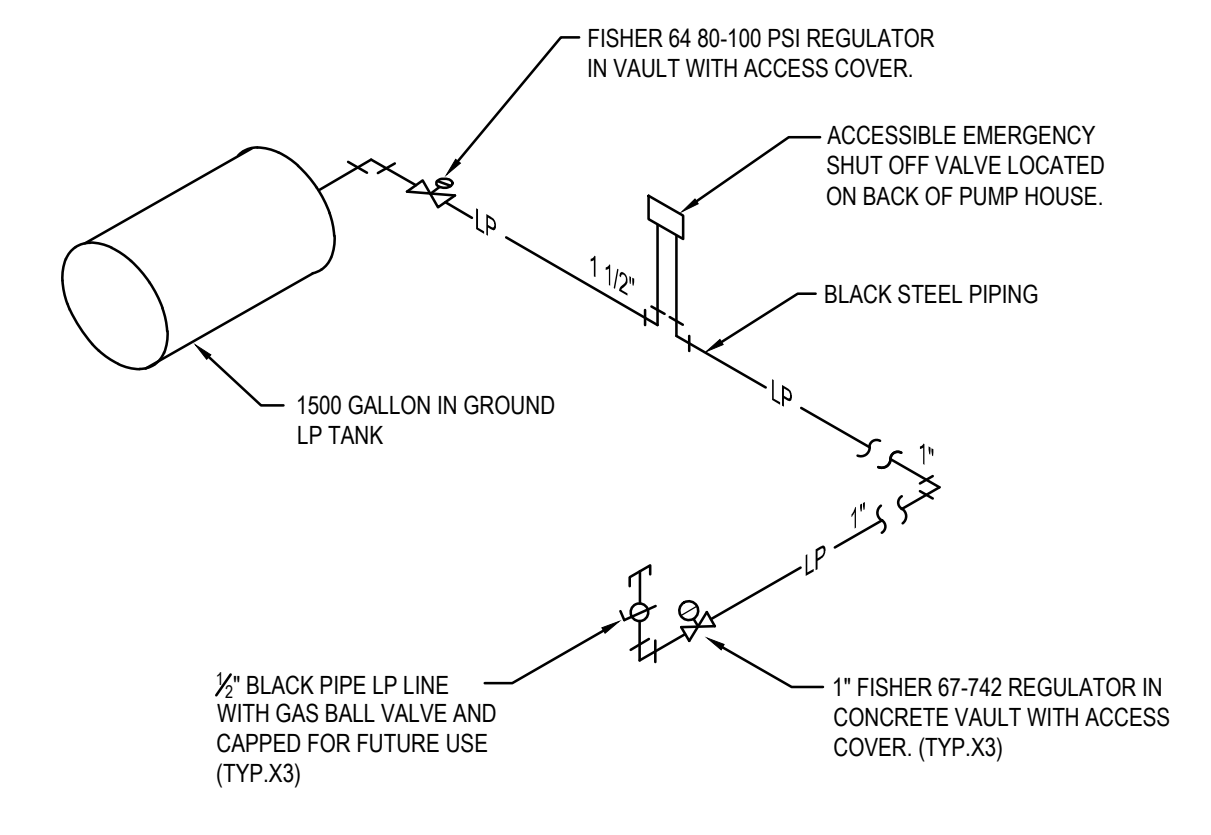
REVISIONS	
DESCRIPTION	DATE
OWNER CHANGES	2/16/15
SITE SUBMITTAL	3/11/15
CITY COMMENTS	5/13/15

**KEYED NOTES:**

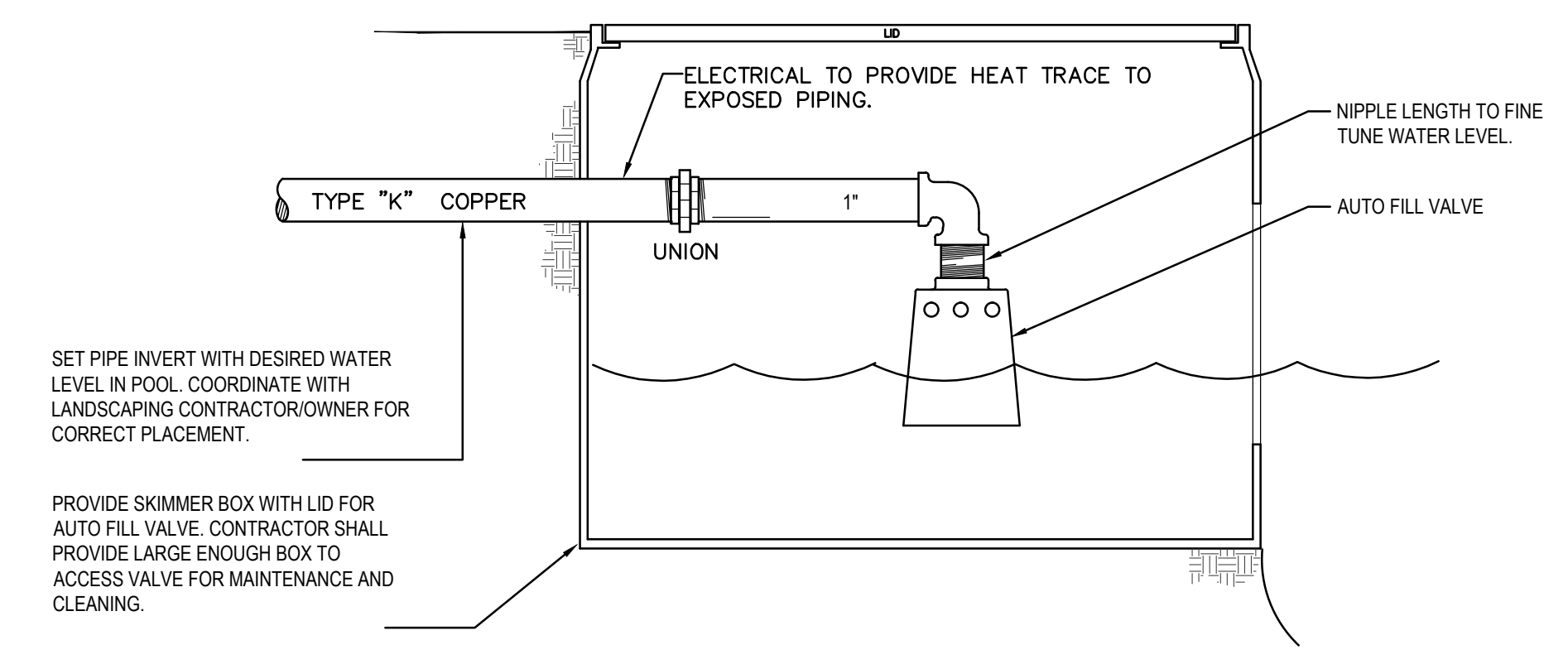
- SYMBOL USED FOR NOTE CALLOUT.
- 1. SEE WATER AND GAS PLAN FOR CONTINUATION.
- 2. MOUNT 3/8" HOSE REEL ON CANOPY STRUCTURE. MOUNT AIR REGULATOR IN ACCESSIBLE LOCATION. PROVIDE 1/2" AIR REGULATOR PARKER FINET MODEL F06R313 AND 1/2" HEAVY DUTY DURO REEL MODEL 1213. SEE THIS SHEET FOR HOSE REEL COMPRESSED AIR DETAIL FOR ADDITIONAL INFORMATION AND COORDINATE WITH OWNER FOR EXACT MOUNTING LOCATIONS.
- 3. ROUTE AIR LINE WITH-IN COLUMN FACADE COORDINATE WITH OWNER FOR EXACT ROUTING OF COMPRESSED AIR LINES. ALL COMPRESSED AIR LINES AND FITTINGS ABOVE GROUND SHALL BE COPPER.
- 4. UNDERGROUND SLEEVED COMPRESSED AIR LINE, 2" CONDUIT 3/4" HEAVY DUTY FLEXIBLE AIR LINE.
- 5. UNDERGROUND SLEEVED COMPRESSED AIR LINE, 3" CONDUIT 1" HEAVY DUTY FLEXIBLE AIR LINE.
- 6. FEEDER LOCATION.
- 7. CONNECT 1" FILL LINE TO MAIN IRRIGATION LINE. COORDINATE LOCATION WITH IRRIGATION PIPING.
- 8. PROVIDE 1" AUTO FILL VALVE, HUDSON MODEL V AND SKIMMER BOX. SEE THIS SHEET FOR AUTO FILL DETAIL.
- 9. PROVIDE 1" ISOLATION VALVE WITH GROSS HANDLE AND VALVE BOX IN GROUND.
- 10. PROVIDE CAPPED LP STUB UP WITH SHUT OFF VALVE FOR FUTURE USE. SEE DETAIL THIS SHEET. COORDINATE LOCATION OF ALL EQUIPMENT AND STUBS WITH OWNER.



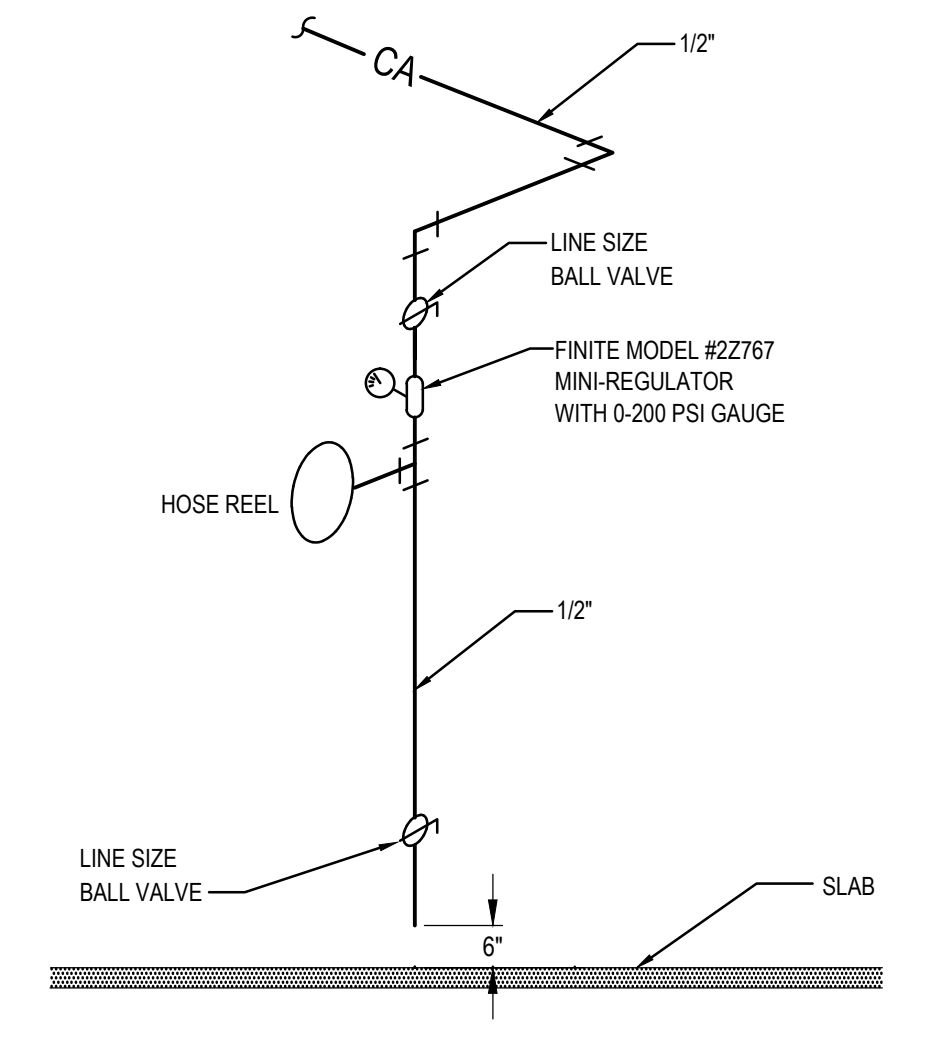
**PLUMBING SITE PLAN**  
 NORTH SCALE 1" = 30'-0"



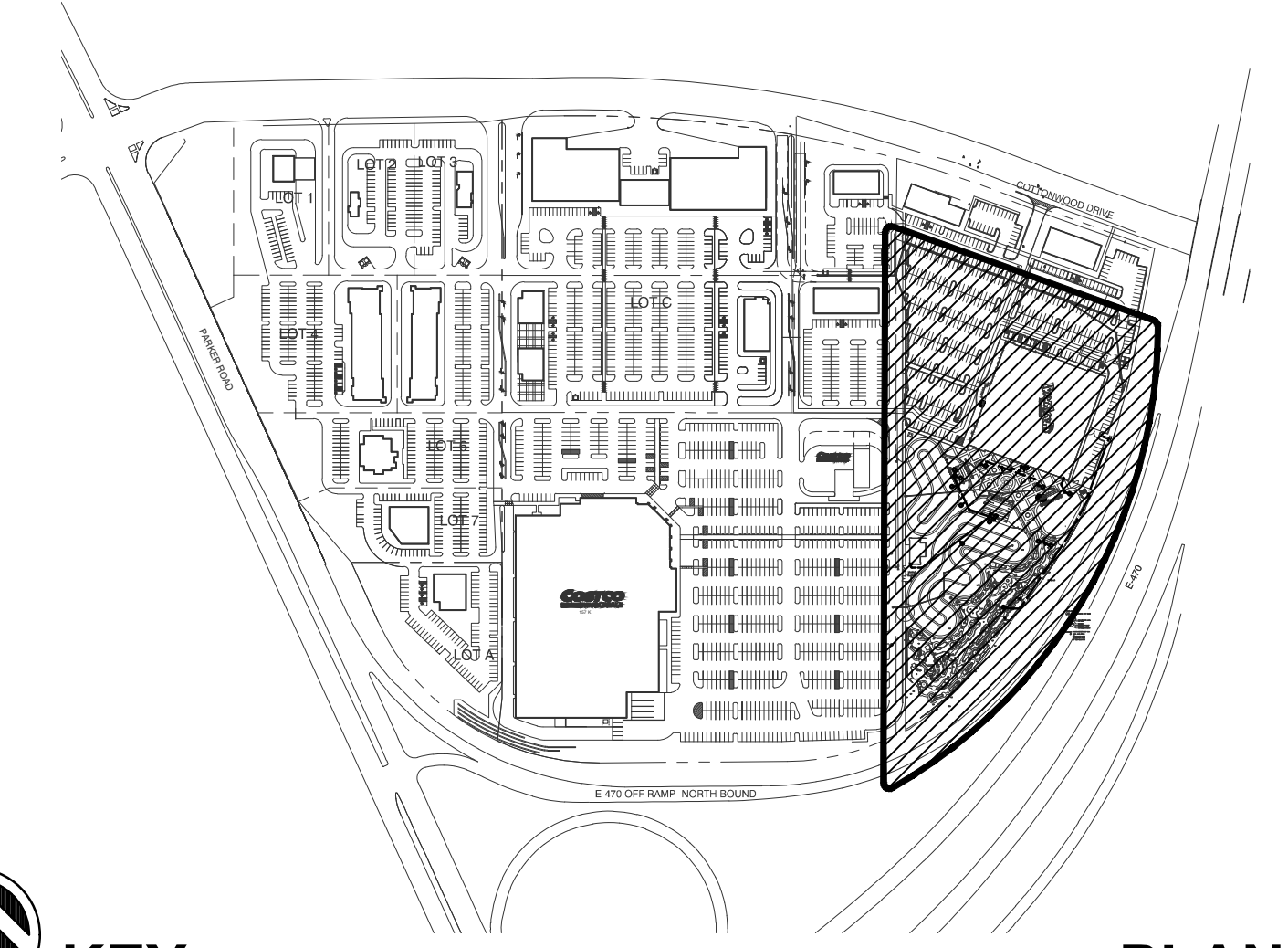
**UNDERGROUND LP PIPE SCHEMATIC**  
 NOT TO SCALE



**AUTO FILL VALVE AND SKIMMER BOX**  
 NOT TO SCALE



**HOSE REEL COMPRESSED AIR DETAIL**  
 NOT TO SCALE



**KEY PLAN**  
 NORTH SCALE

OWNER

**SELECT DEVELOPMENT & CONTRACTING, LLC**  
 660 EAST FRANKLIN ROAD, MERIDIAN, ID 83642

PROJECT

**Boondock's Fun Center**  
 CROWN POINT DEVELOPMENT  
 PARKER, CO

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 office@prrb.com

**PRELIMINARY**  
 NOT FOR CONSTRUCTION  
 5/13/15

SHEET DATA

DRAWN BY:	DP
CHECKED BY:	KL
SCALE:	AS NOTED
DATE:	5/13/15
PROJECT #:	14100

SHEET NUMBER

**P1.1**

RE: Boondocks

From : william Edwards <wedwards@grboise.com>

Mon, Jun 15, 2015 03:33 PM

Subject : RE: Boondocks

2 attachments

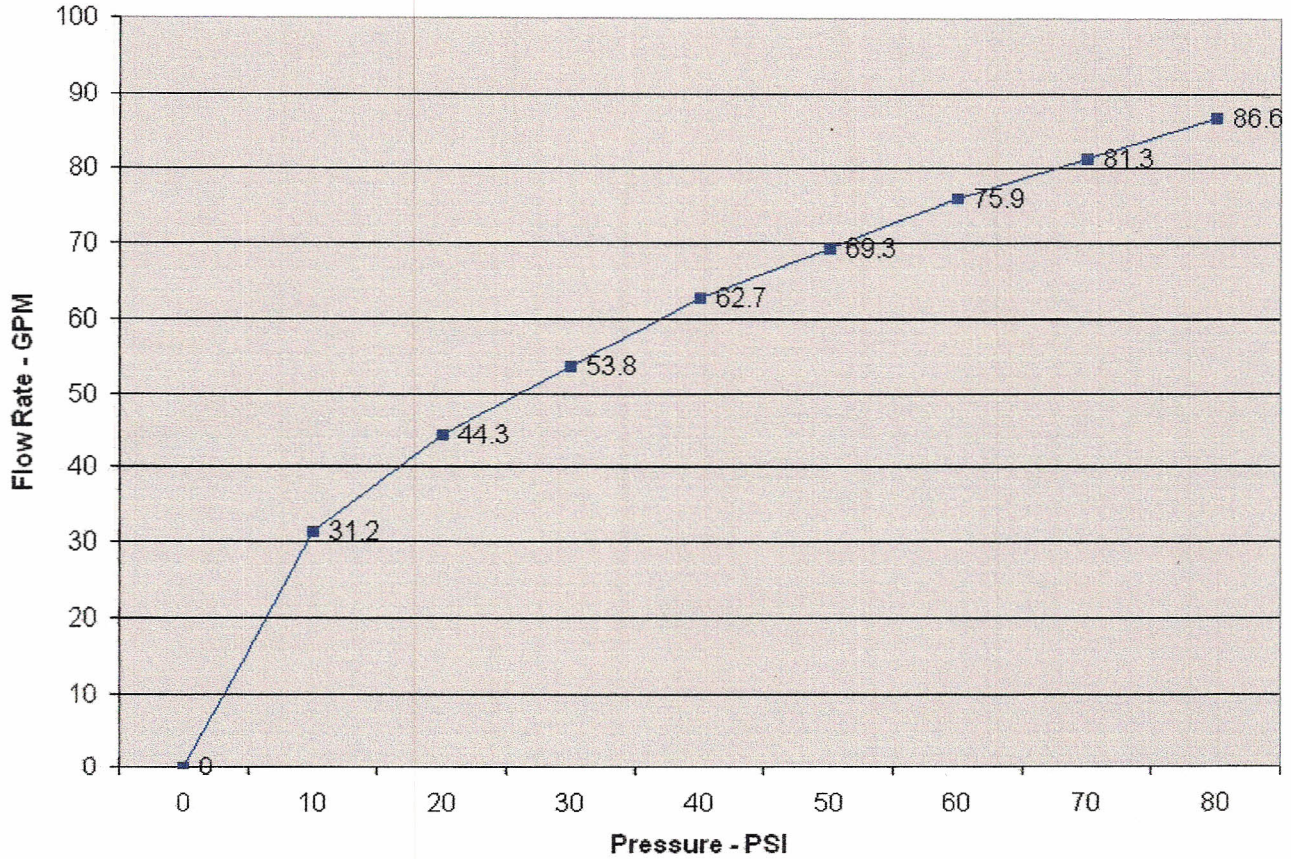
To : wem46@comcast.net

Cc : Randy Fullmer <randy@selectmanagement.com>, Isaac Halling (isaac@selectdev.com) <isaac@selectdev.com>

Bill,

Noted in the PDF file I sent earlier was (Keynote #8) is the call out for the autofill valve. See website for further information: <http://www.hudsonvalve.com/products.html>. The GPM rating depends on the pressure of the City supplied water line;

Hudson Valve 1" Flow Rate Chart



Randy or Isaac will have to tell you how they fill the bumper boat pond up to start with. Not sure if they truck water in or fill it from the nearest fire hydrant.

Thanks,

**Billy Edwards, Project Manager**

Glancey Rockwell & Associates  
595 S. Americana Blvd.  
Boise, ID 83702

V: 208.345.0566  
F: 208.387.0889

From: wem46@comcast.net [mailto:wem46@comcast.net]

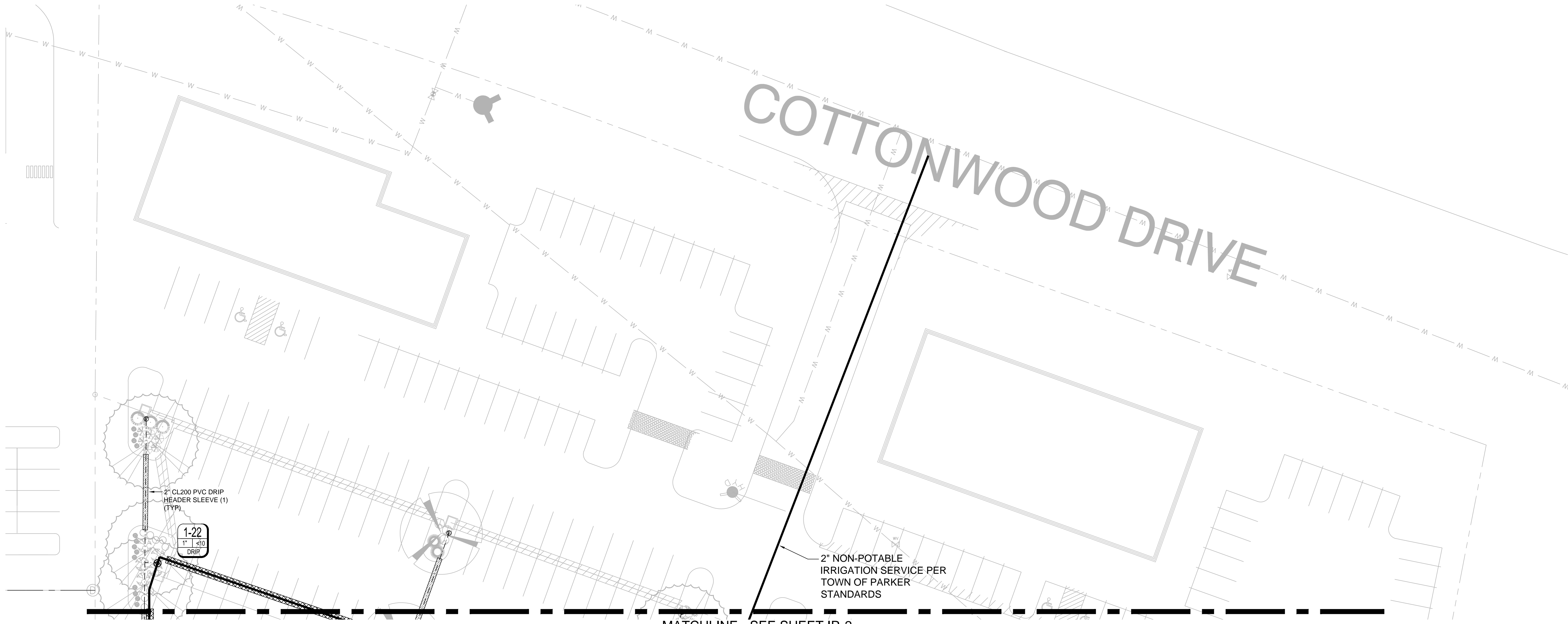
Sent: Monday, June 15, 2015 3:19 PM

To: william Edwards

Cc: Fullmer, Randy

Subject: Boondocks

Hi Billy:



MATCHLINE - SEE SHEET IR-2

**IRRIGATION LEGEND**

Qty	Symbol	Description
8	■	TORO 8-H PRECISION SERIES NOZZLE WITH HUNTER PROS-06-PRS30-CV 6" POP UP SPRINKLER ASSEMBLY - SEE DETAIL
1	◆	TORO 8-Q PRECISION SERIES NOZZLE WITH HUNTER PROS-06-PRS30-CV 6" POP UP SPRINKLER ASSEMBLY - SEE DETAIL
2	■	TORO 8-T PRECISION SERIES NOZZLE WITH HUNTER PROS-06-PRS30-CV 6" POP UP SPRINKLER ASSEMBLY - SEE DETAIL
48	○	TORO 10-H PRECISION SERIES NOZZLE WITH HUNTER PROS-06-PRS30-CV 6" POP UP SPRINKLER ASSEMBLY - SEE DETAIL
2	○	TORO 10-Q PRECISION SERIES NOZZLE WITH HUNTER PROS-06-PRS30-CV 6" POP UP SPRINKLER ASSEMBLY - SEE DETAIL
18	○	TORO 15-H PRECISION SERIES NOZZLE WITH HUNTER PROS-06-PRS30-CV 6" POP UP SPRINKLER ASSEMBLY - SEE DETAIL
2	○	TORO 15-Q PRECISION SERIES NOZZLE WITH HUNTER PROS-06-PRS30-CV 6" POP UP SPRINKLER ASSEMBLY - SEE DETAIL
1	■	TORO 4X15 RCS PRECISION SERIES NOZZLE WITH HUNTER PROS-06-PRS30-CV 6" POP UP SPRINKLER ASSEMBLY - SEE DETAIL
2	■	TORO 4X30 SST PRECISION SERIES NOZZLE WITH HUNTER PROS-06-PRS30-CV 6" POP UP SPRINKLER ASSEMBLY - SEE DETAIL
1	○	HUNTER MP ROTATOR MP CORNER (TURQUOISE) NOZZLE WITH HUNTER PROS-06-PRS40-CV 6" POP UP SPRINKLER ASSEMBLY - SEE DETAIL
22	○	HUNTER MP ROTATOR MP LEFT STRIP (IVORY) NOZZLE WITH HUNTER PROS-06-PRS40-CV 6" POP UP SPRINKLER ASSEMBLY - SEE DETAIL
19	○	HUNTER MP ROTATOR MP RIGHT STRIP (COPPER) NOZZLE WITH HUNTER PROS-06-PRS40-CV 6" POP UP SPRINKLER ASSEMBLY - SEE DETAIL
50	○	HUNTER MP ROTATOR MP SIDE STRIP (BROWN) NOZZLE WITH HUNTER PROS-06-PRS40-CV 6" POP UP SPRINKLER ASSEMBLY - SEE DETAIL
27	○	HUNTER MP ROTATOR MP1000 180 DEG (MAROON) NOZZLE WITH HUNTER PROS-06-PRS40-CV 6" POP UP SPRINKLER ASSEMBLY - SEE DETAIL
1	○	HUNTER MP ROTATOR MP1000 360 DEG (OLIVE) NOZZLE WITH HUNTER PROS-06-PRS40-CV 6" POP UP SPRINKLER ASSEMBLY - SEE DETAIL
18	○	HUNTER MP ROTATOR MP1000 90 DEG (MAROON) NOZZLE WITH HUNTER PROS-06-PRS40-CV 6" POP UP SPRINKLER ASSEMBLY - SEE DETAIL
12	○	HUNTER MP ROTATOR MP2000 90 DEG (BLACK) NOZZLE WITH HUNTER PROS-06-PRS40-CV 6" POP UP SPRINKLER ASSEMBLY - SEE DETAIL
5	○	HUNTER MP ROTATOR MP2000 120 DEG (BLACK) NOZZLE WITH HUNTER PROS-06-PRS40-CV 6" POP UP SPRINKLER ASSEMBLY - SEE DETAIL
57	○	HUNTER MP ROTATOR MP2000 180 DEG (BLACK) NOZZLE WITH HUNTER PROS-06-PRS40-CV 6" POP UP SPRINKLER ASSEMBLY - SEE DETAIL
2	○	HUNTER MP ROTATOR MP2000 210 DEG (GREEN) NOZZLE WITH HUNTER PROS-06-PRS40-CV 6" POP UP SPRINKLER ASSEMBLY - SEE DETAIL
5	○	HUNTER MP ROTATOR MP2000 360 DEG (RED) NOZZLE WITH HUNTER PROS-06-PRS40-CV 6" POP UP SPRINKLER ASSEMBLY - SEE DETAIL
19	⊕	HUNTER ICV-101G-AS 1" PRESSURE REGULATING DRIP REMOTE CONTROL VALVE ASSEMBLY WITH RAIN BIRD QCKCHK BASKET FILTER - SEE DETAIL
6	⊕	HUNTER ICV-101G-AS 1" PRESSURE REGULATING REMOTE CONTROL VALVE ASSEMBLY - SEE DETAIL
2	⊕	HUNTER ICV-151G-AS 1-1/2" PRESSURE REGULATING REMOTE CONTROL VALVE ASSEMBLY - SEE DETAIL
1	⊞	WEATHERMATIC SL1600-3YR-BUNDLE-FLOW - SMARTLINE 48 STATION ET BASED 2-WIRE WALL MOUNT CONTROLLER INCLUDES SLW5 WEATHER SENSOR AND SMARTLINK FLOW AIR CARD
13	⊕	HUNTER HQ-5RC 1" QUICK COUPLING VALVE ASSEMBLY - SEE DETAIL
8	⊕	MATCOO 10RS 2" THREADED RESILIENT WEDGE GATE VALVE ASSEMBLY - SEE DETAIL
1	⊕	NIBCO T113-IRR 1-1/2" BRONZE GATE ISOLATION VALVE ASSEMBLY - SEE DETAIL
2	⊕	LASCO 101N TUBV 1" PVC THREADED BALL VALVE FOR GOLF COURSE WATER FEATURE FILL - SEE DETAIL
52	⊕	MANUAL DRIP LINE FLUSH VALVE ASSEMBLY - SEE DETAIL
1	⊕	2" INCH NON-POTABLE TAP & WATER METER
2,900 LF	—	2" CL200 PVC SOLVENT WELD MAINLINE PIPE - 24" BURY
300 LF	—	1-1/2" CL200 PVC SOLVENT WELD MAINLINE PIPE - 24" BURY
4,140 LF	—	1" CL200 PVC SOLVENT WELD LATERAL PIPE - 18" BURY
100 LF	—	1-1/4" CL200 PVC SOLVENT WELD LATERAL PIPE - 18" BURY
120 LF	—	1-1/2" CL200 PVC SOLVENT WELD LATERAL PIPE - 18" BURY
260 LF	—	2" CL200 PVC SOLVENT WELD LATERAL PIPE - 18" BURY
1,000 LF	—	1" CL 200 PVC SOLVENT WELD PIPE TO ANNAUL BEDS - 18" BURY
7,000 LF	—	1" POLYETHYLENE DRIP HEADER TUBING
2,000 LF	—	2" CL200 PVC DRIP HEADER SLEEVE PIPE
100 LF	—	3" CL200 PVC LATERAL SLEEVE PIPE
860 LF	—	4" CL200 PVC MAINLINE SLEEVE PIPE WITH SEPARATE 3" CL200 PVC WIRE SLEEVE

**IRRIGATION NOTES**

- IRRIGATION SYSTEM DESIGNED FOR 50 PSI DYNAMIC PRESSURE. CONTRACTOR TO STATIC PRESSURE PRIOR TO INSTALLATION. STATIC PRESSURE MUST BE MINIMUM 70 PSI.
- ALL SLEEVE PIPE OPENINGS SHALL BE DOUBLE WRAPPED WITH 6 MIL POLYETHYLENE PLASTIC AND SECURED USING WIRE "ZIP" TIES AROUND SLEEVE AND PIPE.
- MINIMUM PIPE SIZE SHALL BE 1" DIAMETER UNLESS OTHERWISE NOTED ON PLAN.
- PIPE HOPS FOR DRIP LINE HEADER NOT SHOWN ON PLANS FOR CLARITY PURPOSES. UNDER NO CIRCUMSTANCES SHALL DRIP HEADER LINE BE CONNECTED TO LATERALS LINES OR MAINLINE.
- CONTRACTOR SHALL PROVIDE 120 VOLT 15 AMP ELECTRICAL SERVICE TO CONTROLLER LOCATION.
- ACTUAL CONTROLLER LOCATION SHALL BE DETERMINED IN THE FIELD BY OWNERS REPRESENTATIVE.
- DRIP EMITTERS SHALL BE PRESSURE COMPENSATING TYPE. DRIP EMITTER LOCATIONS ARE NOT SHOWN ON PLAN FOR GRAPHICAL PURPOSES. EMITTERS SHALL BE INSTALLED PER THE FOLLOWING QUANTITIES:  
 #2 CONTAINER = TWO 0.5 GPH EMITTERS  
 #5 CONTAINER = TWO 1.0 GPH EMITTERS  
 2" CALIPER TREE = 36" DRIP RING W/ .6 GPH EMITTERS/24" SPACING  
 6'- 8' CONIFER = 48" DRIP RING W/ .6 GPH EMITTERS/24" SPACING  
 3" CALIPER TREE = 48" DRIP RING W/ .6 GPH EMITTERS/24" SPACING
- CONTRACTOR SHALL INSTALL WEATHERMATIC SLFSI-T20 2" FLOW SENSOR AT POINT OF CONNECTION LOCATION. INSTALL FLOW SENSOR DOWNSTREAM OF MASTER VALVE AND RUN MANUFACTURER RECOMMENDED COMMUNICATION WIRE TO CONTROLLER. AND MAKE ALL NECESSARY CONNECTIONS FOR PROPER OPERATION. FLOW SENSORS SHALL BE LINE SIZE AND INSTALLED PER MANUFACTURERS RECOMMENDATIONS.
- CONTRACTOR SHALL PROVIDE 3 YEARS OF WEB ACCESS SERVICE FOR THE CONTROLLER NETWORK. SUBSCRIPTION SHALL COMMENCE AT THE START OF THE FIRST OPERATIONAL GROWING SEASON.
- CONTRACTOR SHALL PROVIDE AND INSTALL WEATHERMATIC SLW5 WEATHER SENSOR AT CONTROLLER LOCATION.

**TWO WIRE CONTROLLER NOTES**

- TWO WIRE DECODER CONTROL WIRE SHALL BE WEATHERMATIC SLWIRE 14-2 TWISTED PAIR WIRE AND SHALL MEET ALL CONTROLLER MANUFACTURERS RECOMMENDATIONS.
- CONTRACTOR SHALL PROVIDE AND INSTALL WEATHERMATIC SLDEC SERIES DECODERS AS REQUIRED TO COMPLETE SYSTEM INSTALLATION AND OPERATION. MULTIPLE ADDRESS DECODERS MAY BE USED WHERE REMOTE CONTROL VALVES ARE IN CLOSE PROXIMITY TO EACH OTHER. ONLY ONE SOLENOID PER ADDRESS IS ALLOWED.
- INSTALL WEATHERMATIC SLGDT LIGHTNING ARRESTOR/SURGE PROTECTION AND GROUND GROUND ROD AT CONTROLLER LOCATION. CONTROL WIRE END, AND EVERY 500 LF OF CONTROL WIRE. GROUNDING MUST OBTAIN 10 OHMS OF RESISTANCE OR LOWER AS TESTED WITH APPROPRIATE EARTH GROUND RESISTANCE TESTER. EARTH GROUND TESTS SHALL BE PERFORMED BY A QUALIFIED TECHNICIAN PROVIDED BY THE CONTROLLER SUPPLIER.

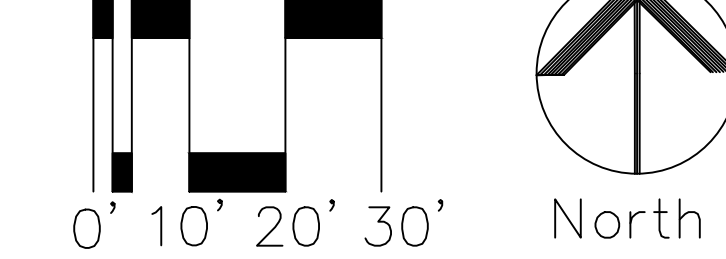
VALVE ID KEY

A1	STATION NUMBER
1/3	PRECIPITATION RATE (in/hr)
1/32	STATION FLOW (GPH)
	VALVE SIZE

**GENERAL NOTES**

- THIS SYSTEM IS INTENDED TO UTILIZE A NON-POTABLE WATER SOURCE. ALL PIPING, SPRINKLERS, EMISSION DEVICES, AND CONTROL VALVES SHALL INCLUDE PURPLE, NON POTABLE WARNINGS AND MARKINGS.
- BACK FLOW PREVENTION, IF REQUIRED, SHALL BE INSTALLED TO MEET ALL LOCAL CODES.
- CONTOUR PLAN OF SITE NOT AVAILABLE AT TIME OF DESIGN. PLAN ASSUMES MAXIMUM ELEVATION DIFFERENCE OF +/- 10' BETWEEN POC AND CONTROL VALVE 1-13.
- ALL PIPING SHOWN ON PLANS IS DIAGRAMMATIC AND LOCATIONS SHOWN ARE FOR CLARITY ONLY. ALL PIPING SHALL BE ROUTED IN PLANTING AREAS AND SHALL AVOID TREE LOCATIONS. PIPING SHALL MAINTAIN A MINIMUM OF 10 LF FROM TREE ROOT BILLS.
- DRIP HEADER LINES SHOWN ON PLANS INDICATE PROXIMITY OF DRIP ZONES. ALL TREES AND SHRUBS SHALL INCLUDE EMITTERS AND/OR DRIP RINGS. REFER TO NOTES FOR EMITTER SIZE AND QUANTITIES. EMITTER LOCATIONS AND DISTRIBUTION TUBING NOT SHOWN ON PLANS FOR GRAPHICAL AND CLARITY PURPOSES. ZONES ARE DESIGNED TO ACCOMMODATE 5 GPM NOT TO EXCEED 10 GPM
- REMOTE CONTROL VALVES FOR TURF SHALL BE INSTALLED IN ADJACENT SHRUB BEDS OR WITHIN 2LF OF WALKWAYS AND CURBS OR IN TURF AREAS NOT CONTROLLED BY VALVE IN QUESTION.
- ANY QUANTITIES SHOWN ON PLAN ARE ESTIMATED QUANTITIES ONLY. FIELD CONDITIONS MAY VARY AND MAY ALTER ACTUAL QUANTITIES. CONTRACTOR TO VERIFY FIELD CONDITIONS PRIOR TO INSTALLATION.
- ALL SPRINKLER NOZZLES SHALL BE ADJUSTED FOR OPTIMUM COVERAGE AND MINIMUM OVERSPRAY.
- REMOTE CONTROL VALVES SHALL BE INSTALLED PER DETAILED DRAWINGS AND SHALL HAVE ONE CONTROL VALVE PER VALVE BOX.
- ALL ELECTRICAL WORK SHALL BE IN COMPLIANCE WITH N.E.C. AND ALL LOCAL CODES.
- CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATION OF ALL EXISTING UTILITIES PRIOR TO ANY EXCAVATION.
- ALL TRENCHES SHALL BE BACKFILLED IN 6" LIFTS OF CLEAN SOIL FREE OF ROCKS AND RUBBISH AND COMPACTED TO 95% PROCTOR DENSITY. CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATION OF ALL EXISTING UTILITIES PRIOR TO ANY EXCAVATION.
- CARE SHALL BE TAKEN TO ENSURE THAT NO SOIL OR DEBRIS ENTERS THE PIPE DURING INSTALLATION.
- ALL PIPE ENDS SHALL BE PROPERLY CLEANED AND SHALL BE FREE OF ANY BURRS AND/OR SHAVINGS AS A RESULT OF THE PIPE BEING CUT.
- ALL LINES SHALL BE THOROUGHLY FLUSHED PRIOR TO INSTALLATION OF NOZZLES.

Scale: 1" = 20'



Prepared By: Kirby Smith & Associates, Inc.  
 Land Planning/Design/Landscape Architecture  
 6201 So. Hudson Ct., Centennial, CO 80112  
 (303) 694-9444 FAX (303) 694-9672  
 Job # 409

CALL UTILITY NOTIFICATION CENTER OF COLORADO  
 811  
 CALL 2 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

REVISIONS

DESCRIPTION	DATE
KG ISLANDS/SMR REV	7/17/15

OWNER  
**SELECT DEVELOPMENT & CONTRACTING, LLC**  
 660 EAST FRANKLIN ROAD, MERIDIAN, ID 83642

PROJECT  
**Woodlands**  
 Urban Center  
 CROWN POINT DEVELOPMENT  
 PARKER, CO

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 Architecture Planning  
 595 S Americana Boulevard Boise, Idaho 83702  
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 office@prouse.com



CONSTRUCTION DRAWINGS  
 IRRIGATION PLAN  
 NORTH

SHEET DATA  
 DRAWN BY: DJS  
 CHECKED BY: DJS  
 SCALE: 1" = 20'  
 DATE: 5/29/15  
 PROJECT #: 14001

SHEET NUMBER  
**IR-1**



MATCHLINE - SEE SHEET IR-1

MATCHLINE - SEE SHEET IR-3

NOTE: DRIP HEADER LINE SHALL BE INSTALLED IN LANDSCAPE AREAS. LOCATION SHOWN FOR CLARITY ONLY.

REVISIONS	
DESCRIPTION	DATE
KG LANDSVM SRE REV	7/17/15

OWNER  
**SHECT DEVELOPMENT & CONTRACTING, LLC**  
 660 EAST FRANKLIN ROAD, MERIDIAN, ID 83642

PROJECT  
**Boondocks**  
 Food & Fun Center  
 CROWN POINT DEVELOPMENT  
 PARKER, CO

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CONSTRUCTION  
 DRAWINGS  
 IRRIGATION PLAN  
 CENTER

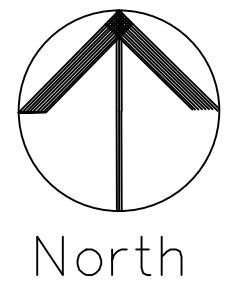
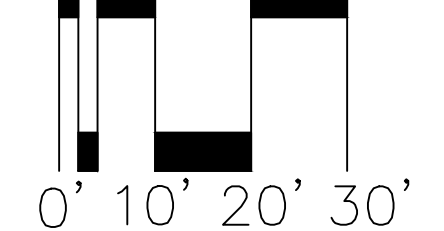
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DRAWN BY:	DJS
CHECKED BY:	DJS
SCALE:	1" = 20'
DATE:	5/29/15
PROJECT #:	14001

SHEET NUMBER  
**IR-2**

Prepared By:

**Kirby Smith & Associates, Inc.**  
 Land Planning/Design/Landscape Architecture  
 6201 So. Hudson Ct., Centennial, CO 80112  
 (303) 694-9444 FAX (303) 694-9572  
 Job # 409

Scale: 1" = 20'



CALL UTILITY NOTIFICATION  
 CENTER OF COLORADO  
 811  
 CALL 2 BUSINESS DAYS IN ADVANCE  
 BEFORE YOU DIG, GRADE, OR EXCAVATE  
 FOR THE MARKING OF UNDERGROUND  
 MEMBER UTILITIES.

NOTE: DRIP HEADER LINE SHALL BE INSTALLED IN LANDSCAPE AREAS. LOCATION SHOWN FOR CLARITY ONLY.

1-4  
1" <10  
DRIP  
PROPOSED CONTROLLER LOCATION. CONTRACTOR SHALL PROVIDE 120V 15AMP SERVICE TO CONTROLLER.

NOTE: LATERAL LINES MAY BE INSTALLED IN COMMON TRENCH.

1-5  
1.12' 33.56  
0.43 IPH  
1-6  
1' 9.86  
0.53 IPH  
1-7  
1" <10  
MS/SPRAY  
1-8  
1" <10  
DRIP  
1-9  
1" <10  
DRIP

NOTE: ZONE 1-7 FOR ANNUAL BEDS ONLY. EMISSION DEVICES NOT SHOWN. CONTRACTOR TO PROVIDE HIGH EFFICIENCY SPRAY HEADS OR MICROSPRAY ADAPTERS ON 12" HIGH POP SPRINKLER BODIES. ALL BODIES MUST INCLUDE CHECK VALVES AND PRESSURE REGULATION

1" CL200 PVC GOLF COURSE POND AUTO FILL LINE. INSTALL LASCO 101N TUBV ISOLATION VALVE. AUTO FILL CONTROL VALVE BY GOLF COURSE CONTRACTOR.

NOTE: ALL PIPING UNDER ANY HARDSCAPE SHALL BE SLEEVED IN CL200 PVC SLEEVE PIPE. LOCATIONS NOT SHOWN FOR CLARITY PURPOSES.

1-10  
1" <10  
DRIP  
TRASH CAN

1-11  
1" 11.88  
1.42 IPH  
SKULL HOLE W/ BALL COLLECTOR

PLAY THROUGH CAVE W/ VOLCANO AND FALLS T.O.C. = 30.5'

1-12  
1" <10  
DRIP

PLAY THROUGH CAVE W/ PIRATE FORT AND FALLS T.O.C. = 17.5'

NOTE: ALL PIPING UNDER ANY HARDSCAPE SHALL BE SLEEVED IN CL200 PVC SLEEVE PIPE. LOCATIONS NOT SHOWN FOR CLARITY PURPOSES.

1-18  
1" <10  
DRIP  
1-17  
1" <10  
MS/SPRAY  
1-16  
1" 4.43  
1.87 IPH

NOTE: ZONE 1-17 FOR ANNUAL BEDS ONLY. EMISSION DEVICES NOT SHOWN. CONTRACTOR TO PROVIDE HIGH EFFICIENCY SPRAY HEADS OR MICROSPRAY ADAPTERS ON 12" HIGH POP SPRINKLER BODIES. ALL BODIES MUST INCLUDE CHECK VALVES AND PRESSURE REGULATION

1-19  
1" <10  
DRIP

WATER SHOT HOLE

DOCK SCENE  
DINGY BOAT

1" CL200 PVC GOLF COURSE POND AUTO FILL LINE. INSTALL LASCO 101N TUBV ISOLATION VALVE. AUTO FILL CONTROL VALVE BY GOLF COURSE CONTRACTOR.

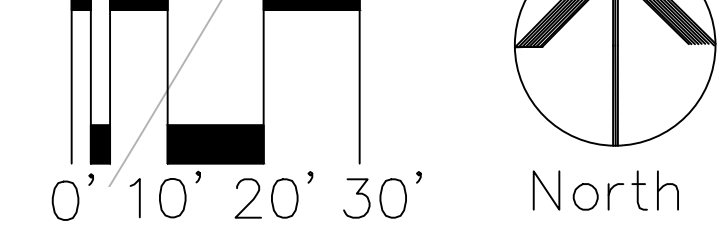
NOTE: ZONE 1-14 FOR ANNUAL BEDS ONLY. EMISSION DEVICES NOT SHOWN. CONTRACTOR TO PROVIDE HIGH EFFICIENCY SPRAY HEADS OR MICROSPRAY ADAPTERS ON 12" HIGH POP SPRINKLER BODIES. ALL BODIES MUST INCLUDE CHECK VALVES AND PRESSURE REGULATION

1-15  
1" <10  
DRIP  
1-14  
1" <10  
MS/SPRAY

1-13  
1" 20.44  
0.44 IPH

DROP HOLE W/ CANNIBAL SCENE

Scale: 1" = 20'



E-470

REVISIONS	
DESCRIPTION	DATE
KG LANDSVM SRE REV	7/17/15

OWNER

**SPECTRUM DEVELOPMENT & CONTRACTING, LLC**

660 EAST FRANKLIN ROAD, MERIDIAN, ID 83642

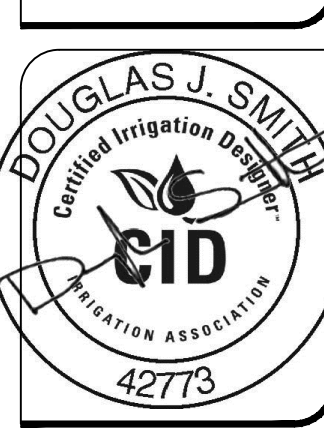
PROJECT

**Woodlands**

John Gantner  
CROWN POINT DEVELOPMENT  
PARKER, CO

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Architecture Planning  
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office@pgha.com



CONSTRUCTION DRAWINGS  
IRRIGATION PLAN SOUTH

SHEET DATA	
DRAWN BY:	DJS
CHECKED BY:	DJS
SCALE:	1" = 20'
DATE:	5/29/15
PROJECT #:	14001

SHEET NUMBER

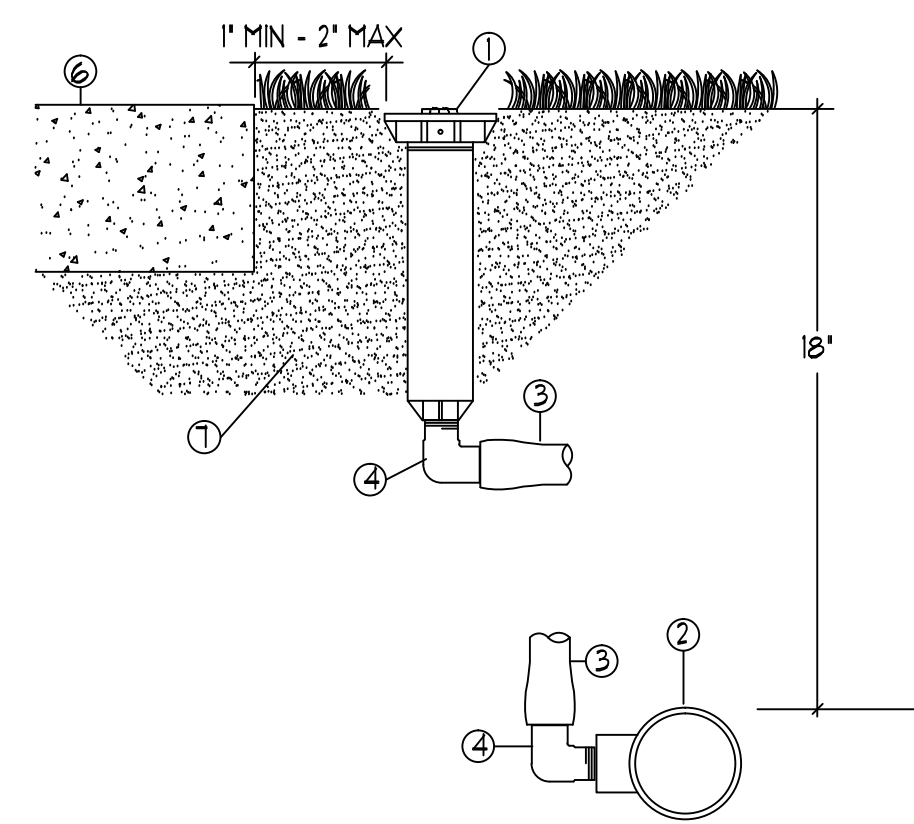
**IR-3**

Prepared By:

Kirby Smith & Associates, Inc.  
Land Planning/Design/Landscape Architecture  
6801 So. Hudson Ct., Centennial, CO 80112  
(303) 664-9444 FAX (303) 664-6672  
Job # 409

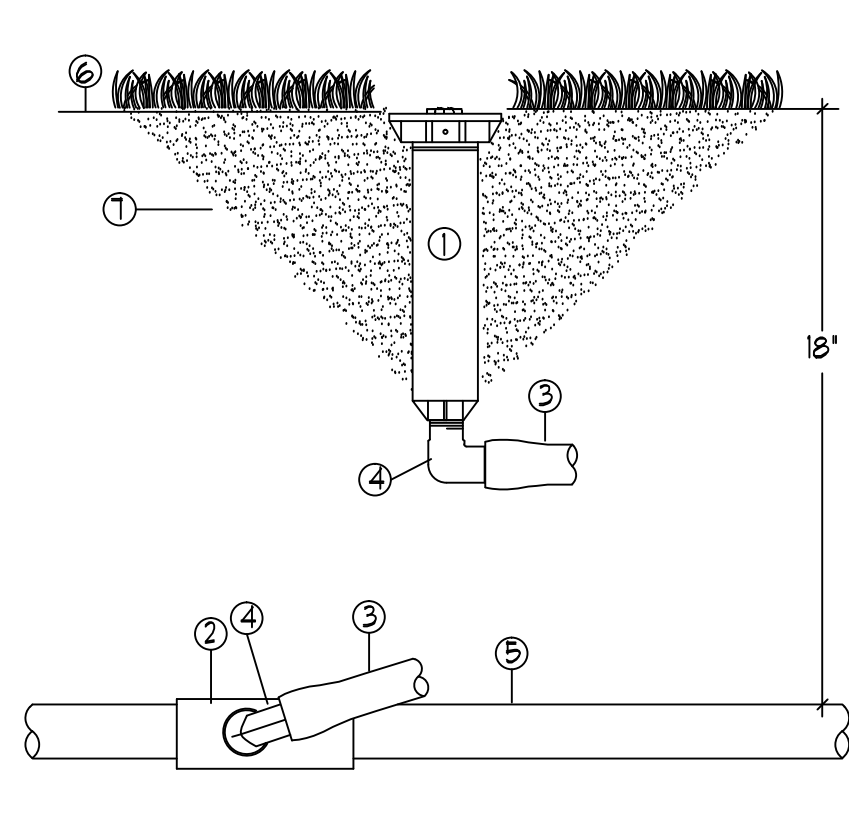
CALL UTILITY NOTIFICATION CENTER OF COLORADO  
811  
CALL 2 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

**Smith**  
IRRIGATION DESIGN, LLC  
960 HIGH CLIFFE STREET, WINDLANDS RANCH, CO 80720  
PHONE 303-471-7277 WWW.SMITHIRRIGATION.COM



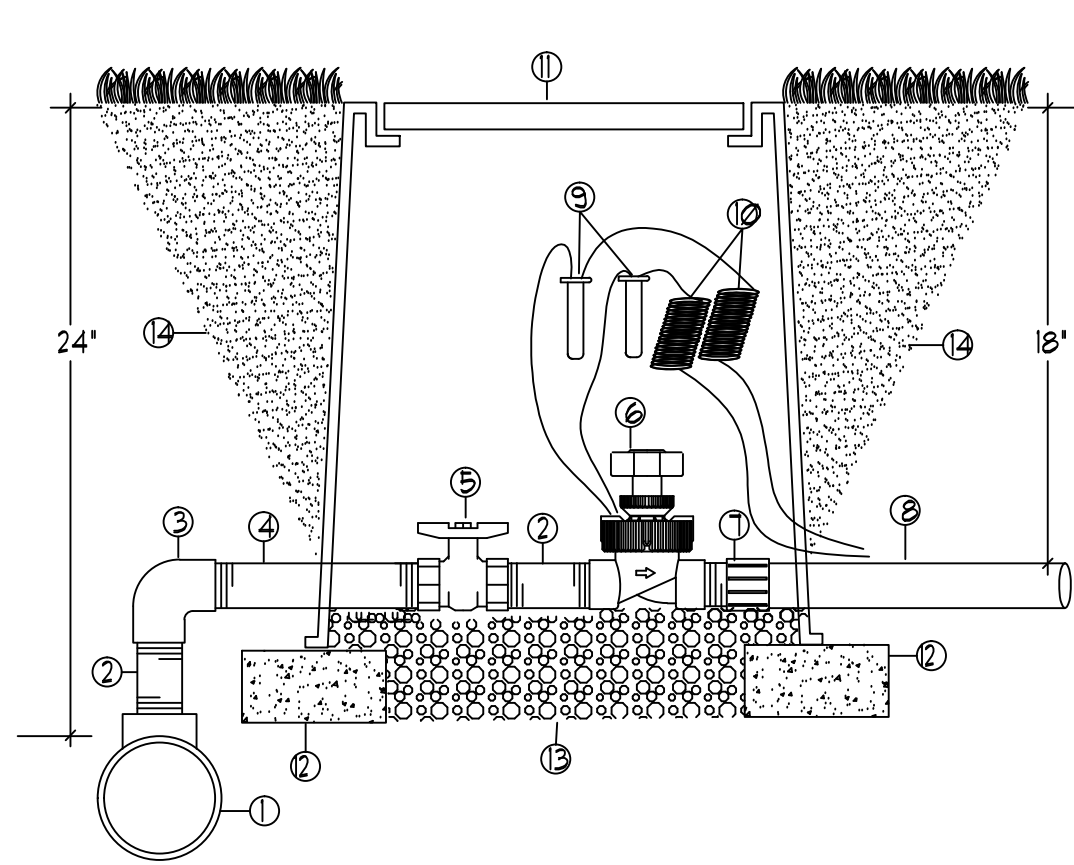
- 1 SPRINKLER HEAD (SEE LEGEND)
- 2 SCH 40 PVC LATERAL FITTING
- 3 RAINBIRD SF SWING PIPE
- 4 RAINBIRD SBE-020 BARBED FITTING
- 5 PVC LATERAL PIPE (SEE LEGEND)
- 6 CONCRETE OR ASPHALT HARDSCAPE
- 7 CLEAN COMPACTED BACKFILL

**A** FIXED SPRAY SPRINKLER ASSEMBLY  
W/ SWING PIPE NT6



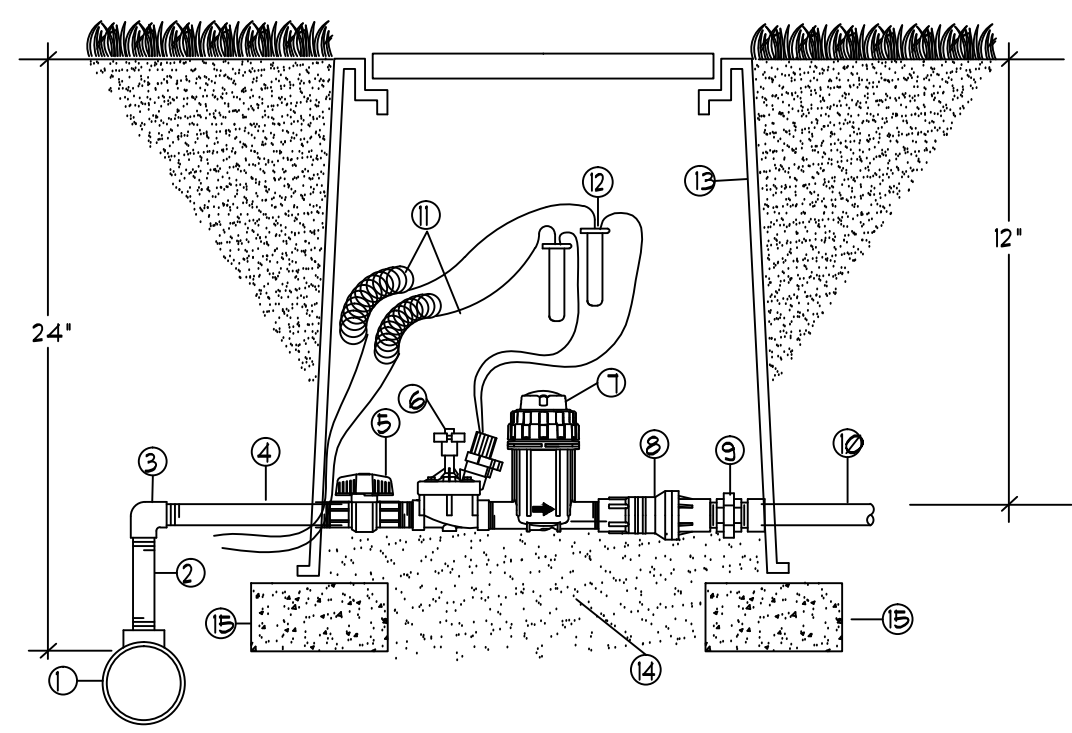
- 1 SPRINKLER HEAD (SEE LEGEND)
- 2 SCH 40 PVC LATERAL FITTING
- 3 RAINBIRD SF SWING PIPE
- 4 RAINBIRD SBE-020 BARBED FITTING
- 5 PVC LATERAL PIPE (SEE LEGEND)
- 6 FINISH GRADE
- 7 CLEAN COMPACTED BACKFILL

**B** FIXED SPRAY SPRINKLER ASSEMBLY  
W/ SWING PIPE NT6



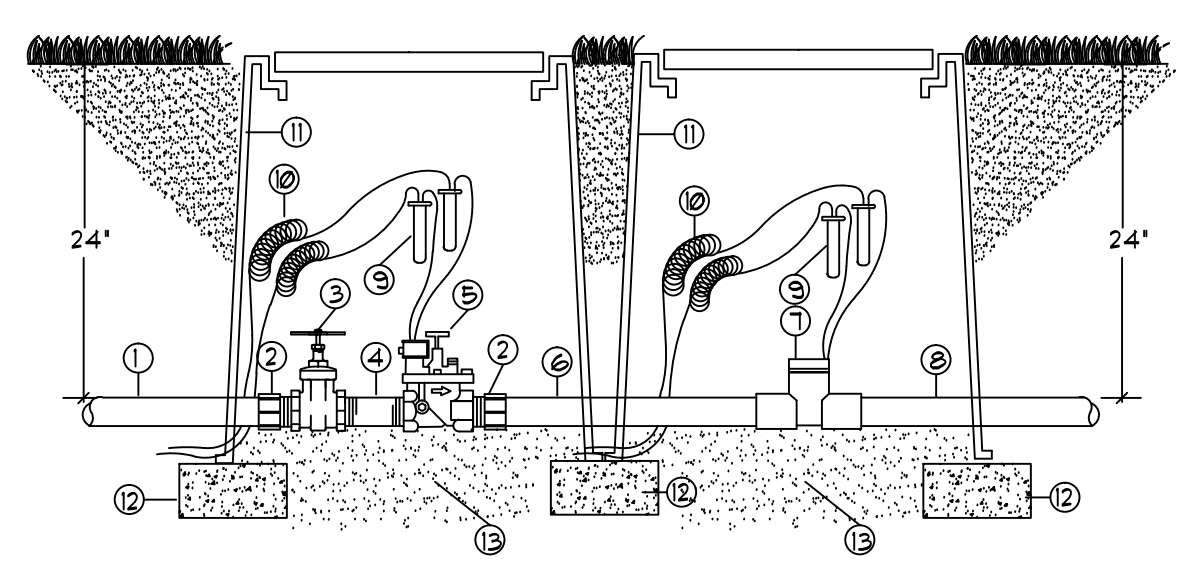
- 1 MAINLINE FITTING
- 2 SCH 80 PVC THREADED NIPPLE - 10' LENGTH
- 3 SCH 80 PVC THREADED 90 DEG ELBOW
- 4 SCH 80 PVC NIPPLE - TEE 8' LENGTH
- 5 SCH 80 PVC THREADED BALL VALVE
- 6 REMOTE CONTROL VALVE (SEE LEGEND)
- 7 SCH 80 PVC MALE ADAPTER
- 8 LATERAL PIPE (SEE LEGEND)
- 9 3/4" DBT WATER TIGHT CONNECTOR
- 10 3/8" WIRE EXPANSION LOOPS
- 11 CARBON 1/8" BROOKS 1/8" VALVE BOX
- 12 CHU SUPPORT BLOCK
- 13 7 CUBIC FT WASHED PEA GRAVEL
- 14 CLEAN AND COMPACTED BACKFILL

**C** REMOTE CONTROL VALVE ASSEMBLY  
WITH BALL VALVE ISOLATION NT6



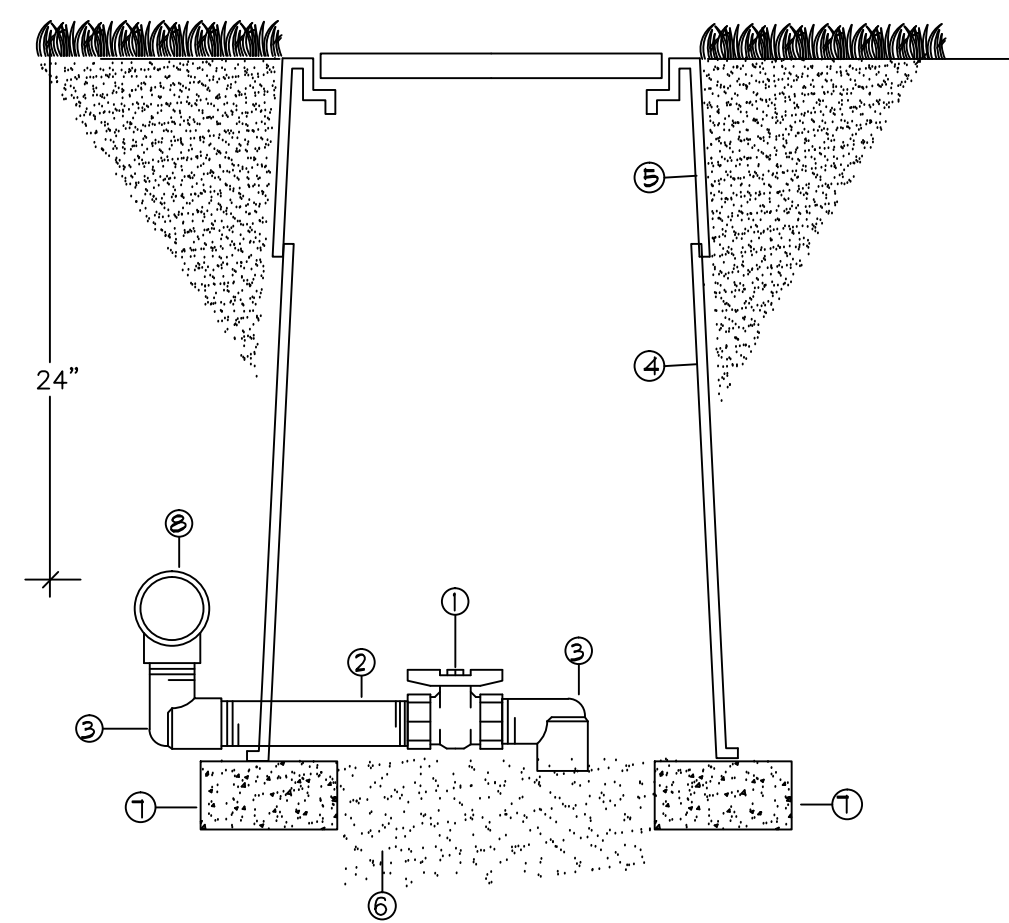
- 1 MAINLINE FITTING
- 2 SCH 80 PVC THREADED NIPPLE - 10' LENGTH
- 3 SCH 80 PVC THREADED ELBOW
- 4 SCH 80 PVC THREADED NIPPLE - 12' LENGTH
- 5 PVC BALL VALVE
- 6 REMOTE CONTROL VALVE (SEE LEGEND)
- 7 BASKET FILTER
- 8 PRESSURE REGULATOR
- 9 SCH 80 PVC THREADED UNION
- 10 LATERAL PIPE (SEE LEGEND)
- 11 EXPANSION LOOPS - 36" MINIMUM
- 12 3/4" DBT CONNECTOR
- 13 CARBON 1/8" VALVE BOX W/ LID
- 14 (EXTENSIONS AS REQUIRED)
- 15 4' X 8' X 16" CONCRETE BLOCK SUPPORT

**D** REMOTE CONTROL DRIP VALVE ASSY.  
W/ FILTER & REGULATOR NT6



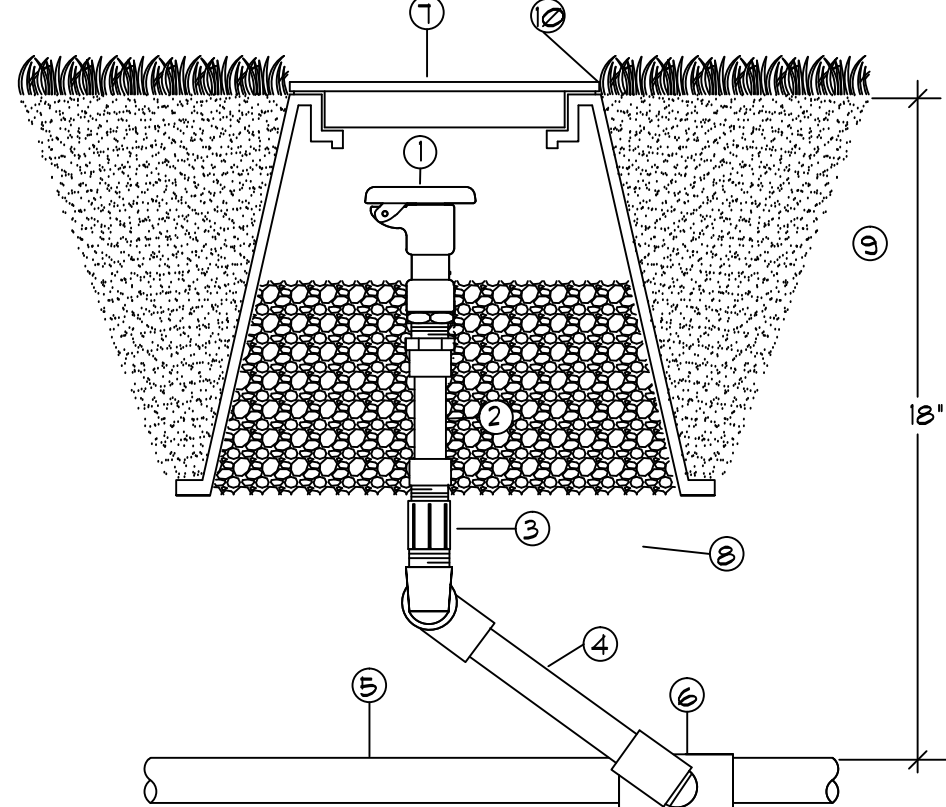
- 1 SERVICE LINE
- 2 SCH 40 PVC MALE ADAPTER
- 3 NIBCO T-113 BRONZE GATE VALVE
- 4 SCH 80 PVC THREADED NIPPLE (LINE SIZE X 6' LENGTH)
- 5 REMOTE CONTROL VALVE (SEE LEGEND)
- 6 CLASS 200 PVC PIPE - MINIMUM 10X PIPE DIAMETER LENGTH
- 7 SCH 80 PVC FLOW SENSOR (SEE LEGEND)
- 8 MAINLINE PIPE (SEE LEGEND)
- 9 3/4" DBT CONNECTOR
- 10 EXPANSION LOOPS - 36" MINIMUM
- 11 CARBON 1/8" VALVE BOX W/ LID AND EXTENSIONS AS REQ'D
- 12 4' X 8' X 16" CONCRETE BLOCK SUPPORT
- 13 WASHED PEA GRAVEL - 2' OF MINIMUM

**E** MASTER VALVE ASSEMBLY  
WITH FLOW SENSOR NT6



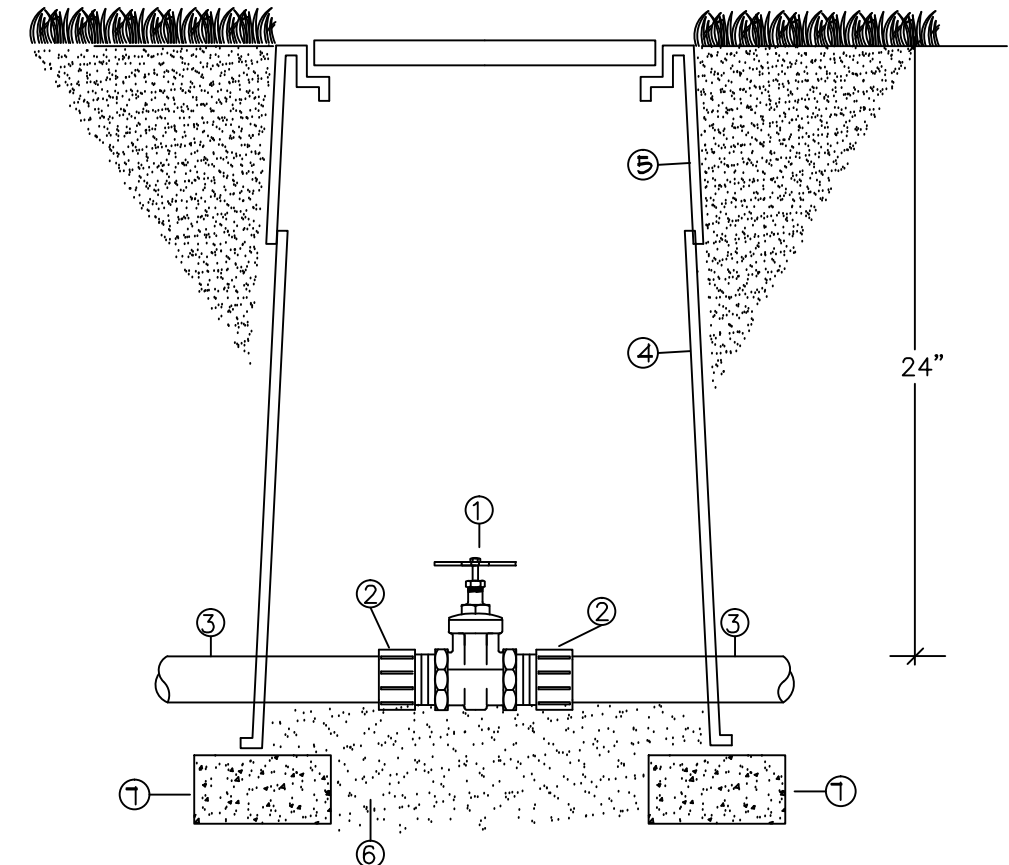
- 1 BRASS GATE VALVE
- 2 SCH 80 PVC NIPPLE (TBE) - 4' LENGTH
- 3 SCH 40 PVC STREET ELL (T X T)
- 4 CARBON 1/8" VALVE BOX W/ LID
- 5 VALVE BOX EXTENSIONS (AS REQUIRED)
- 6 WASHED PEA GRAVEL - 2' OF MINIMUM
- 7 4' X 8' X 16" CONCRETE BLOCK SUPPORT
- 8 MAINLINE TEE

**F** MANUAL DRAIN VALVE ASSEMBLY  
NT6



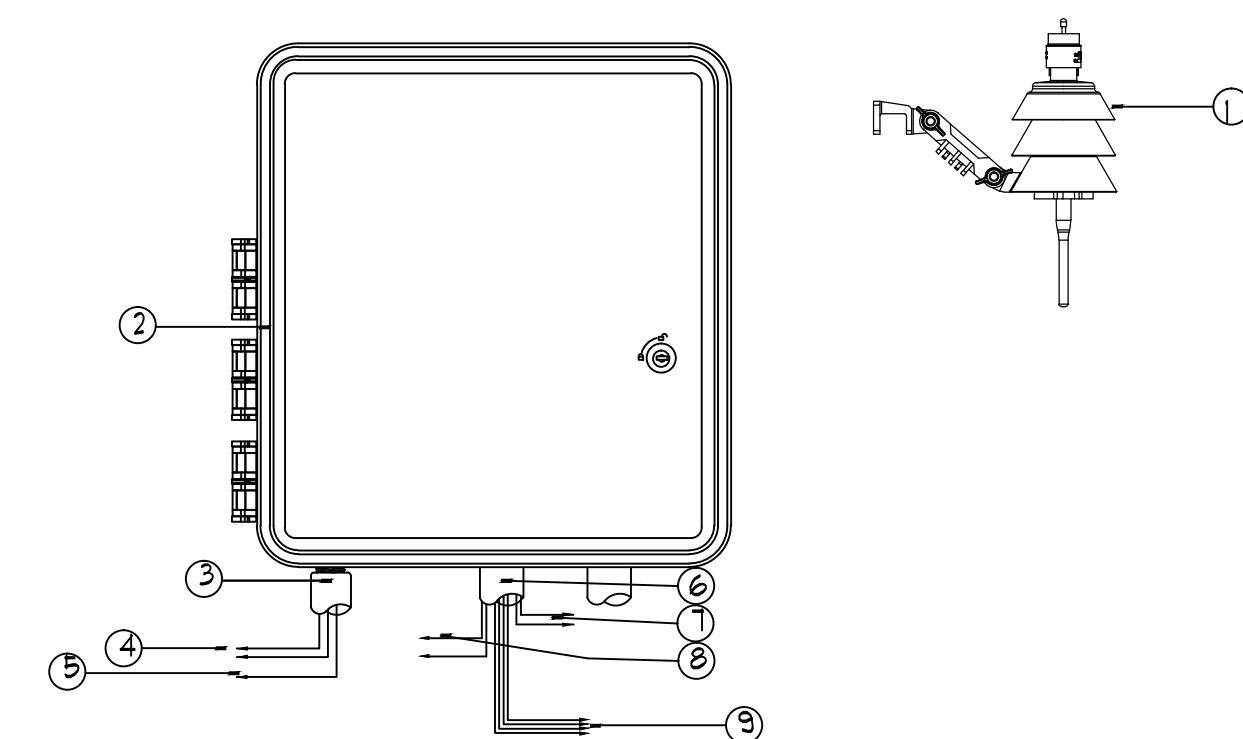
- 1 QUICK COUPLING VALVE (SEE LEGEND)
- 2 EXCALIBUR 1" X 6" FLEX NIPPLE
- 3 SCH 80 PVC THREADED COUPLING
- 4 LASCO G112-212 UNITIZED SWING JOINT
- 5 LATERAL PIPE (SEE LEGEND)
- 6 SCH 40 PVC LATERAL FITTING
- 7 CARBON 3/8" 10" ROUND VALVE BOX
- 8 WASHED PEA GRAVEL - 1' OF MINIMUM
- 9 CLEAN COMPACTED BACKFILL
- 10 FINISH GRADE

**G** QUICK COUPLING VALVE ASSEMBLY  
1" INLET NT6



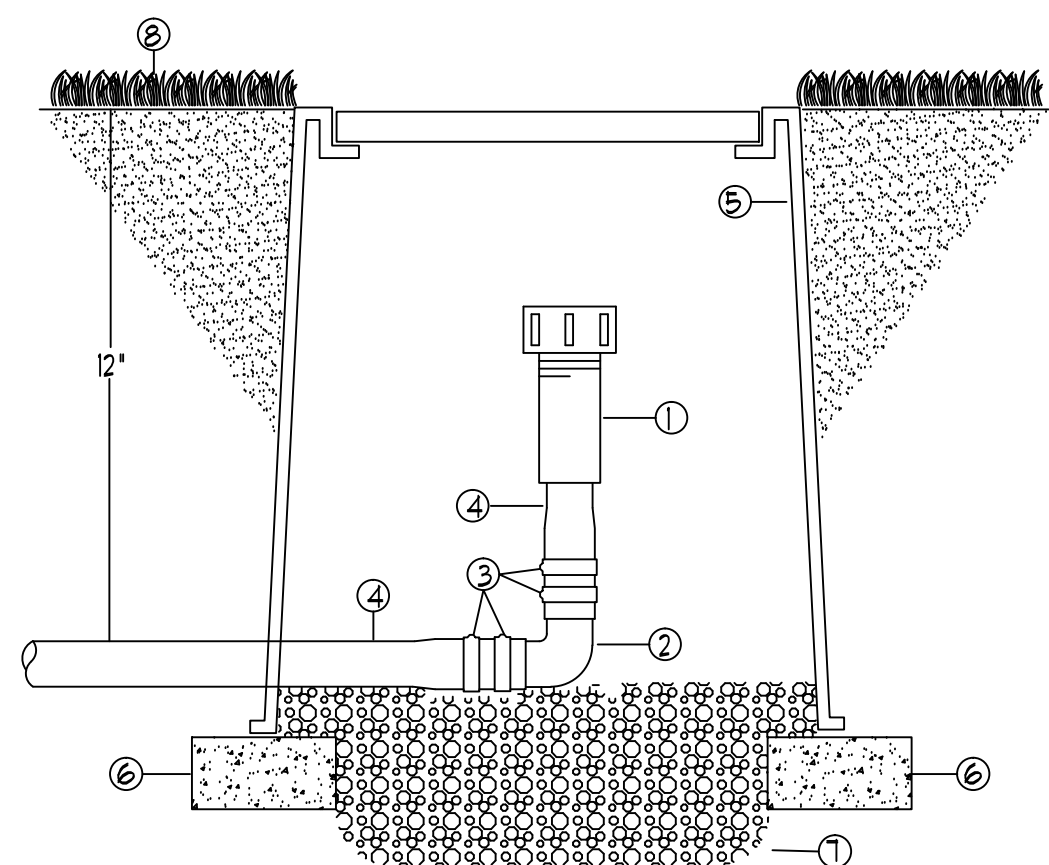
- 1 BRASS GATE VALVE (SEE LEGEND)
- 2 SCH 80 PVC MALE ADAPTER
- 3 MAINLINE PIPE (SEE LEGEND)
- 4 CARBON 1/8" VALVE BOX W/ LID
- 5 VALVE BOX EXTENSIONS (AS REQUIRED)
- 6 WASHED PEA GRAVEL - 2' OF MINIMUM
- 7 4' X 8' X 16" CONCRETE BLOCK SUPPORT

**H** MAINLINE ISOLATION VALVE ASSEMBLY  
NT6



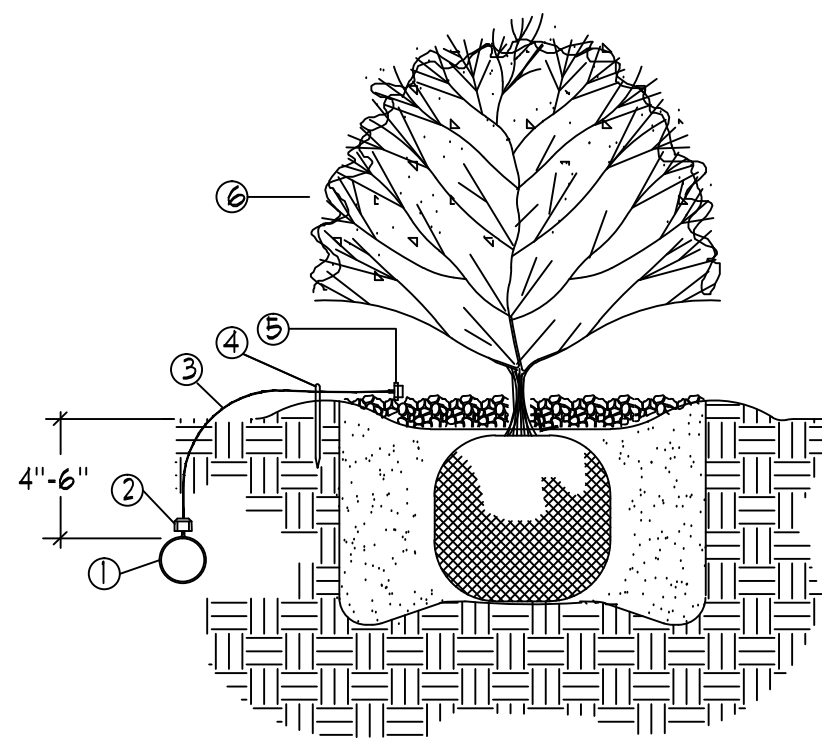
- 1 WIRELESS WEATHER SENSOR - SEE LEGEND
- 2 WALL MOUNT CONTROLLER - SEE LEGEND
- 3 CONDUIT 1/2" A.C.
- 4 POWER SUPPLY WIRES
- 5 GROUND WIRE
- 6 CONDUIT 24V A.C.
- 7 RAIN STAT WIRES
- 8 MASTER VALVE WIRE
- 9 24V CONTROL VALVE WIRES

**I** WALL MOUNT CONTROLLER ASSEMBLY  
WITH WIRELESS WEATHER SENSOR NT6



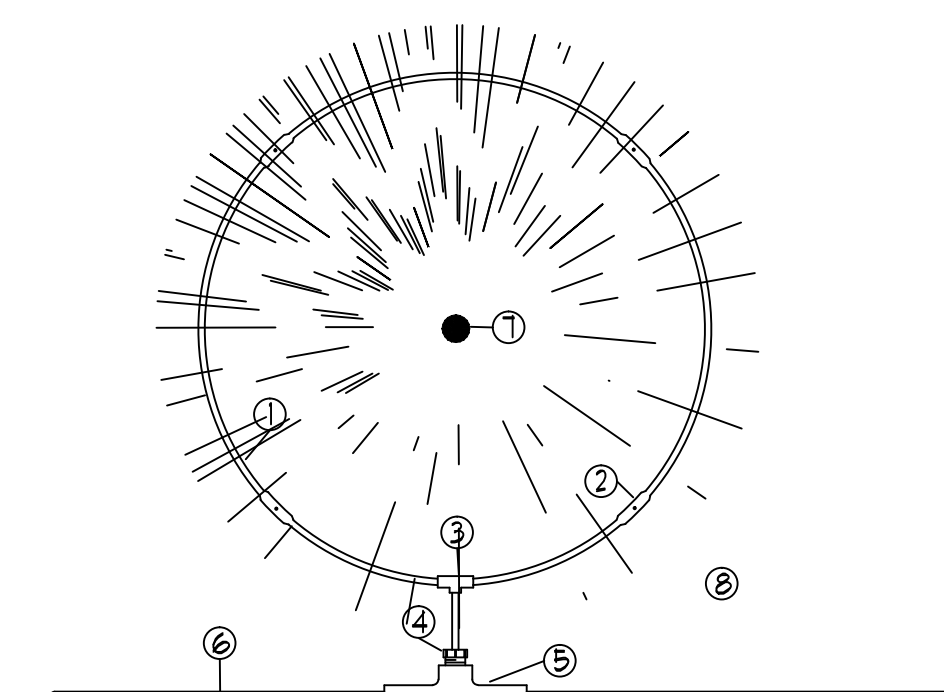
- 1 3/4" FLUSHABLE END CAP
- 2 3/4" INSERT 90 DEG ELBOW
- 3 STAINLESS STEEL PINCH CLAMP
- 4 3/4" POLYETHYLENE DRIP TUBING
- 5 CARBON 1/8" TEE VALVE BOX W/ VIOLET T-COVER
- 6 BRICK PAYER SUPPORT
- 7 FINISH GRADE
- 8 1/2 CUBIC FT WASHED PEA GRAVEL

**J** FLUSHABLE END CAP ASSEMBLY  
NT6



- 1 3/4" POLYETHYLENE DRIPLINE TUBING
- 2 DRIP EMITTER - SEE IRRIGATION LEGEND / NOTES
- 3 1/4" DISTRIBUTION TUBING
- 4 1/4" TUBING STAKE
- 5 BUG CAP - SEE IRRIGATION LEGEND / NOTES
- 6 TYPICAL PLANTING DETAIL - FOR REFERENCE ONLY. (SEE PLANTING PLANS)

**K** TYPICAL DRIP EMITTER PLACEMENT  
NT6



- 1 LANDSCAPE DRIPLINE - 30" DIAMETER RING
- 2 LANDSCAPE DRIPLINE EMITTER
- 3 COMPRESSION FITTING - TEE
- 4 1/2" MIPT X INSERT MALE ADAPTER
- 5 SCH 40 PVC 1" X 1/2" REDUCING TEE
- 6 LATERAL DRIP FEEDER LINE
- 7 CENTER OF TREE OR SHRUB
- 8 CANOPY EDGE OF TREE OR SHRUB

NOTE: DRIPLINE FITTINGS BRAND MUST MATCH DRIPLINE TYPE

**L** TREE / SHRUB DRIP RING ASSEMBLY  
PLAN VIEW NT6

**Project Name:** Boondocks Fun Center

**Location:** Cottonwood Drive

Landscape Area	High Water	Low Water	Native Grass and Spray Shrubs & Perennials		Sub-Total of Non-Irrigated area (calculated) Areas	PWSDF one SFE per 6000	SFE Requirement (Sub-Total Calculation divided by 6000 = requirement)
	TURF (6,000sf = 1 SFE)	(6,000sf = 1 SFE)	Drip Irrigated area (20,000sf = 1 SFE)	Drip Irrigated area (20,000sf = 1 SFE)			
Area #1	27,131 sf x 1 = 27,131	2,086 sf x .6 = 1,252	23,614 sf x .3 = 7,084	6,280 sf x 0 = 0	35,467 sf	6,000	5.91 SFE's

Worksheet Completed by: **Doug Smith**      Owner/Developer: \_\_\_\_\_

Company: **Smith Irrigation Design, LLC**      Attn: \_\_\_\_\_

Address: **9499 High Caffe Street, Highlands Ranch, CO**      Billing Address: \_\_\_\_\_

Phone #: **303-471-7377**      Phone #: \_\_\_\_\_

**ET Controller (with Rain Sensor)**

Manufacturer: **Weathermatic Smartline w/ SLW5 weather sensor**

Model number: **SLM48DM**

**Tap Size Requirements:**

- 0 - 1 SFE's requires a 3/4-inch tap
- 1.1 - 2.0 SFE's requires a 1-inch tap
- 2.1 - 4.0 SFE's requires a 1 1/2-inch tap
- 4.1 - 7.0 SFE's requires a 2-inch tap
- 7.1 - 16.0 SFE's requires a 3-inch tap

Prepared By:

**Smith**  
IRRIGATION DESIGN, LLC  
9499 HIGH CAFE STREET, HIGHLANDS RANCH, CO 80129  
PHONE: 303-471-7377 WWW.SMITHIRRIGATION.COM

CALL UTILITY NOTIFICATION CENTER OF COLORADO  
811  
CALL 2 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

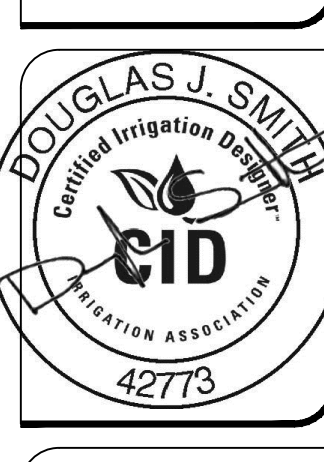
REVISIONS	
DESCRIPTION	DATE
KG: LANDSTM SBE REV	7/17/15

OWNER: **SHELT DEVELOPMENT & CONTRACTING, LLC**  
660 EAST FRANKLIN ROAD, MERIDIAN, ID 83642

PROJECT: **Boondocks Fun Center**  
CROWN POINT DEVELOPMENT PARKER, CO

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Peter H. Rockwell, Architect  
Architecture Planning  
595 S Americana Boulevard, Suite 1100, Lakewood, CO 80123  
(208) 345-0566 (208) 345-1718 Fax: (208) 357-0899  
office@pgrb.com



CONSTRUCTION DRAWINGS IRRIGATION DETAILS

SHEET DATA  
DRAWN BY: **DJS**  
CHECKED BY: **DJS**  
SCALE: **1" = 20'**  
DATE: **5/29/15**  
PROJECT #: **14001**

SHEET NUMBER  
**IR-4**





**Boondocks Site Calculations**

**Parker, CO Crown Point Center**

Parking	126,496.00 sf	2.90 acre(s)	32.1% of total site
Landscape Islands	12,674.00 sf	10% of parking lot	
<b>Total Parking Area</b>	<b>126,496.00 sf</b>	<b>2.90 acre(s)</b>	<b>32.1% of total site</b>
'Green' Space	77,467.00 sf	1.78 acre(s)	19.7% of total site
Landscape w/o Parking Islands	64,793.00 sf	1.49 acre(s)	16.5% of total site
Hardscape	27,571.00 sf	0.63 acre(s)	7.0% of total site
Entry Plaza	3,987.00 sf		
Rear Patio	23,584.00 sf		
<b>Total Landscape Area</b>	<b>105,038.00 sf</b>	<b>2.41 acre(s)</b>	<b>26.7% of total site</b>
Main Building	60,480.00 sf	1.39 acre(s)	15.4% of total site
Maintenance Building	1,950.00 sf		
Pump House	248.00 sf		
<b>Total Building Area</b>	<b>62,678.00 sf</b>	<b>1.44 acre(s)</b>	<b>15.9% of total site</b>
Attractions	65,142.00 sf	1.50 acre(s)	16.5% of total site
Bumper Boats Pond	8,671.00 sf		
Go Cart Tracks	56,471.00 sf	1.30 acre(s)	14.3% of total site
Back of House Circulation	34,340.00 sf	0.79 acre(s)	8.7% of total site
<b>Total Attraction Area</b>	<b>99,482.00 sf</b>	<b>2.28 acre(s)</b>	<b>25.3% of total site</b>
<b>Total Site</b>	<b>393,695.60 sf</b>		<b>9.04 acre(s)</b>

**Plant Material Areas (Entire Site)**

<b>Site Area Description</b>	<b>Size/Sq. Ft.</b>
Turf Areas - Reveille Texas hybrid bluegrass (Irrigated)	27,131 Sq. Ft.
Planting Areas (Irrigated)	31,696 Sq. Ft.
<b>Total Landscape Area</b>	<b>58,827 Sq. Ft.</b>

**Parking Area Landscape Island Summary**

<b>Area/Sq. Ft.</b>	<b>Trees</b>	<b>Evergreen</b>	<b>Shrubs</b>	<b>Grasses</b>	<b>Notes</b>
12,674 Sq. Ft.	48	1	293	99	

**Overall Site Landscape Area Summary (Excluding Parking Lot Islands)**

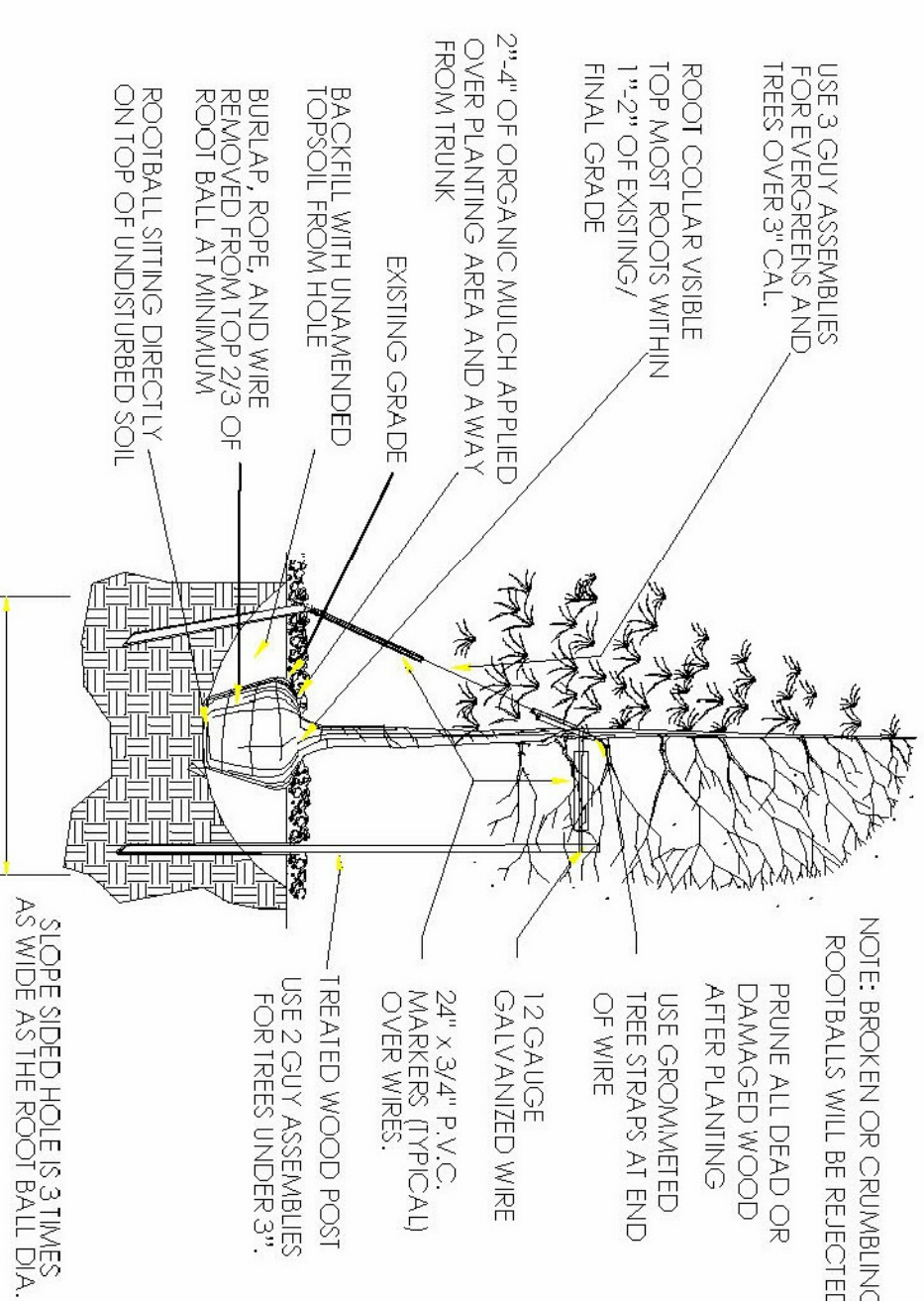
<b>Area/Sq. Ft.</b>	<b>Trees</b>	<b>Evergreen</b>	<b>Shrubs</b>	<b>Grasses</b>	<b>Notes</b>
64,793 Sq. Ft.	93	76	1232	636	Evergreen Trees = 45% Deciduous Trees = 55%

**Grand Total Overall Site Area Summary (Not Covered By Bldg. & Req. Pkg.)**

<b>Area/Sq. Ft.</b>	<b>Trees</b>	<b>Evergreen</b>	<b>Shrubs</b>	<b>Grasses</b>	<b>Notes</b>
204,520 Sq. Ft.	141	77	1525	735	At 1 Tree & 5 Shrubs/1500 sf = 136 Trees & 681 Shrubs Required Evergreen Trees = 35%

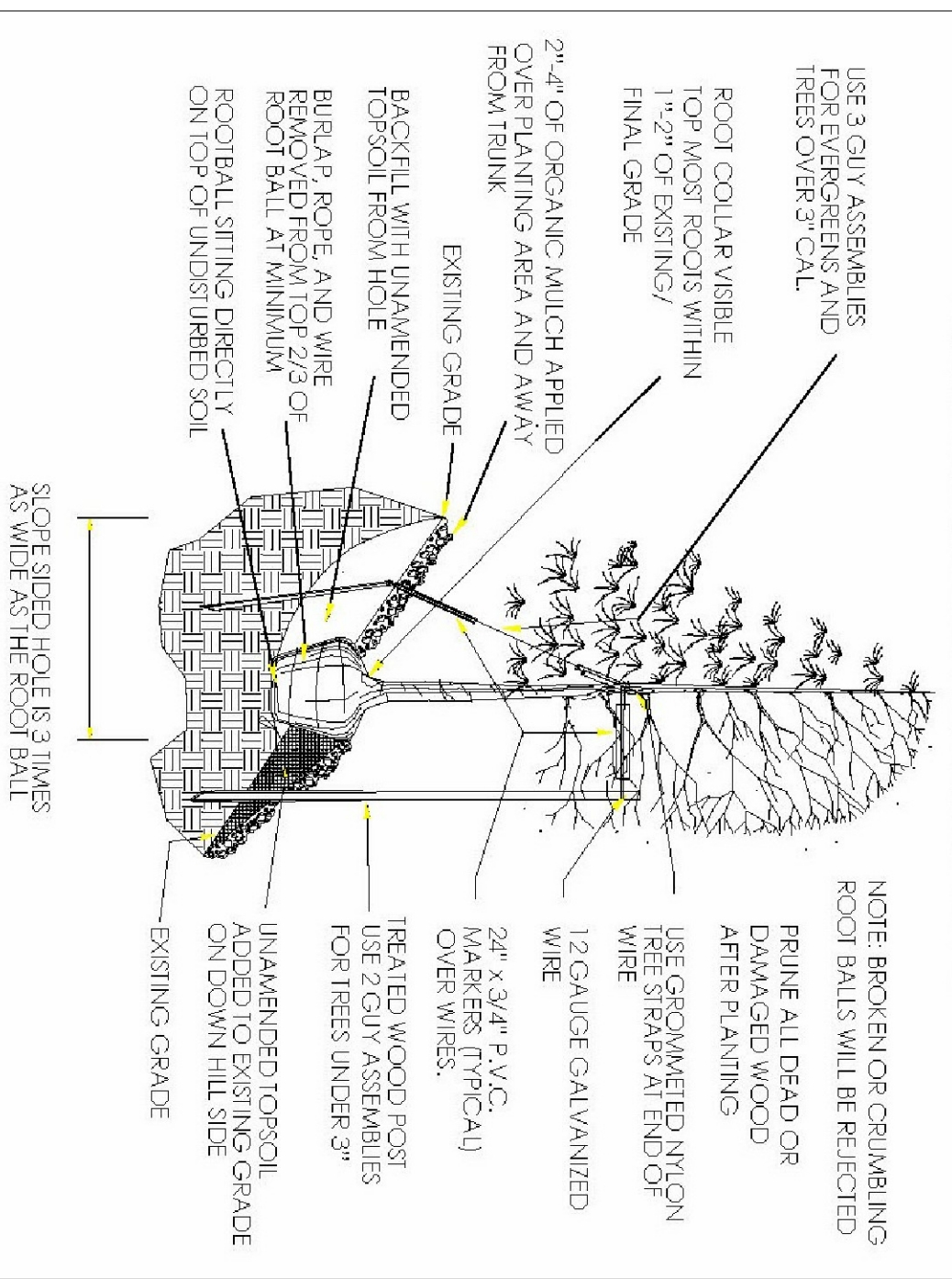
<b>Low Water</b> Native Grass and Spray Shrubs & Perennials TURF (6,000sf = 1 SFE)	<b>High Water</b> Drip Irrigated TURF (6,000sf = 1 SFE)	<b>Sub-Total of PWSID one</b> Non-irrigated area (calculated) Areas SFE per 6000	<b>Requirement</b> (Sub-Total Calculation divided by 6000 = requirement)
27,131 sf x 1 = 27,131	2086 sf x 6 = 1252	23,330 sf x 3 = 69,990	5,90 SFE's = 27 Tap Required
27,131	1252	0	
		6200 sf x 0 = 35,382 sf	
		6,999	

**TOWN OF PARKER PLANTING STANDARDS**

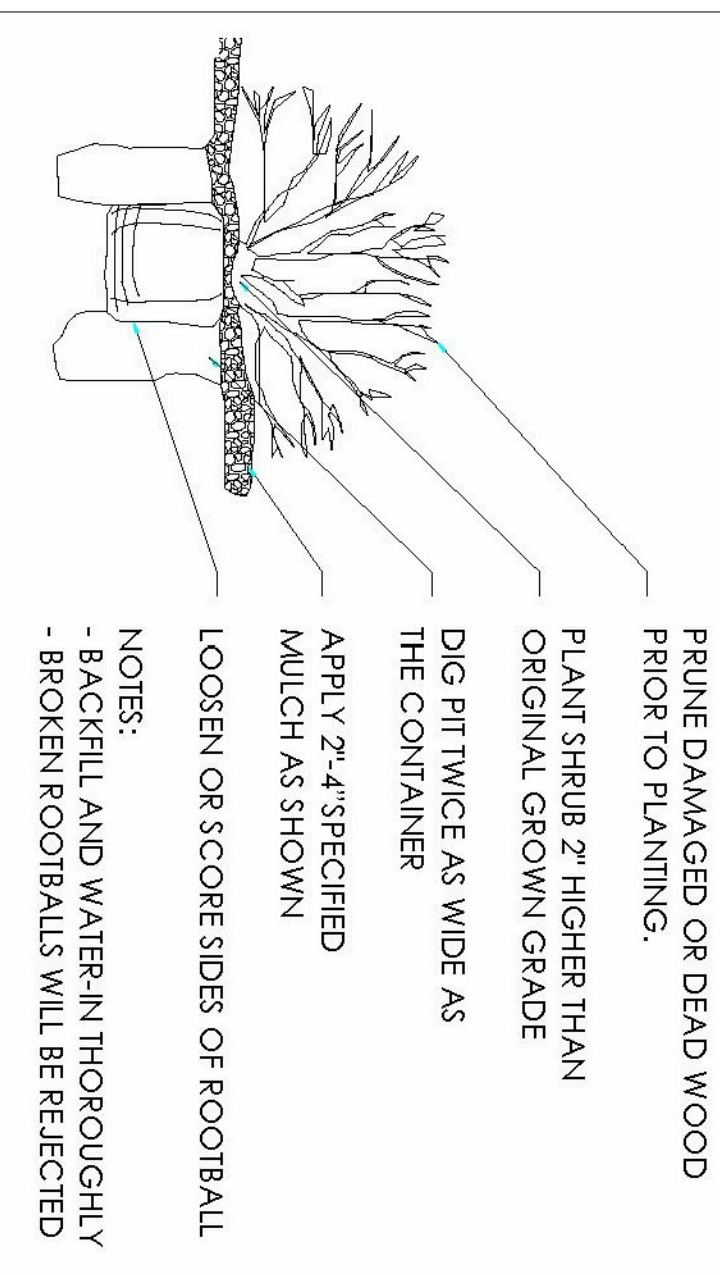


- Excavate planting holes with sloping sides. Make excavations at least three times as wide as the root ball diameter and no deeper than the distance from the top most roots in the root ball to the bottom of the root ball to allow for settling. Do not disturb soil at bottom of planting holes. But do score the sides of the planting hole. The planting area shall be loosened and aerated at least three times the diameter of the root ball. Backfill shall consist of existing soil on one equal, no amendments shall be used unless otherwise specified.
- Trees shall be planted with the root collar/line visible above grade. AFD two or more structural roots located on one slope (one slope planting detail). Trees that do not have a visible root collar shall be rejected. Do not cover the root ball with soil.
- When root ball will remain intact, cut off bottom 1/4 of wire basket before placing tree in hole, cut off remainder of basket AFTER tree is in hole, remove basket completely. At a minimum, the top 2/3 of the basket and basket shall be removed from the root ball on all trees. Remove all nylon ties, twine, rope and twine. Remove remaining packing material.
- From soil line to 3' to 4' tall, watering rings (slopes) around planting area. This is not necessary in irrigated turf areas. Apply 2 to 4" depth of specified mulch over planting area and make stakes, away from trunk.
- Staking and girding of trees is optional in most planting situations. In areas of extreme winds, or on steep slopes, staking may be required for smaller trees. Staking and girding must be removed within 1 year of planting date. Consultation with the Town is advised.
- Two wraps are not to be used on any new plantings, except in later fall planting situations, and only then after consultation with the Town is advised.
- Reaming of improperly planted trees will only be allowed if it is determined that doing so will in no way compromise the root ball, and shall only be done with approval of the Town Manager.

**TOWN OF PARKER PLANTING STANDARDS**



**TOWN OF PARKER PLANTING STANDARDS**  
**TOWN OF PARKER PLANTING DETAIL - SHRUBS**



**NOTES:**

- All work shall conform to local Town Codes, and contractor shall be responsible for obtaining all necessary permits. Contractor shall verify location of all existing underground utilities, lines, and structures prior to excavation or trenching. Damage to these utilities shall be repaired by the contractor at no cost to the owner or the landscape architect.
- No substantial change from the approved landscape plan may occur without prior review of the Parker Water and Sanitation District, which may require additional irrigation taps for changes due to more water intensive landscaping.
- All plants shall meet or exceed the plant quality and species standards of the American Standard for Nursery Stock (ANSI Z60.1-2004, as amended). Selected plant material shall be healthy and shall be nursery-grown and adapted to the local area.
- Unless otherwise indicated on the plan, all trees shall be located at least 4 ft. from the parking lot curb or edge of a parking island.
- All shrub beds and turf areas shall receive the following soil amendments per 1000 sq. ft.: 3 CY Supreme Organics, compost of 1/2 mature, 50% soil conditioners, supplied by Jensen Sales, or (Sentry) or equivalent, Part 19 of 20-10-5 certified fertilizer - Retail to a minimum depth of 6".
- Plant basket mix shall be:  
1/3 Supreme Organics, or approved equal  
2/3 on site soil
- All annual and perennial beds, and freestanding planters areas will be mulched with shredded Cascade cedar, or other acceptable shredded cedar mulch to a depth of 3" with no weed barrier.
- All trees in turf grass areas must have tree rings mulched with shredded Cascade cedar, or other acceptable shredded cedar mulch to a depth of 3" over Dupont 1 Type weed barrier, or approved equal.
- Shrub beds near mini-golf course and race track areas to be mulched with 1-1/2" Mountain Granite or equivalent to a depth of 3" over Dupont 1 Type weed barrier, or approved equal.
- All parking lot island and parking lot perimeter areas to be mulched with 1-1/2" Tan (Western) River/Rock to a depth of 3" over Dupont 1 Type weed barrier, or approved equal.
- Steel edger to be rolled top, 14 gauge X 4" deep, green painted Dur-edge edger, or approved equal.
- All landscaped areas and plant materials shall be watered by automatic underground systems. The irrigation system will provide full coverage to all turf and plant material areas. Turf areas to be spray irrigated, and shrubs and trees to be drip irrigated.
- Landscaped areas and plant materials shown on these plans indicate those proposed to be installed. However, alternative plant materials may be installed during final construction, if done in compliance with the Town approved plans.
- The Owner, his successors and assigns, shall be responsible for installation, maintenance and replacement of all landscaping materials shown or indicated on the approved Site Plan or Landscape Plan on file in the Planning Department. Landscaping will be installed as delineated on the Plan and in conjunction with any development planning.

**PLANT & MATERIALS SCHEDULE**

QTY.	ITEM	DECIDUOUS SHRUBS TREES	SCENIC/WATER	SIZE	COMMENTS
2	IMP	Inspiral Honeylocust	Gleditsia triacanthos var. Inflexa	2" Cal	B&S
2	SHY	Shadesaver Honeylocust	Gleditsia triacanthos var. Shadesaver	2" Cal	B&S
2	RIU	Redmond Linden	Tilia americana Redmond Linden	2" Cal	B&S
4	BOJ	Bonnie Smith Magnolia	Quercus parviflora 'Bonnie Smith'	2" Cal	B&S
4	EOA	English Oak	Quercus rubra	2" Cal	B&S
3	ROA	Roanoke Red Oak	Quercus rubra	2" Cal	B&S
28	TEX	Texas Red Oak	Quercus buckleyi	2" Cal	B&S
5	WBL	White Birch	Betula papyrifera	2" Cal	B&S
7	AUS	Australian Fir	Abies concolor	6" H	B&S
7	PN	Pinon Pine	Pinus edulis	6" H	B&S
6	PN	Pinon Pine	Pinus edulis	6" H	B&S
2	CBP	Cascade Blue Spruce	Picea canadensis 'Barberi'	6" H	B&S
15	MEI	Medora Juniper	Juniperus scopulorum 'Medora'	6" H	B&S
7	SJA	Spartan Juniper	Juniperus scopulorum 'Spartan'	7" Cal	4" Min. H.
5	WBL	White Birch	Juniperus scopulorum 'Victoria Blue'	7" Cal	4" Min. H.
14	PAL	Palmetto Cyp	Melaleuca, Sp. Parviflora	1.75" Cal	B&S
6	AJC	Juniperus Ader	Melaleuca, Sp. Parviflora	1.75" Cal	6" Cal/Pruned
11	TCC	Thunderbird Crab	Mullein x Thunbergii	1.75" Cal	B&S
12	GRT	Goldenrain Tree	Koeleria paniculata	6" to 8" Dimp	B&S
8	DCD	Deciduous Shrub	Berberis thunbergii	6" to 8" Dimp	B&S
84	CPB	Common Purple Barberry	Berberis thunbergii	15" Min. H.	
106	BBB	Red Barberry	Berberis thunbergii	18" Min. H.	
96	BBB	Red Barberry	Berberis thunbergii	18" Min. H.	
30	BIC	Burgundy Iceberg	Eurotia spicata 'Compassum'	5" Cal	18" Min. H.
13	DIC	Dwarf American Cranberry	Viburnum tinum	5" Cal	18" Min. H.
3	SIC	Sweetgum	Cornus sericea 'Bailey'	5" Cal	24-30" min. H.
3	CPJ	Common Purple Juniper	Syringa vulgaris 'King of Siam'	5" Cal	18-24" min. H.
71	GFP	Gold Drop Forsythia	Potentilla fruticosa 'Gold Drop'	5" Cal	18-24" min. H.
75	RSA	Russet Sage	Potentilla fruticosa 'Goldfinger'	5" Cal	24" min. H.
6	BBP	Burgundy Blue Sand Cherry	Prunus serotina 'Parviflora'	5" Cal	18" Min. H.
9	DAP	Dappled Sun Dogwood	Prunus serotina 'Parviflora'	5" Cal	18" Min. H.
11	NSG	Nelson's Spirea	Spiraea japonica 'Nelson's'	5" Cal	18" Min. H.
117	NES	Nelson's Spirea	Spiraea japonica 'Nelson's'	5" Cal	24" min. H.
18	YBN	Yucca Blue Star	Yucca filamentosa 'Blue Star'	5" Cal	24-30" min. H.
23	VAS	Korean Spice Viburnum	Viburnum carlesii	5" Cal	24-30" min. H.
61	KCP	Korokout Pink Rose	Rosa 'Korokout'	2.0 to 2.5 Cal	24" min. H.
39	RSJ	Rose of Sharon	Rosa 'Sharon'	2.0 to 2.5 Cal	24" min. H.
1	BRD	Broadleaf Evergreen Shrub	Osmanthus fragrans	5" Cal	20-24" Min. H.
25	BSL	Bonnie Smith Linden	Osmanthus fragrans	5" Cal	20-24" Min. H.
56	BSJ	Bonnie Smith Juniper	Osmanthus fragrans	5" Cal	18" Min. H.
11	COT	Cornus Tom Thurst	Cornus paniculata 'Tom Thurst'	5" Cal	18" Min. H.
4	CHO	Rock Coneyflower	Cornus paniculata	5" Cal	18" Min. H.
16	EOG	Evergreen Gardenia	Evergreen Gardenia	5" Cal	18-20" Min. H.
27	MOQ	Magnolia Oregon Grape	Magnolia aquilinum 'Kings Rainier'	5" Cal	20" Min. H.
80	ME	Medora Juniper	Melaleuca sp.	1.5 Cal	12" Min. H.
9	AND	Andromeda Juniper	Juniperus horizontalis 'Youngtown'	5" Cal	18" Min. H.
18	AMJ	Armstrong Juniper	Juniperus chinensis 'Armstrong'	5" Cal	18" Min. H.
12	BJF	Burgundy Juniper	Juniperus horizontalis 'Blue Chip'	5" Cal	18" Min. H.
52	HLS	Heights Juniper	Juniperus horizontalis 'Heights'	5" Cal	18" Min. H.
3	SEA	Sea Green Juniper	Juniperus x media 'Sea Green'	5" Cal	18" Min. H.
10	OLD	Old Gold Coast Juniper	Juniperus x media 'Old Gold'	5" Cal	18" Min. H.
19	MMO	Mud Pie Juniper	Juniperus x media 'Mud Pie'	5" Cal	18" Min. H.
7	MSB	Mud Pie Juniper	Juniperus x media 'Mud Pie'	5" Cal	12" Min. H.
9	GSB	Globe Blue Spruce	Picea pungens 'Globea'	3" Cal	12" Min. H.
192	AVG	Arctic White Spruce	Hedera helix 'Arctic White'	1" Cal	12" Min. H.
217	FBG	Father Red Grass	Chamaecrista nuttalliana 'Father Red'	1" Cal	24-30" oc.
118	LEG	Little Bluestem	Schizachyrium scoparium 'Blues'	1" Cal	18-24" oc.
27	PLG	Plumegrass	Schizachyrium scoparium 'Blues'	1" Cal	18-24" oc.
17	REG	Reveille Grass	Schizachyrium scoparium 'Blues'	1" Cal	24-30" oc.
750	MXA	Mixed Annuals / Perennials / Winter Parasols - 80% Annuals	Various	2" - 6" pots	10% oc.
600	MXA	Mixed Annuals / Perennials / Winter Parasols - 20% Perennials	Various	2" - 6" pots	20% oc.

All Plant Materials Available at Alameda Wholesale Nursery  
Approx. 27.131 square feet total - To be seeded with 'Reveille' Texas Hybrid mix, or approved equal.  
Rock Wall 1 Bed - Approx. 8,488 square feet total - 7" to 8" River Rock 1-1/2" or owner approved equal.  
Rock Wall 2 Bed - Approx. 1,241 square feet total - Cascade Cedar, or owner approved equal. Minimum 4' depth for all planting beds, planters, and trees rings within turf areas.  
Cedar Mulch Beds - Approx. 1,202 linear feet - Rolled top, 14 gauge, green painted Dur-edge, or approved equal.

Prepared By:  
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**SITE PLAN LANDSCAPE PLAN (PLANT LIST NOTES & DETAILS)**

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**Boondocks**  
Fun Center  
CROWN POINT DEVELOPMENT  
PARKER, CO

**SELECT DEVELOPMENT & CONTRACTING, LLC**  
660 EAST FRANKLIN ROAD, MERIDIAN, ID 83642

REVISIONS

NO.	DATE	DESCRIPTION
1	2/16/15	OWNER CHANGES
2	3/11/15	OWNER CHANGES
3	5/27/15	OWNER CHANGES
4	7/16/15	OWNER CHANGES