

DEVELOPER/PROPERTY OWNER

TASSO CUSTOM HOMES
15151 FRYE ST.
HAPPY VALLEY, OR 97068

CONSTRUCTION MANAGER

WELKIN ENGINEERING, PC
25260 SW PARKWAY AVE., SUITE G
WILSONVILLE, OR 97070
ATTN: ED CHRISTENSEN
503.380.5324

SANITARY SEWER EXTENSION

LOT 3 AND 4, BLOCK 16, "BOLTON"
N.E. 1/4 OF SECTION 25, TOWNSHIP 2 SOUTH, RANGE 1 EAST, W.M.
CLACKAMAS COUNTY, OREGON

INDEX OF DRAWINGS

- C-1 COVER SHEET & NOTES
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GENERAL NOTES OF WELKIN ENGINEERING, P.C.

1. WORKMANSHIP AND MATERIAL SHALL COMPLY WITH ALL APPLICABLE STATE, COUNTY, AND CITY REQUIREMENTS AND WITH ACCEPTED CONTEMPORARY STANDARDS OF CRAFTSMANSHIP. THE CONTRACTOR SHALL OBTAIN A COPY OF AND COMPLY WITH EACH OF THESE PROVISIONS.
2. THE CONTRACTOR SHALL KEEP AND MAINTAIN A CURRENT SET OF DRAWINGS FOR THE DESIGN ENGINEER SHOWING AS-CONSTRUCTED DATA AND ALL FIELD ALTERATIONS. THESE CONSTRUCTION FIELD PRINTS SHALL BE TRANSMITTED TO THE DESIGN ENGINEER AND SHALL SHOW ANY AND ALL ALTERATIONS FROM THE PLANS.
3. THE ENGINEER MAY REQUIRE MODIFICATIONS DURING CONSTRUCTION WHERE NECESSITY REQUIRES. THE CONTRACTOR SHALL OBTAIN APPROPRIATE APPROVAL FOR ANY ALTERATIONS, EXCEPTING MINOR FIELD ADJUSTMENTS NEEDED TO MEET EXISTING FIELD CONDITIONS, AND DOCUMENT ALL MODIFICATIONS ON THE FIELD PRINTS.
4. THE LOCATION AND DESCRIPTION OF EXISTING UTILITIES, WATER COURSES, AND/OR UNDERGROUND STRUCTURES SHOWN ON THE PLANS ARE COMPILED FROM AVAILABLE RECORDS AND/OR FIELD SURVEYS. THE ENGINEER DOES NOT GUARANTEE THE ACCURACY OR THE COMPLETENESS OF SUCH RECORDS. THE CONTRACTOR SHALL FIELD VERIFY THE LOCATION AND NATURE OF SUCH, AND PRIOR TO DIGGING, SHALL CALL FOR UTILITY LOCATE. IN SOME INSTANCES THE INDIVIDUAL UTILITIES WILL NEED TO BE CONTACTED.
5. THE CONTRACTOR SHALL REPORT TO THE ENGINEER IMMEDIATELY ANY ERROR OR DISCREPANCY DISCOVERED IN THE CONTRACT DRAWINGS OR IN ANY OTHER DATA FURNISHED BY THE ENGINEER.
6. THE CONTRACTOR SHALL CONTACT UTILITY OWNERS, VERIFY ALL UTILITY INVOLVEMENT WITHIN THE WORK, AND ARRANGE FOR THE RELOCATION OF ANY UTILITIES IN CONFLICT WITH THE PROPOSED CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE FOR THE FLOW OF WATER COURSES AND ESSENTIAL UTILITIES THAT MAY BE INTERRUPTED DURING THE PROGRESS OF THE WORK AND SHALL RESTORE SUCH WATER COURSES AND UTILITIES AFTER COMPLETION OF THE WORK. THE CONTRACTOR SHALL NOT INTERRUPT THE SERVICE FUNCTION OR DISTURB THE SUPPORT OF ANY UTILITY WITHOUT AUTHORITY FROM THE OWNER OF THE UTILITY. ALL VALVES, SWITCHES, VAULTS AND METERS SHALL BE MAINTAINED READILY ACCESSIBLE FOR EMERGENCY SHUTOFF.
7. ALL VAULTS, BOXES, FRAMES, COVERS, EXISTING AND PROPOSED MONUMENTS, AND OTHER STRUCTURES SHALL BE BROUGHT TO FINISH GRADE.
8. THE CONTRACTOR SHALL NOT DISTURB, FILL OVER, BUILD OVER, OR PAVE OVER ANY STANDARD SURVEY MONUMENTS, LOT CORNER PIPES, OR OTHER PERMANENT SURVEY MONUMENTS DURING THE PROCESS OF CONSTRUCTION WITHOUT THE CONSENT OF THE ENGINEER. ANY THAT ARE DISTURBED WITHOUT PERMISSION SHALL BE REPLACED AT THE EXPENSE OF THE CONTRACTOR. WHEN A CHANGE IS MADE IN THE FINISH ELEVATION OF THE PAVEMENT OF ANY ROADWAY IN WHICH A PERMANENT SURVEY MONUMENT IS LOCATED, THE CONTRACTOR SHALL ADJUST THE MONUMENT COVER TO THE NEW GRADE WITHIN 7 DAYS OF FINISHED PAVING UNLESS OTHERWISE SPECIFIED.
9. THE CONTRACTOR IS TO CHECK ALL THE LINES AND GRADES AND ANY OTHER DIMENSIONS DETERMINED BY THE ENGINEER, AND SHALL TAKE FULL RESPONSIBILITY FOR DETAILED DIMENSIONS, ELEVATIONS, AND SLOPES. THE CONTRACTOR IS OBLIGED TO PRESERVE CONSTRUCTION SURVEY STAKES AND MARKS FOR THE DURATION OF THEIR USEFULNESS.
10. THE CONTRACTOR SHALL ERECT AND MAINTAIN TRAFFIC CONTROL PER THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", PART VI, CONSTRUCTION AND MAINTENANCE. LOCAL AND EMERGENCY ACCESS SHALL BE MAINTAINED AT ALL TIMES. THE CONTRACTOR SHALL SUBMIT A PLAN FOR THE TRAFFIC CONTROL TO THE APPROPRIATE CITY, WATER ENVIRONMENT SERVICES (WES), OR STATE AGENCY FOR APPROVAL.
11. THROUGHOUT ALL PHASES OF CONSTRUCTION, INCLUDING SUSPENSION OF WORK AND UNTIL THE FINAL ACCEPTANCE, THE CONTRACTOR SHALL KEEP THE SITE CLEAN AND FREE FROM RUBBISH AND DEBRIS, AND UNUSED MATERIALS OF ANY KIND RESULTING FROM THE WORK. THE CONTRACTOR SHALL ALSO ABATE DUST NUISANCE BY CLEANING, SWEEPING, AND SPRINKLING AS NECESSARY. MATERIALS AND EQUIPMENT SHALL BE REMOVED FROM THE SITE AS SOON AS THEY ARE NO LONGER NECESSARY. FORMS AND FORM LUMBER SHALL BE REMOVED FROM THE SITE AS SOON AS PRACTICABLE AFTER STRIPPING. BEFORE THE FINAL INSPECTION, THE SITE SHALL BE CLEARED OF EQUIPMENT, UNUSED MATERIALS, AND RUBBISH SO AS TO PRESENT A SATISFACTORY CLEAN AND NEAT APPEARANCE. ALL CLEANUP COSTS SHALL BE INCLUDED IN THE CONTRACTOR'S BID. IF THE CONTRACTOR FAILS TO COMMENCE THE CLEANUP WITHIN 24 HOURS AFTER DIRECTED BY THE ENGINEER, THE ENGINEER MAY HAVE THE WORK PERFORMED BY OTHERS, WITH THE COST BORNE BY THE CONTRACTOR AND DEDUCTED FROM PAYMENTS DUE OR TO BECOME DUE TO THE CONTRACTOR, OR MAY ORDER WORK SUSPENDED UNTIL THE CONDITION IS CORRECTED. NO ADDITIONAL COMPENSATION WILL BE ALLOWED AS A RESULT OF SUCH A SUSPENSION.
12. THE CONTRACTOR SHALL AT ALL TIMES ABIDE BY APPLICABLE SAFETY RULES OF O.S.H.A., AND IN PARTICULAR, THOSE PERTAINING TO SHORING, OPEN EXCAVATIONS, AND THE PROTECTION OF WORKERS.
13. NO CONSTRUCTION MATERIAL SHALL BE PLACED OR STORED IN THE EXISTING PUBLIC RIGHT-OF-WAY.

SANITARY SEWER

1. ALL WORK AND MATERIALS SHALL CONFORM WITH THE CONSTRUCTION STANDARDS AND SPECIFICATIONS OF THE CITY OF WEST LINN AND THESE PLANS.
2. THE CONTRACTOR IS REQUIRED TO ATTEND A PRE-CONSTRUCTION CONFERENCE AT THE CITY OFFICES PRIOR TO BEGINNING WORK ON THE SANITARY SEWER. THE OWNER OR CONTRACTOR IS ALSO REQUIRED TO PROVIDE THE COUNTY A WARRANTY BOND FOR THE NEW SANITARY SEWER MAINS AND SERVICE CONNECTIONS AT THE COMPLETION OF CONSTRUCTION.
3. THE ENGINEER IS REQUIRED TO HAVE AN INSPECTOR ON SITE AT ALL TIMES DURING CONSTRUCTION OF THE SANITARY SEWER. THE CONTRACTOR SHALL GIVE THE ENGINEER AT LEAST 24 HOURS NOTICE PRIOR TO BEGINNING WORK, AT THE START OF CONSTRUCTION OR AFTER AN INTERVAL OF NOT WORKING ON THE SANITARY SEWER.

MATERIALS

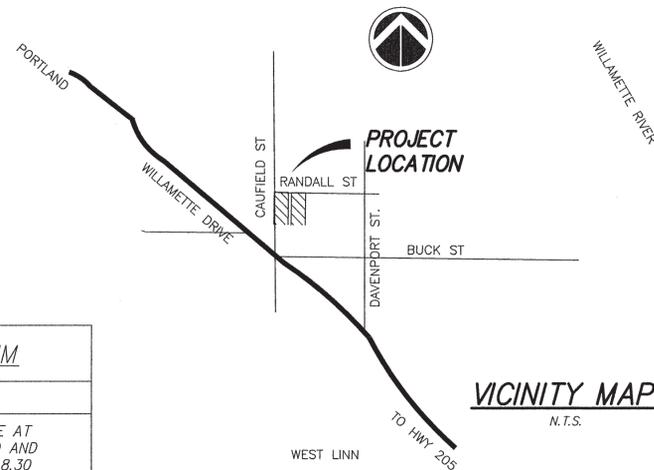
1. POLYVINYL CHLORIDE PIPE (PVC) SHALL CONFORM TO THE REQUIREMENTS OF ASTM D-3034, SDR 35, AND JOINT TYPE SHALL BE ELASTOMERIC GASKET CONFORMING TO ASTM D-3212.

INSTALLATION

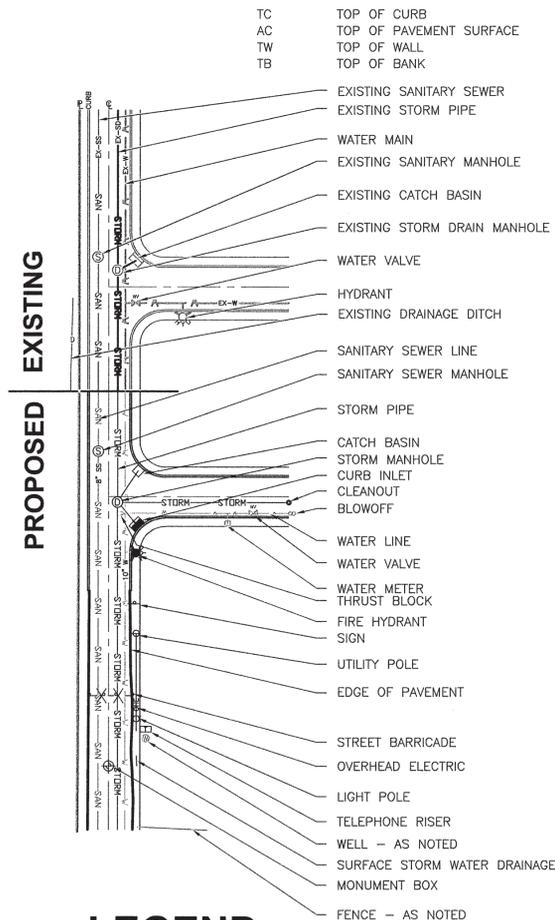
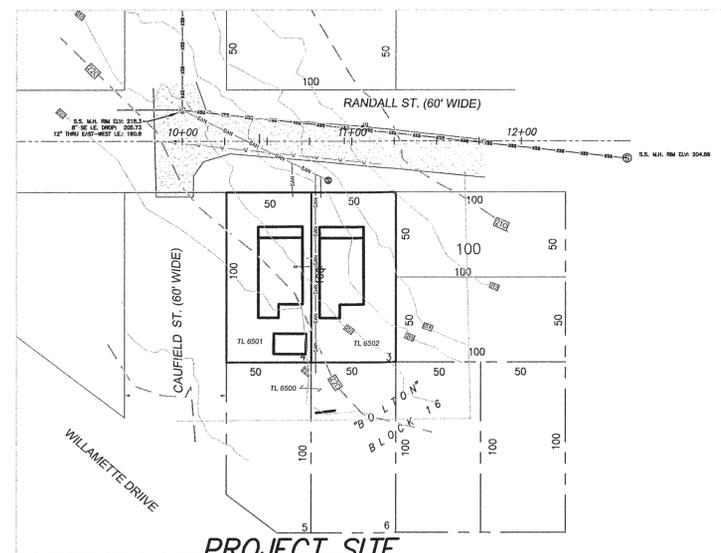
1. POLYVINYL CHLORIDE PIPE (PVC) SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS. PVC SEWER PIPE SHALL BE CONNECTED TO CONCRETE MANHOLES BY MEANS OF AN APPROVED COUPLING WITH AN ELASTOMERIC GASKET, AN APPROVED WATERSTOP OR FLEXIBLE SLEEVE. USE OF PORTLAND CEMENT GROUT FOR CONNECTION OF PVC SEWER PIPE TO MANHOLES WILL NOT BE PERMITTED. AFTER THE CONTRACTOR HAS BACKFILLED THE PIPE ZONE OF THE TRENCH AS REQUIRED, HE SHALL THEN BACKFILL THE BALANCE OF THE TRENCH WITH 3/4"-0" OR 1"-0" CRUSHED AGGREGATE, IN ONE FOOT (1') LAYERS, MECHANICALLY COMPACTING EACH LAYER TO 95% MAXIMUM DENSITY IN ROADWAYS AND 85% TO 90% IN ALL OTHER AREAS (SEE CITY DETAIL SHEET C-6.3, DWG NO. 205). MAXIMUM RELATIVE DENSITY SHALL BE DETERMINED PER AASHTO T-191, T-205 OR T-238. ANY SUBSEQUENT SETTLEMENT OF THE TRENCH OR DITCH DURING THE GUARANTEE PERIOD SHALL BE CONSIDERED TO BE THE RESULT OF IMPROPER COMPACTON AND SHALL BE PROMPTLY CORRECTED BY THE CONTRACTOR AT NO EXPENSE TO THE CITY, WES OR THE OWNER.

RECEIVED
JUL 25 2016
PLANNING & BUILDING
CITY OF WEST LINN

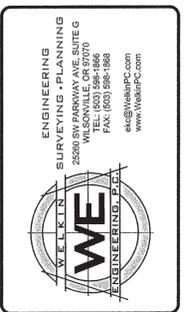
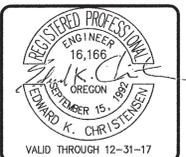
AS-BUILT DRAWING
DATE PLOTTED: Jul 22, 2016 - 4:01pm



VERTICAL DATUM
METRO MAPS
SANITARY SEWER MANHOLE AT INTERSECTION OF CAUFIELD AND RANDALL ST. RIM ELEV 218.30 (ASSUMED ELEV. PER METRO MAPS)
ELEV = 218.30 FEET



NO.	DATE	REVISION



RANDALL-STREET
SAN.-SEWER-EXTENSION

COVER-SHEET
CONSTRUCTION-DOCUMENTS
CITY-OF-WEST-LINN

DESIGNED BY:	EKC
DRAWN BY:	EKC
CHECKED BY:	EKC
DATE:	3-9-16
SCALE:	NA HORIZONTAL NA VERTICAL
PROJECT NO.:	16-109.01
SHEET:	C-1

DATE PLOTTED: Jul 22, 2016 - 4:01pm
REFC: DRAWING FILE: P:\Project_Data\16-109.01_Randall St\Drawn\RANDALL-ST-SEWER-EXT.dwg



Technical Notes
"Working in the Right-of-Way"

Disclaimer: This is a simplified listing of information on common Public Works Permit construction issues and is, by no means, an exhaustive list of City requirements. Please refer to the City of West Linn Public Works Construction Standards, APWA Standard Specifications for Public Works Construction, Federal ADA standards, City Municipal Code, and City Community Development code for in-depth and complete information.

GENERAL

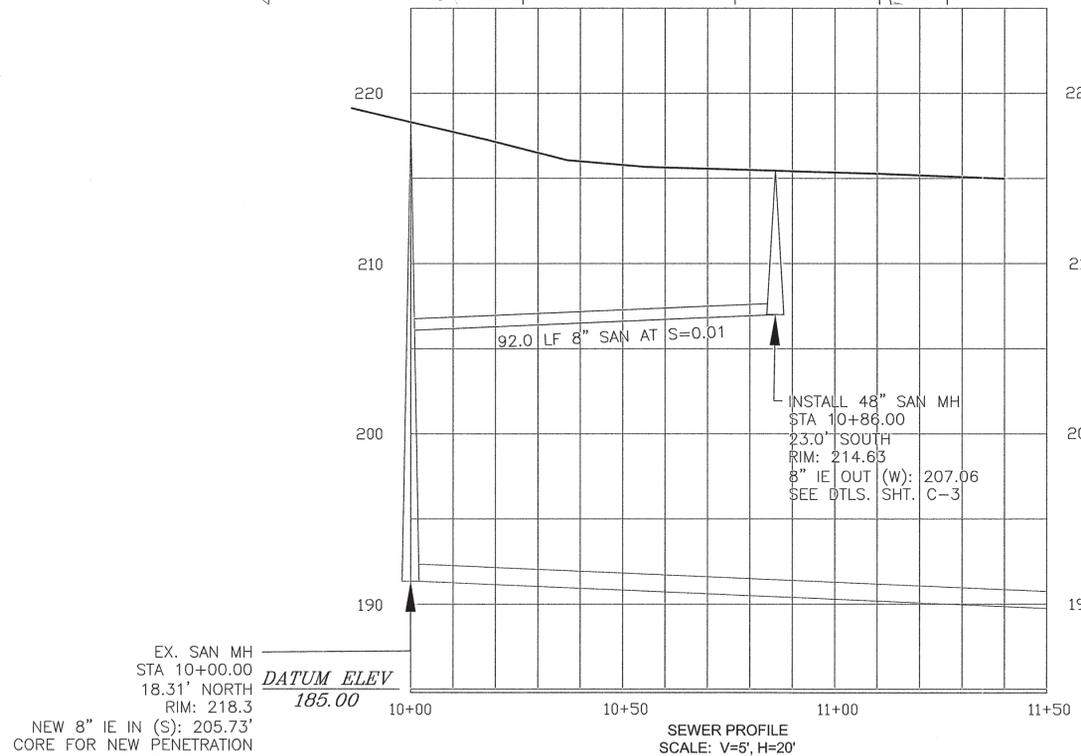
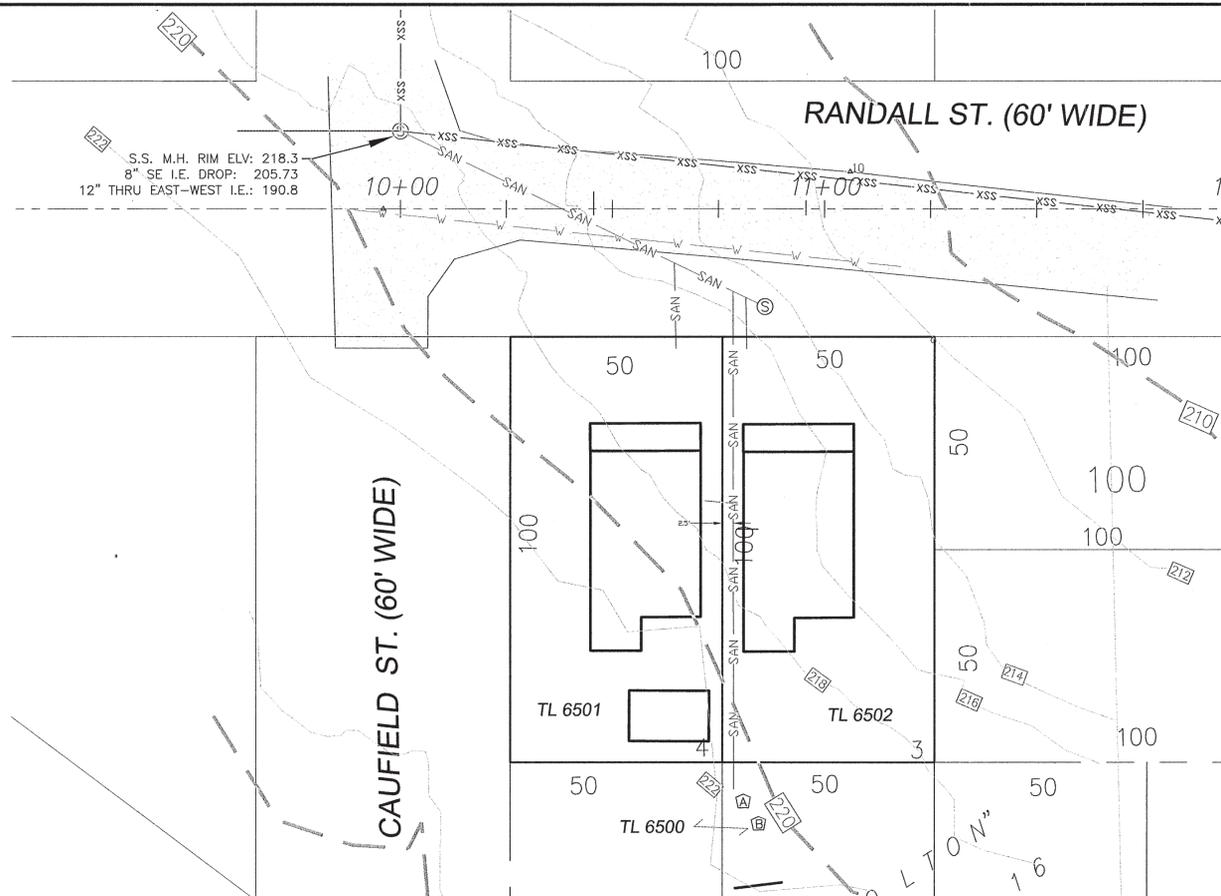
1. A "Public Works Permit" is required for any work taking place within the public right-of-way or public City easements.
2. All work shall conform to the current City of West Linn Public Works Construction Standards manual, American Public Works Association (APWA) Standard Specifications for Public Works Construction, City Municipal Code, City Community Development Code, and all ADA regulations, in addition to all applicable federal, state, and regional laws.
3. Street closures are typically not permitted. City Manager approval is required for street closures. One lane of traffic must remain open at all times and traffic shall be guided by certified flaggers and appropriate signage per the Manual on Uniform Traffic Control (MUTCD).
4. An 18 month warranty on all work in the right-of-way is required of all Public Work permit contractors.

CONCRETE WORK (SIDEWALKS/DRIVEWAYS/APPROACHES/CURB)

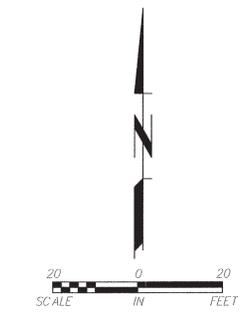
1. Ensure both your driveway approach and driveway slab inspection are approved prior to pouring either-- elevation changes in one will affect the other.
2. Compliance with current ADA requirements is required whenever replacement of sidewalks and approaches occurs. Generally, this means that the sidewalk cross slope (slope towards to the street) cannot exceed 2% (even through the approach area). Pedestrian curb ramps may also need to be redesigned to comply with new ADA standards.
3. Approach maximum width is 36', minimum width is 16' measured from top of full depth curb to top of full depth curb. Driveway wings to be 3' wide.
4. Sidewalk shall have 6" concrete depth in areas subject to automobile traffic, 4" depth in areas only subject to pedestrian traffic. A minimum depth of 2" of clean, well compacted 3/4"-0 gravel is required on a firm subgrade beneath all forms.
5. Sidewalk and driveway concrete panels shall be removed and replaced in whole-- No partial repairs. If damage occurs to edge of adjacent panel the panel must be removed and replaced.
6. Removed and replaced curb sections cannot be smaller than 3' and must have straight sawcut connections. Rebar doweling and reinforcement may be required by the inspector. Perpendicular and parallel rebar doweling is always required when a curb face is removed in situations where only a planter strip is behind the curb being removed.
7. Concrete shall have a broom finish perpendicular to pedestrian travel and an edge shine to match surrounding panels (a standard 3" shine is typical for new construction). Contraction joints are required, but expansion joints/boards/felt are not permitted in the right-of-way. Concrete shall be standard grey, commercially mixed, and be a minimum of 3300 psi after 28 days.
8. Driveway approaches are assessed a street cut deposit for the width of the approach due to possible damage caused to the street during removal of the existing approach/curb. If street is damaged, contractor must sawcut a straight and uniform patch with sufficient width to allow compaction in lifts (minimum width of a plate wacker) and restore with the appropriate depth of hot mix asphalt and sand seal joints.

SEWER/STORM PIPE REPAIR AND TAPS

1. Whenever a sewer lateral is to be installed or repaired in a public right-of-way or public City easement, a Public Works Permit must be obtained. A City Building Permit is required for sewer work on private property.
2. All fees, SDC charges, deposits, bonds, and other charges established by City code shall be paid or provided prior to the issuance of a Public Works Permit to install a sewer lateral.
3. No roof, surface, foundation, footing or other ground water drains shall be connected to the City Sanitary Sewer System.
4. Shared sewer laterals (i.e. "party line sewers") are not permitted per Plumbing Code. If a shared sewer lateral is encountered during repair of an existing system, the sewer laterals shall be separated and each lateral shall be run in its entirety from the home to the main independently. The cost of separation shall be paid by the property owners. Cost sharing shall be determined by the affected property owners.
5. No new main taps are allowed if the property currently has a sewer connection; the existing tap shall be used. In the event that in the City Engineer's opinion the existing tap is unusable the City Engineer may allow a new tap after proper decommissioning of the existing tap is completed.
6. Main tap shall be located a minimum of 12" from existing pipe joints and 12" from other taps.
7. New taps shall be core drilled and installed at a 45 degree angle to the main and per WL-303 (retain core drilled "coupon" for inspection).
8. Taps shall be done with an "Insert-a-Tee" fitting (requests to use comparable materials must be approved by the City in writing prior to installation). Insert-a-tee shall match lateral pipe type/size and main pipe type/size. Tap shall be installed water tight, without protrusion or damage to existing main pipe. Provide inspector insert-a-tee packaging showing type of insert-a-tee installed.



EX. SAN MH
STA 10+00.00
18.31' NORTH
RIM: 218.3
NEW 8" IE IN (S): 205.73'
CORE FOR NEW PENETRATION
AND INSTALL 8" DROP PER
DTL. WL-302, SHT C-3



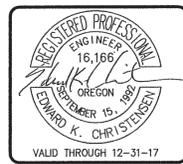
CONSTRUCTION NOTES

UNDER GROUND UTILITY LOCATE
PRIOR TO EXCAVATION CONTACT THE OREGON UTILITY NOTIFICATION CENTER AT 800-332-2344 FOR UNDERGROUND UTILITY LOCATE.

- A EXISTING HOUSE ON TL 6500 CANNOT BE CONNECTED UNTIL THE NEW SANITARY SEWER MAIN EXTENSION HAS BEEN ACCEPTED BY WEST LINN.
- B TL 6500 - CONTRACTOR TO POTHOLE TO VERIFY LOCATION AND DEPTH SANITARY SEWER LATERAL SHOWN ON PLAN. OBTAIN ALL NECESSARY PLUMBING PERMITS, PER NOTES 1 AND 2 BELOW.

CITY OF WEST LINN NOTES:
1 PLUMBING PERMITS FROM THE BUILDING DEPARTMENT WILL BE REQUIRED FOR PRIVATE UTILITIES.
2 ACQUIRE A PLUMBING PERMIT FROM THE BUILDING DEPARTMENT BEFORE MODIFYING THE PRIVATE SANITARY SEWER SERVICE TO THE EXISTING HOUSE ON TL 6500.

NO.	DATE	REVISION



RANDALL-STREET
SAN.-SEWER-EXTENSION

PLAN-PROFILE
CONSTRUCTION-DOCUMENTS
CITY-OF-WEST-LINN

DESIGNED BY:	EKC
DRAWN BY:	DAS
CHECKED BY:	EKC
DATE:	3-9-16
SCALE:	1"=20' HORIZONTAL 1"=5' VERTICAL
PROJECT NO.:	16-109.01
SHEET	C-2

AS-BUILT DRAWING

DATE PLOTTED: Jul 22, 2016 - 4:07pm

CONSTRUCTION NOTES CONTINUED SHT. C-3

DATE PLOTTED: Jul 22, 2016 - 4:07pm
KEEP DRAWING FILE IN PROJECT FOLDER 16-109.01 RANDALL ST. CAULFIELD ST. EXTENSION



9. Install a test tee on private lateral within 3 feet of main, water test will be conducted by Plumbing Inspector.
10. Run pipe at 2% min. slope to property, install green tracer wire on lateral pipe.
11. Cleanouts are required every 100' of pipe or 135 degrees of bends per the Plumbing code. Bends greater than 45 degrees are not permitted.
12. Use of hard fittings is required whenever possible. When hard fittings are not available and a flexible fitting (i.e. Fernco) is needed, it shall be supplied with a stainless steel shear band when possible.
13. A backwater valve may be required by the Plumbing Inspector depending on site circumstances (e.g. if nearest downstream manhole cover is above elevation of home)
14. Inspection and approval by City personnel is required prior to backfill.
15. Recorded video inspection is often required of repairs/installations following backfill. Video camera shall be on showing running water into pipe, then stop water flow and allow a few minutes for all water to flow from pipe. Run video camera SLOWLY down and up pipe once all water is out of pipe to ensure no standing water/offset joints.
16. Tightly compact 6" of ¾" rock under the pipe.
17. Backfill trench with clean, well-graded ¾"-0 angular gravel compacted in lifts to min. 95% density per AASHTO T-180. Compaction testing by a certified testing firm will be required. Alternately, controlled density fill (CDF) may be used in lieu of compaction tested gravel.
18. Contractor to provide detailed as-built site plan showing dimensions, depths, and bends.
19. See "Street Cut" section for trench restoration requirements.

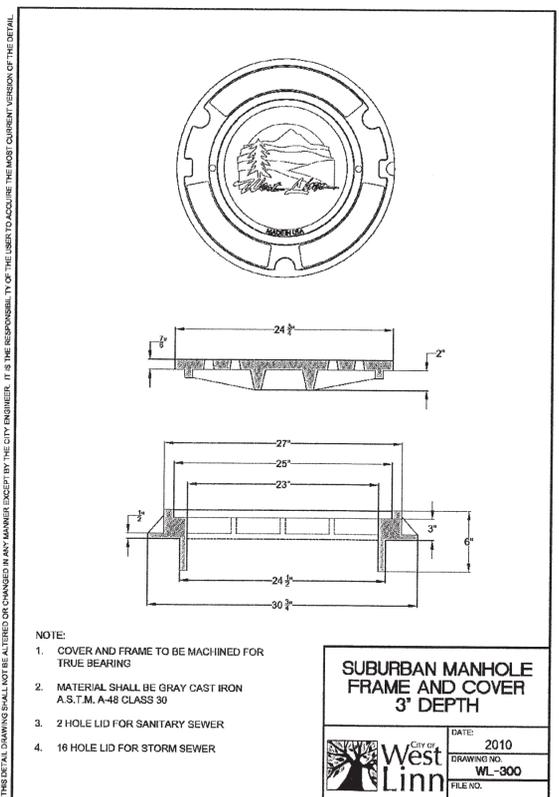
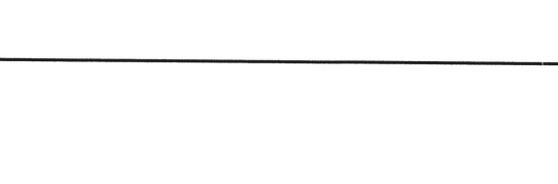
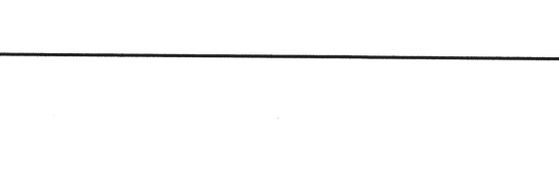
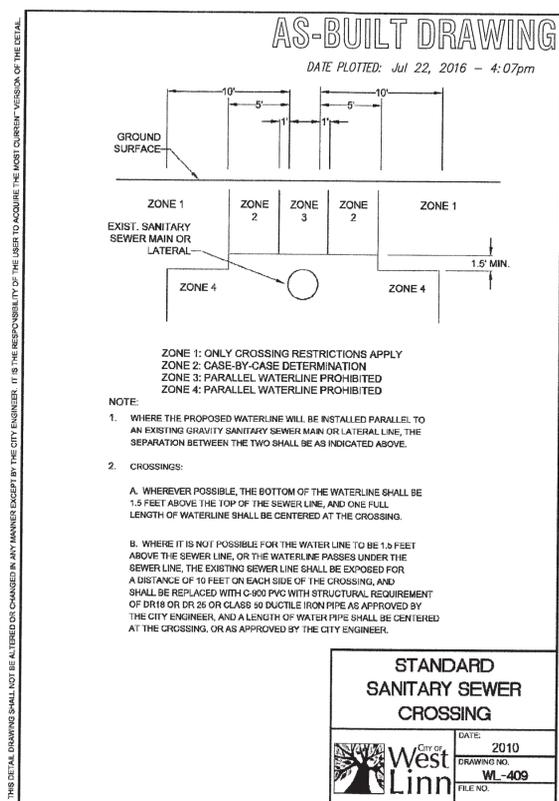
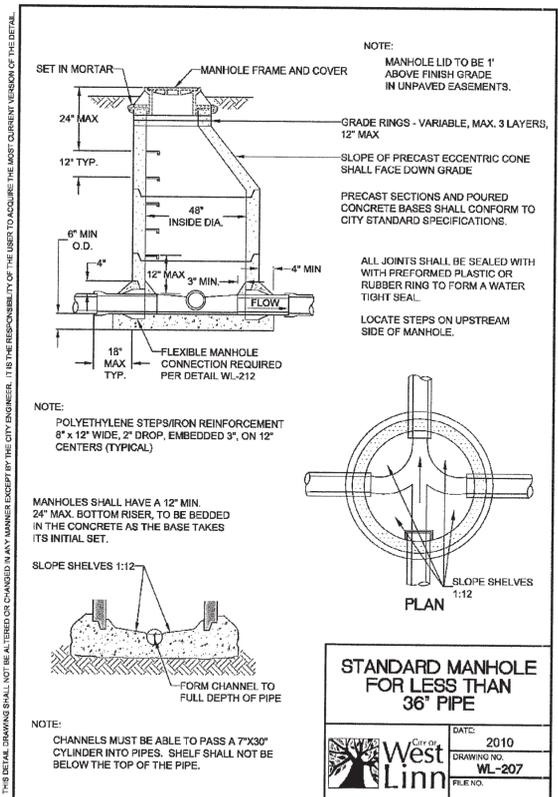
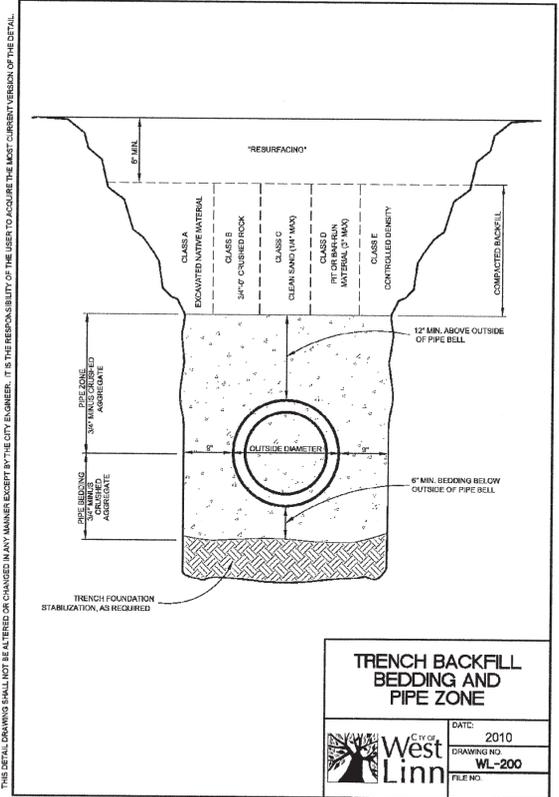
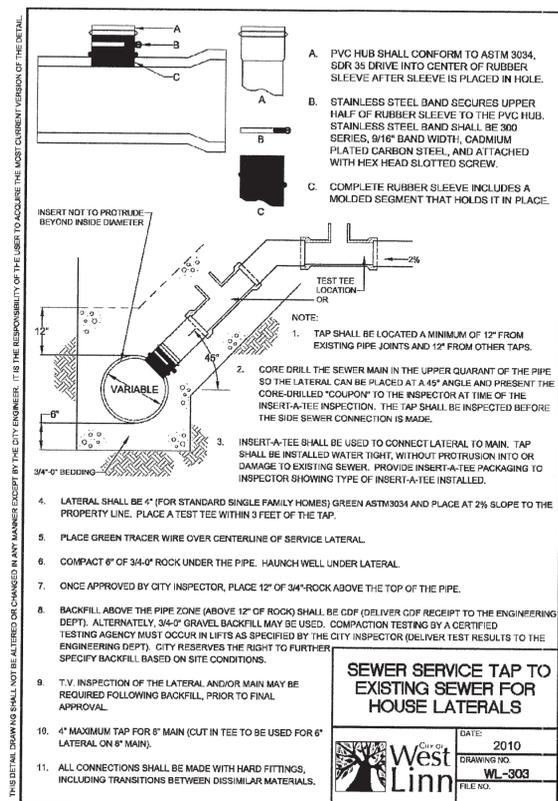
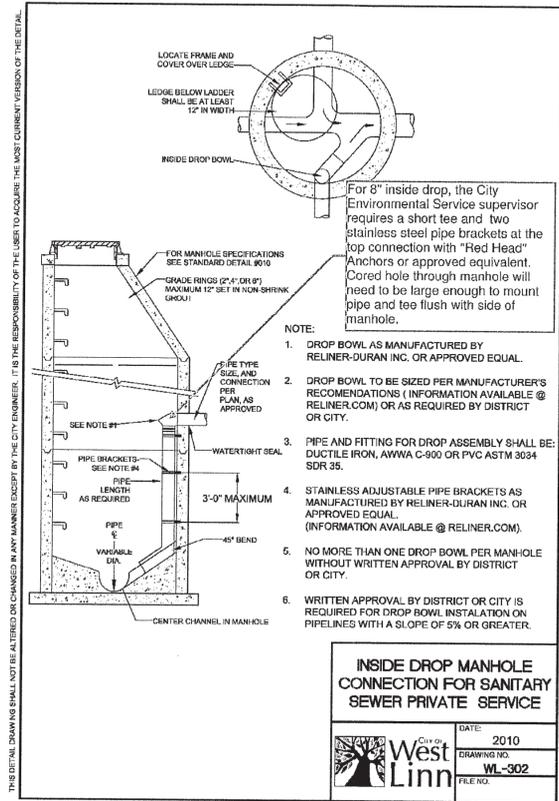
WATER LINES

1. The water line from the main to the meter (and the meter itself) is maintained by the City Water Department in most cases. Please contact the Water Dept. at (503)656-6081 if you have concerns about your water lateral on the street side of the meter.
2. The water line behind the meter is privately maintained by the homeowner. A Building Dept. permit is required for this work and a licensed plumber must typically perform this work.

STREET CUTS/TRENCHES

1. All trenches in street asphalt areas must be backfilled with ¾"-0 gravel compacted in 12" maximum lifts and tested at multiple depths by a certified testing company to minimum 95% per AASHTO T-180. The compaction tested gravel area must extend a minimum of 4 feet outside of street edge (or as specified onsite by City personnel depending on trench depth and condition).
 - a. Alternately, Controlled density fill (CDF) may be specified. Pipe shall be bedded in 6" and covered with 12" of ¾"-0 gravel prior to filling trench with CDF. CDF may also be specifically required by the onsite inspector in some instances due to site conditions.
2. All street cuts must have a 6" T-cut as shown in West Linn Standard Drawing WL-203. Asphalt edges shall be sawcut back an additional 6" beyond undisturbed base. The T-cut should be done after trench is backfilled.
3. Hot mix asphalt shall be used to top off the trench. Depth of asphalt depends on street classification and shall be installed in equal lifts as specified in the Public Works Standards. 4" depth for local streets, 5" for collectors, and 6" for arterials.
4. Tack all vertical edges prior to paving.
5. Sand seal all seams thoroughly with an approved sealant. Lack of adequate sealer or premature cracking of joints is one of the most common warranty call-backs.

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DATE PLOTTED: Jul 22, 2016 - 4:07pm
MEPC DRAWING FILE: P:\Project Data\16-109.01_Randall_S1.dwg\RANDALL_STEVE\BIT.dwg

NO.	DATE	REVISION

DESIGNED BY: KCS
DRAWN BY: KCS
CHECKED BY: EKC
DATE: 7-14-14
SCALE: HORIZONTAL
PROJECT NO: 12-107.01
SHEET C-3

CITY DETAIL SHEET 1

CONSTRUCTION DOCUMENTS

**BLACK HORSE ESTATES
11 LOT SUBDIVISION**

CITY OF HAPPY VALLEY, OREGON

DESIGNED BY: KCS
DRAWN BY: KCS
CHECKED BY: EKC
DATE: 7-14-14
SCALE: HORIZONTAL
PROJECT NO: 12-107.01
SHEET C-3