

TVF&R STATION 55

CIVIL ENGINEERING CONSTRUCTION PLANS

CITY OF **West Linn** ENGINEERING APPROVED
DATE 1/21/17 BY AP

AKS
AKS ENGINEERING & FORESTRY, LLC
12965 SW HERMAN RD. STE 100
TIGARD, OREGON 97062
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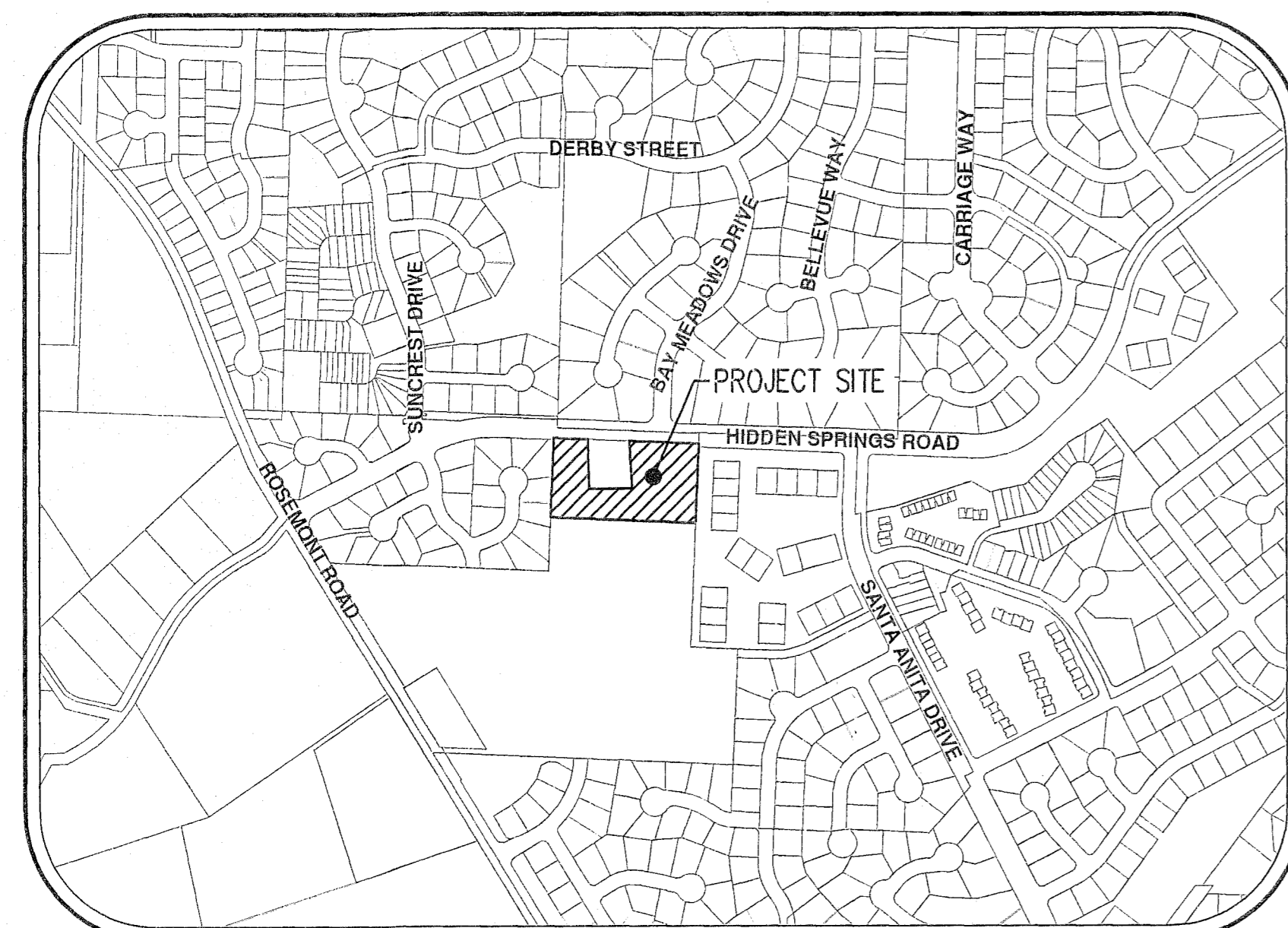
ENGINEERING · SURVEYING · NATURAL RESOURCES
FORESTRY · PLANNING · LANDSCAPE ARCHITECTURE

TVFR STATION 55
WEST LINN
CLACKAMAS COUNTY TAX MAP 2 1E 23CD

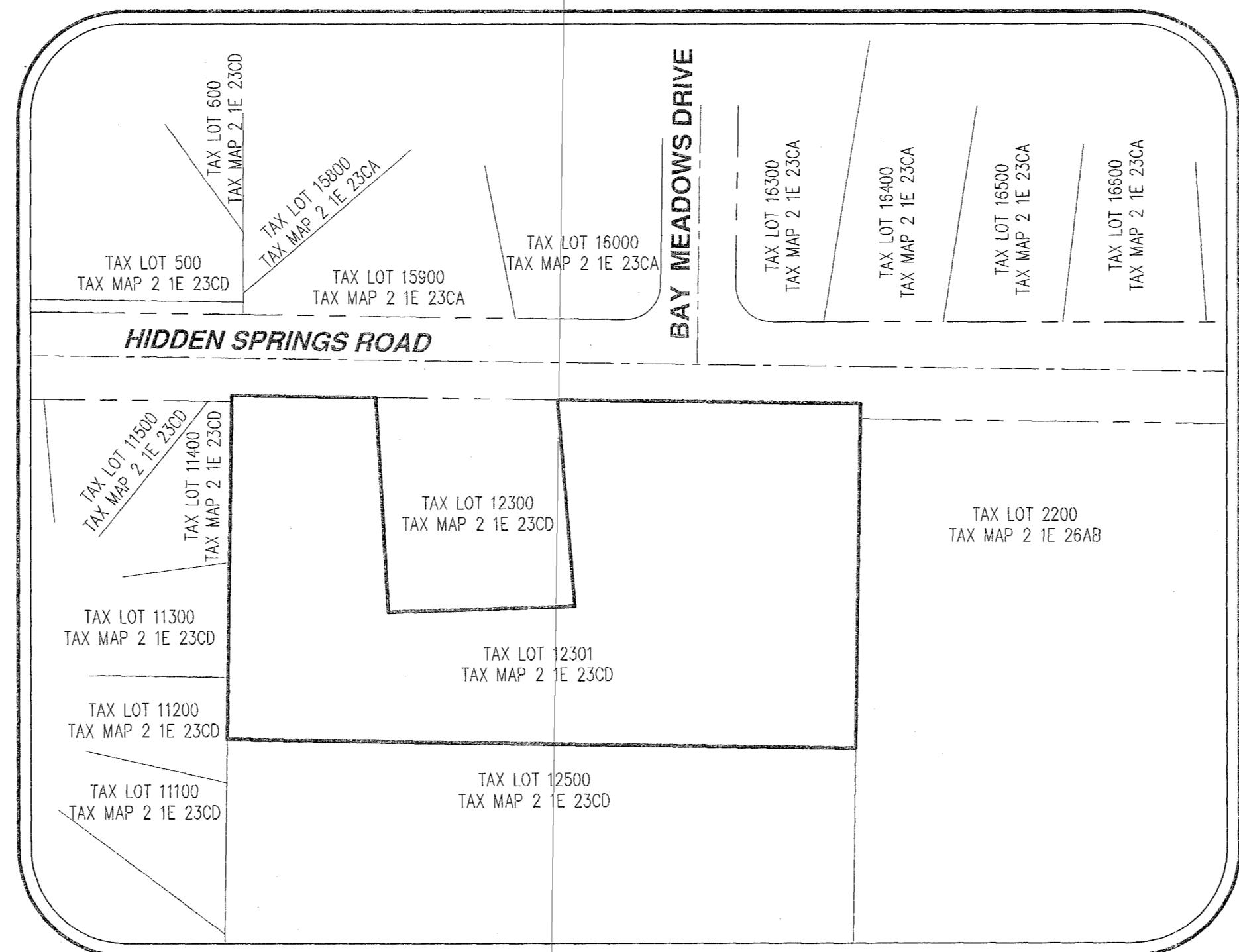
COVER SHEET WITH VICINITY AND SITE MAP

DESIGNED BY: BRB/AZV
DRAWN BY: AZV
CHECKED BY: AHH
SCALE: AS NOTED
DATE: 5/15/2017

REVISIONS
JOB NUMBER: 4757
SHEET: C1.1



VICINITY MAP
NOT TO SCALE



SITE MAP
1"=100'

OWNER
TUALATIN VALLEY FIRE & RESCUE
CONTACT: SIOBHAN KIRK
TUALATIN VALLEY FIRE & RESCUE
11945 SW 70TH AVENUE
TIGARD, OR 97223
PH: 503-259-1216
FAX: 503-642-4814

CIVIL ENGINEERING/SURVEYING
AKS ENGINEERING & FORESTRY, LLC
CONTACT: BRUCE BALDWIN
12965 SW HERMAN ROAD, SUITE 100
TUALATIN, OR 97062
PH: 503-563-6151
FAX: 503-563-6152

EXISTING LAND USE:
UNDEVELOPED

PROJECT PURPOSE:
NEW TVFR FIRE STATION 55

PROJECT LOCATION:
LOCATED SOUTH OF HIDDEN SPRING ROAD AND EAST OF ROSEMONT ROAD IN WEST LINN, OREGON

PROPERTY DESCRIPTION:
TAX LOT 12301 (CLACKAMAS COUNTY ASSESSOR'S MAP 2 1E 23CD) LOCATED IN THE SOUTHWEST 1/4 SOUTHEAST 1/4 OF SECTION 23, TOWNSHIP 2 SOUTH, RANGE 1 EAST, WILLAMETTE MERIDIAN, CITY OF WEST LINN, CLACKAMAS COUNTY, OREGON

DATUM:
VERTICAL DATUM: ELEVATIONS ARE BASED ON NGS BENCHMARK DESIGNATION 89 B (PID R00258) LOCATED 5.35 MILES SOUTHWESTERLY ALONG STATE HIGHWAY 99E FROM ITS JUNCTION WITH INTERSTATE 205 IN OREGON CITY WITH A NAVD88 ELEVATION OF 93.74 DERIVED FROM AN ELLIPSOID HEIGHT OF 18.731NF USING GEOID03.

ATTENTION EXCAVATORS:
OREGON LAW REQUIRES YOU TO FOLLOW RULES ADOPTED BY THE OREGON UTILITY NOTIFICATION CENTER. THOSE RULES ARE SET FORTH IN OAR 952-001-0010 THROUGH OAR 952-001-0090. YOU MAY OBTAIN COPIES OF THESE RULES FROM THE CENTER BY CALLING 503-232-1987. IF YOU HAVE ANY QUESTIONS ABOUT THE RULES, YOU MAY CONTACT THE CENTER. YOU MUST NOTIFY THE CENTER AT LEAST TWO BUSINESS DAYS BUT NOT MORE THAN TEN BUSINESS DAYS, BEFORE COMMENCING AN EXCAVATION. CALL 503-246-8699.

UTILITY CONTACTS:

POWER
PORTLAND GENERAL ELECTRIC
121 SW SALMON ST
PORTLAND, OREGON. 97024
PH: (503) 736-5450

CABLE / INTERNET
COMCAST
9605 SW NIMBUS
BEAVERTON, OREGON. 97008
PH: (503) 912-8307

TELEPHONE
CENTURY LINK
1001 MOLALLA AVE
OREGON CITY, OREGON. 97045
PH: (888) 495-1650

GAS
NW NATURAL
220 NW 2ND AVE
PORTLAND, OREGON. 97209
PH: (503) 226-4211

FIRE
TUALATIN VALLEY FIRE AND RESCUE
11945 SW 70TH AVENUE
TIGARD, OREGON. 97223
PH: (503) 649-8577

GARBAGE
WEST LINN REFUSE AND RECYCLING
1600 SE 4TH AVE
CANBY, OREGON. 97013
PH: (503) 557-3900

WATER / SANITARY / STORM SEWER
CITY OF WEST LINN PUBLIC WORKS
22500 SALAMO RD
WEST LINN, OREGON. 97034
PH: (503) 656-4251

GENERAL PLANS

- C1.1 COVER SHEET WITH VICINITY AND SITE MAP
- C1.2 GENERAL NOTES AND LEGEND
- C1.3 EXISTING CONDITIONS PLAN

EROSION AND SEDIMENT CONTROL PLANS

- C2.1 EROSION & SEDIMENT CONTROL COVER SHEET
- C2.2 CLEARING & DEMOLITION EROSION & SEDIMENT CONTROL PLAN
- C2.3 GRADING & UTILITY CONSTRUCTION EROSION & SEDIMENT CONTROL PLAN
- C2.4 EROSION & SEDIMENT CONTROL DETAILS

DEMOLITION AND GRADING PLANS

- C3.1 DEMOLITION AND TREE REMOVAL PLAN
- C3.2 GRADING PLAN AND NOTES

SITE CONSTRUCTION PLANS

- C4.1 SITE PLAN
- C4.2 SPOT ELEVATION PLAN
- C4.3 SITE DETAILS

UTILITY CONSTRUCTION PLANS

- C5.1 STORM DRAINAGE PLAN
- C5.2 PRIVATE STORMWATER FACILITY PLAN AND SECTIONS
- C5.3 STORM DRAINAGE NOTES AND DETAILS
- C5.4 SANITARY SEWER AND WATER PLAN
- C5.5 SANITARY SEWER NOTES AND DETAILS
- C5.6 WATER NOTES AND DETAILS
- C5.7 WATER DETAILS

STREET IMPROVEMENT PLANS

- C6.1 HIDDEN SPRINGS ROAD IMPROVEMENT PLAN
- C6.2 STREET DETAILS

ELECTRICAL PLANS

- E1.01 SITE PLAN - ELECTRICAL
- E1.02 SITE PLAN - STREET LIGHTING

LANDSCAPE PLANS

- L1.0 LANDSCAPE PLAN
- L2.0 LANDSCAPE SPECIFICATIONS & DETAILS

GENERAL NOTES

- ALL WORK AND MATERIAL SHALL CONFORM TO THESE PLANS, THE APPLICABLE PROVISIONS OF THE INTERNATIONAL BUILDING CODE, UNIFORM PLUMBING CODE, THE CITY OF WEST LINN PUBLIC WORKS DESIGN STANDARDS, AND ALL APPLICABLE LOCAL, STATE, AND FEDERAL REGULATIONS.
- THE LOCATIONS, DEPTH AND DESCRIPTION OF EXISTING UTILITIES SHOWN ARE COMPILED FROM AVAILABLE RECORDS AND/OR FIELD SURVEYS. THE ENGINEER OR UTILITY COMPANIES DO NOT GUARANTEE THE ACCURACY OR THE COMPLETENESS OF SUCH RECORDS. ADDITIONAL UTILITIES MAY EXIST WITHIN THE WORK AREA.
- THE LOCATION OF EXISTING UTILITIES SHOWN ON THE PLANS ARE APPROXIMATE AND SHOWN FOR INFORMATION PURPOSES ONLY. THE CONTRACTOR SHALL HAVE ALL UTILITIES LOCATED PRIOR TO COMMENCING CONSTRUCTION. NOTIFY ENGINEER OF ANY DISCREPANCIES PRIOR TO CONSTRUCTION. ADDITIONAL UNDERGROUND UTILITIES MAY EXIST.
- CONTRACTOR MUST VERIFY ALL EXISTING UTILITIES FOR BOTH VERTICAL ELEVATION AND HORIZONTAL LOCATION PRIOR TO START OF WORK. POthOLE BEFORE CONSTRUCTION (IF NECESSARY). (SHOULD CONFLICTS ARISE AND REDESIGN OR RELOCATION OF FACILITIES BE NECESSARY, IT SHALL BE DONE AT THE CONTRACTOR'S EXPENSE.) CHANGES MUST BE APPROVED BY THE PROJECT ENGINEER AND CITY OF WEST LINN IN ADVANCE OF WORK. CONTRACTOR SHALL COORDINATE THE WORK WITH UTILITY AGENCIES.
- THE CONTRACTOR SHALL CONTROL TRAFFIC IN CONFORMANCE WITH THE LATEST EDITION OF "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", "OREGON SUPPLEMENTS", AND CITY OF WEST LINN PUBLIC WORKS DESIGN STANDARDS. THE CONTRACTOR SHALL AT ALL TIMES MAINTAIN LOCAL ACCESS ALONG THE PROJECT SITE. THE CONTRACTOR SHALL PROVIDE A PROJECT SPECIFIC TRAFFIC CONTROL PLAN, APPROVED BY THE OWNER, AND AVAILABLE ON THE PROJECT SITE.
- THE CONTRACTOR SHALL HAVE A MINIMUM OF ONE (1) SET OF APPROVED CONSTRUCTION PLANS ON THE JOB SITE AT ALL TIMES DURING THE CONSTRUCTION PHASES.
- CONTRACTOR SHALL COORDINATE AND SCHEDULE ALL EARTHWORK, TRENCH BACKFILL, ROAD CONSTRUCTION COMPACTION TESTS, AND GEOTECHNICAL REVIEWS WITH THE PROJECT'S GEOTECHNICAL ENGINEER.
- CONTRACTOR SHALL MAINTAIN BENCHMARKS, PROPERTY CORNERS, MONUMENTS, AND OTHER REFERENCE POINTS. IF SUCH POINTS ARE DISTURBED OR DESTROYED BY CONSTRUCTION ACTIVITIES, THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER AND PAY FOR THEIR REPLACEMENT BY EMPLOYING A PROFESSIONAL LAND SURVEYOR TO RESET PROPERTY CORNERS AND OTHER SUCH MONUMENTS.
- PRIOR TO BEGINNING WORK, THE CONTRACTOR SHALL PRESENT AT THE PRE-CONSTRUCTION MEETING A LIST OF SUBCONTRACTORS, A PROJECT SCHEDULE, A TRAFFIC CONTROL PLAN, AND AN EMERGENCY CONTACT NAME AND PHONE NUMBER.
- PRIOR TO FINAL ACCEPTANCE AND PAYMENT, THE CONTRACTOR SHALL CLEAN THE WORK SITE AND ADJACENT AREAS OF ANY DEBRIS, DISCARDED ASPHALTIC CONCRETE MATERIAL, OR OTHER ITEMS DEPOSITED BY THE CONTRACTOR'S PERSONNEL DURING THE PERFORMANCE OF THIS CONTRACT.
- PUBLIC ROADWAY SHALL NOT BE CLOSED TO TRAFFIC, AT ANY TIME, WITHOUT HAVING FIRST OBTAINED WRITTEN APPROVAL FROM THE CITY OF WEST LINN. THE CONTRACTOR IS RESPONSIBLE FOR PROVISION OF TIMELY NOTIFICATION OF TRAFFIC FLOW DISRUPTIONS TO AREA WIDE EMERGENCY SERVICES.
- TRAFFIC CONTROL DEVICES, FLAG PERSONS, ETC., SHALL BE IN PLACE PRIOR TO INITIATION OF CONSTRUCTION WORK AND SHALL BE EFFECTIVELY MAINTAINED.
- A COPY OF THE PERMIT WITH ALL ATTACHMENTS, A COPY OF THE APPROVED CONSTRUCTION PLANS, AND ALL AMENDMENTS SHALL BE AVAILABLE AT THE PROJECT SITE AT ALL TIMES. ALL WORK SHALL CONFORM TO THE PERMIT TERMS, CONDITIONS/PROVISIONS, CITY OF WEST LINN APPROVED CONSTRUCTION PLANS, APPROVED PLAN AMENDMENTS, AND TO THESE GENERAL CONDITIONS. CHANGES TO ANY OF THE AFORESAID MUST BE APPROVED BY THE PROJECT ENGINEER AND THE CITY OF WEST LINN, IN ADVANCE OF WORK PERFORMANCE.
- MAINTENANCE OF THE WORK AREA AND APPROACH ROADS IS THE RESPONSIBILITY OF THE CONTRACTOR. THE WORK AREA AND APPROACH ROADS SHALL BE MAINTAINED IN A CLEAN AND SANITARY CONDITION, FREE FROM OBSTRUCTIONS, HAZARDS, DEBRIS, AND TRASH AT ALL TIMES. A COPY OF THE CONTRACTOR CERTIFICATE OF INSURANCE SHALL BE AVAILABLE AT THE WORK AREA.
- THE SPREADING OF MUD OR DEBRIS OR STORAGE OF MATERIAL OR EQUIPMENT OF ANY KIND UPON ANY PUBLIC ROADWAY IS STRICTLY PROHIBITED AND VIOLATION SHALL BE CAUSE FOR IMMEDIATE SUSPENSION OF THE PERMIT. THE PROJECT ENGINEER AND/OR THE CITY OF WEST LINN MAY AT ANY TIME ORDER IMMEDIATE CLEAN UP AND STOPPAGE OF WORK TO ACCOMPLISH CLEAN UP.
- EFFECTIVE EROSION CONTROL IS REQUIRED. EROSION CONTROL DEVICES MUST BE INSTALLED AND MAINTAINED.
- EFFECTIVE DRAINAGE CONTROL IS REQUIRED. DRAINAGE SHALL BE CONTROLLED WITHIN THE SITE AND SHALL BE ROUTED SO THAT ADJACENT PRIVATE PROPERTY, PUBLIC PROPERTY, AND THE RECEIVING SYSTEM ARE NOT ADVERSELY IMPACTED. THE PROJECT ENGINEER AND/OR THE CITY OF WEST LINN MAY AT ANY TIME ORDER CORRECTIVE ACTION AND STOPPAGE OF WORK TO ACCOMPLISH EFFECTIVE DRAINAGE CONTROL.
- A TEMPORARY HARD-SURFACE PATCH (COLD MIX AC OR HOT MIX BASE PAVING) SHALL BE PLACED ON TRENCHES WITHIN EXISTING ROADWAYS AT THE END OF EACH DAY'S WORK. NO TRENCH, ON SITE OR OFF-SITE, SHALL BE LEFT AT ANY TIME IN AN UNSAFE CONDITION. THE CONTRACTOR IS RESPONSIBLE FOR AND IS LIABLE FOR HAZARDS OR DAMAGE RESULTING FROM THE PROSECUTION OF THE WORK.
- THE CONTRACTOR SHALL PROTECT AND MAINTAIN OPERATION OF ALL EXISTING UTILITIES WITHIN THE CONSTRUCTION AREA THROUGHOUT THE CONSTRUCTION PROCESS AND SHALL BE RESPONSIBLE FOR REPLACEMENT OR REPAIR OF ALL EXISTING UTILITIES WHICH ARE DISTURBED. THE CONTRACTOR SHALL COORDINATE ALL WORK ON UTILITIES WITH THE VARIOUS OWNERS.
- DOWNTIME FOR UTILITIES SHALL BE HELD TO A MINIMUM AND COORDINATED WITH THE OWNER PRIOR TO DISRUPTION. INTERRUPTION SHALL BE IN ACCORDANCE WITH A SCHEDULE OF SHUTDOWNS TO BE PROVIDED BY THE CONTRACTOR AND APPROVED BY THE OWNER.
- UPON COMPLETION OF CONSTRUCTION, THE CONTRACTOR SHALL SUBMIT "REDLINE DRAWINGS" TO THE PROJECT ENGINEER AND OWNER. "REDLINE DRAWINGS" DOCUMENT ALL DEVIATIONS AND REVISIONS TO THE APPROVED PLANS; THEY ALSO RECORD A DESCRIPTION OF CONSTRUCTION MATERIALS ACTUALLY USED (PIPE MATERIALS, ETC.).
- THE CONTRACTOR SHALL PROCURE AND CONFORM TO ALL CONSTRUCTION PERMITS REQUIRED BY THE CITY OF WEST LINN OR OTHER APPLICABLE AGENCIES.
- ANY INSPECTION BY THE CITY, COUNTY, STATE, OR FEDERAL AGENCIES OR THE PROJECT ENGINEER SHALL NOT, IN ANY WAY, RELIEVE THE CONTRACTOR FROM ANY OBLIGATION TO PERFORM THE WORK IN COMPLIANCE WITH THE APPLICABLE CODES, REGULATION, THE CITY OF WEST LINN PUBLIC WORKS DESIGN STANDARDS, AND PROJECT CONTRACT DOCUMENTS.
- THE PROJECT ENGINEER MUST BE NOTIFIED OF ALL CONSTRUCTION MODIFICATIONS. PRIOR APPROVAL MUST BE PROVIDED BY THE PROJECT ENGINEER BEFORE MODIFICATIONS TO THE APPROVED DESIGN ARE INITIATED.
- SITE CONSTRUCTION PRACTICES SHALL BE IN ACCORDANCE WITH OSHA REGULATIONS. THE CONTRACTOR SHALL MAINTAIN ON-SITE LEGIBLE MATERIAL SAFETY SHEETS FOR ALL HAZARDOUS MATERIALS USED ON-SITE.
- THE CONTRACTOR SHALL GIVE THE APPROPRIATE INSPECTION AGENCY TWO (2) WORKING DAYS ADVANCE NOTICE WHEN REQUESTING INSPECTIONS.
- THE CONTRACTOR SHALL TAKE NO ADVANTAGE OF ANY ERRORS, OMISSIONS, OR DISCREPANCIES IN THE PLANS. WHEN ERRORS, OMISSIONS, OR DISCREPANCIES ARE FOUND, THE ENGINEER SHALL BE NOTIFIED. WORK PERFORMED BY THE CONTRACTOR AS A RESULT OF AN ERROR, OMISSION, OR DISCREPANCY IN THE PLANS SHALL BE AT THE CONTRACTOR'S RISK AND EXPENSE WHEN SUCH ERROR, OMISSION, OR DISCREPANCY HAS NOT BEEN BROUGHT TO THE ATTENTION OF THE ENGINEER.
- IMMEDIATE COLD PATCH REQUIRED FOR ALL TRENCH CUTS IN EXISTING ROADS. MAINTAIN UNTIL PERMANENT PATCHING IS COMPLETE.
- CONTRACTOR SHALL MAINTAIN AN ADEQUATE FIRE LANE DURING CONSTRUCTION.
- CONTRACTOR SHALL RESTRIPE AC PAVEMENT AND CONCRETE PAVEMENT WHERE REQUIRED DUE TO NEW CONSTRUCTION.
- CONTRACTOR SHALL MAINTAIN ACCESS TO EXISTING ROADWAYS AND FACILITIES AS DETERMINED NECESSARY BY OWNER.
- CONTRACTOR SHALL REPLACE, IN KIND, ALL AC PAVEMENT, CONCRETE, LANDSCAPING, AND IRRIGATION WHICH IS REMOVED OR DISTURBED DURING INSTALLATION OF PIPELINE AND PLACEMENT OF MANHOLES.
- CONTRACTOR SHALL COORDINATE CONSTRUCTION TO PREVENT ELEVATION CONFLICTS.
- THE RESPONSIBILITY FOR CONSTRUCTION OF SITE UTILITIES SHALL BEGIN AT 5' OUTSIDE THE BUILDING.
- UTILITIES SHOWN ARE DRAWN SCHEMATICALLY. UTILITY PLANS MAY NOT REFLECT THE ACTUAL SPACING AND HORIZONTAL / VERTICAL LOCATION OF NEW OR EXISTING UTILITIES. PLANS DO NOT SHOW ALL BENDS, REDUCERS, WYES, GASKETS, CLEANOUTS, FITTINGS, AND STRUCTURES. CONTRACTOR IS RESPONSIBLE FOR MATERIALS AND LABOR NECESSARY TO CONSTRUCT UTILITIES SHOWN AS INTENDED IN ACCORDANCE WITH APPLICABLE MANUFACTURER, LOCAL, STATE, AND FEDERAL REQUIREMENTS.
- THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER FORTY-EIGHT (48) HOURS PRIOR TO ANY STAGED INSPECTION.
- WORK PROVIDED FOR UNDER THE PERMIT SHALL INCLUDE REPAIR OF EXISTING FACILITIES (ROADS, DITCHES, ETC.) AS MAY BE NECESSARY, IN THE PROJECT ENGINEER'S OPINION, TO OVERCOME DETERIORATION OR DAMAGE WHICH OCCURRED IN CONJUNCTION WITH THE WORK AUTHORIZED BY THE PERMIT. CORRECTIVE WORK SHALL BE DONE AT THE CONTRACTOR'S EXPENSE.
- THE PROJECT ENGINEER MAY, AT THEIR DISCRETION, REQUIRE PROVISION OF TESTS AND OR REPORTS FROM THE CONTRACTOR TO VALIDATE CLAIMS OF MATERIAL OR CONSTRUCTION ADEQUACY/COMPLIANCE. SUCH TESTS/REPORTS SHALL BE PROVIDED AT THE CONTRACTOR'S EXPENSE.
- THE FOLLOWING STANDARD SPECIFICATIONS ARE INCORPORATED BY REFERENCE. ALL MATERIALS SHALL CONFORM TO APPLICABLE REQUIREMENTS OF THE UNIFORM PLUMBING CODE (UPC), UNIFORM BUILDING CODE (UBC), THE AMERICAN PUBLIC WORKS ASSOCIATION, AND THE CITY OF WEST LINN.
- THE CONTRACTOR IS TO NOTIFY PRIVATE UTILITIES FOR RELOCATION OF POWER POLES, VAULTS, ETC.
- THE CONTRACTOR IS TO COORDINATE CONSTRUCTION OF DRY UTILITIES (POWER, TELEPHONE, CABLE AND TELEVISION).
- POWER, TELEPHONE, CABLE AND TELEVISION TRENCHING AND CONDUITS ARE TO BE INSTALLED PER UTILITY COMPANY REQUIREMENTS WITH PULL WIRE. VERIFY WITH UTILITY COMPANY FOR SIZE AND TYPE OF CONDUIT PRIOR TO CONSTRUCTION.
- PROJECT ENGINEER RESERVES THE RIGHT TO ADJUST GRADES OR ALIGNMENT TO ACCOMMODATE OTHER UTILITIES AS REQUIRED; SUCH ADJUSTMENTS OR REVISIONS SHALL BE REVIEWED BY THE COUNTY ENGINEERING STAFF AND APPROVED PRIOR TO COMMENCEMENT OF WORK.
- PIPE LENGTHS SHOWN ARE APPROXIMATE, FINAL LENGTHS TO BE DETERMINED BY FIELD CONDITIONS.
- THE CONTRACTOR SHALL PERFORM ALL WORK NECESSARY TO COMPLETE THIS PROJECT IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS INCLUDING SUCH INCIDENTALS AS MAY BE NECESSARY TO MEET THE INTENT OF THE PROJECT CONTRACT DOCUMENTS, APPLICABLE AGENCY REQUIREMENTS, AND OTHER WORK AS NECESSARY TO PROVIDE A COMPLETE PROJECT.
- THESE PLANS ASSUME THAT CONSTRUCTION STAKING WILL BE NECESSARY TO CONSTRUCT THE IMPROVEMENTS SHOWN AND THAT CONSTRUCTION STAKING ACTIVITIES WILL BE PERFORMED BY AKS ENGINEERING & FORESTRY LLC. AKS ENGINEERING & FORESTRY LLC DOES NOT ACCEPT ANY RESPONSIBILITY FOR ITEMS CONSTRUCTED INCORRECTLY BASED ON MISINTERPRETATIONS OF ITEMS SHOWN ON THESE PLANS.
- CONTRACTOR TO REPAIR ALL EXISTING IMPROVEMENTS DAMAGED BY CONSTRUCTION TO AS GOOD AS OR BETTER CONDITION.

CONDITIONALS OF APPROVAL

- SITE PLANS:** WITH THE EXCEPTION OF MODIFICATIONS REQUIRED BY THESE CONDITIONS, THE PROJECT SHALL SUBSTANTIALLY CONFORM TO ALL SUBMITTED DRAWINGS DATED 8/31/16 C1, C2, C3, E1.01, E1.01 PH, L1.0, L2.0, A1.01, A2.02, A3.01, A4.01, AND A5.01.
- ENGINEERING STANDARDS:** ALL PUBLIC IMPROVEMENTS AND ASSOCIATED FACILITIES INCLUDING STREET IMPROVEMENTS, UTILITIES, GRADING, ONSITE STORMWATER DESIGN, STREET LIGHTING, EASEMENTS, AND EASEMENT'S LOCATIONS ARE SUBJECT TO THE CITY ENGINEER'S REVIEW, MODIFICATION, AND APPROVAL. THESE IMPROVEMENTS MUST BE DESIGNED, CONSTRUCTED, AND COMPLETED PRIOR TO ISSUANCE OF THE BUILDING CERTIFICATE OF OCCUPANCY OR SECURED BY INSTRUMENTS ACCEPTABLE TO THE CITY ENGINEER.

THE APPLICANT SHALL COMPLETE HALF STREET IMPROVEMENTS AS REQUIRED. ALTERNATIVELY, THE APPLICANT MAY REQUEST TO PROVIDE FEES IN LIEU FOR STREET IMPROVEMENTS FOR THE FRONTAGE ON HIDDEN SPRINGS ROAD. THE FEES SHALL BE SUBJECT TO THE CITY ENGINEER'S REVIEW AND APPROVAL. (SEE STAFF FINDINGS 17, 25, 34, 35, 38, & 42)
- ONSITE STORMWATER IMPROVEMENTS:** THE APPLICANT SHALL PROVIDE ABOVEGROUND ONSITE STORMWATER FACILITIES. THE DESIGN OF THE ONSITE STORMWATER FACILITIES SHALL BE SUBJECT TO THE CITY ENGINEER'S REVIEW AND APPROVAL. THE ONSITE STORMWATER FACILITIES SHALL BE CONSTRUCTED AND COMPLETED PRIOR TO ISSUANCE OF THE BUILDING CERTIFICATE OF OCCUPANCY. (SEE STAFF FINDING 17)
- TREE PROTECTION:** THE APPLICANT SHALL WORK WITH THE CITY ARBORIST FOR ANY TREE PERMITS FOR TREE REMOVAL. (SEE STAFF FINDINGS 15 & 18)
- FIRE FLOW:** THE CITY SHALL PERFORM A FIRE FLOW TEST SHOWING ADEQUATE FIRE FLOW IS PRESENT PRIOR TO THE ISSUANCE OF THE FINAL BUILDING CERTIFICATE OF OCCUPANCY. (SEE STAFF FINDING 34)
- SIGN:** A SIGN PERMIT IS REQUIRED FOR THE PROPOSED MONUMENT SIGN. THE APPLICANT SHALL SUBMIT A SEPARATE SIGN PERMIT APPLICATION FOR ANY PROPOSED SIGN. (SEE STAFF FINDINGS 9 & 41)
- ROOFING MATERIAL:** THE ROOF OF THE BUILDING SHALL BE CONSTRUCTED OF A MATERIAL THAT IS AESTHETIC CONSISTENT WITH ROOFS ON NEIGHBORING RESIDENTIAL STRUCTURES. (SEE STAFF FINDINGS 20)

	EXISTING	PROPOSED		EXISTING	PROPOSED
DECIDUOUS TREE			STORM SEWER CLEAN OUT		
CONIFEROUS TREE			STORM SEWER CATCH BASIN		
FIRE HYDRANT			STORM SEWER AREA DRAIN		
WATER BLOWOFF			STORM SEWER MANHOLE		
WATER METER			GAS METER		
WATER VALVE			GAS VALVE		
DOUBLE CHECK VALVE			GUY WIRE ANCHOR		
AIR RELEASE VALVE			POWER POLE		
SANITARY SEWER CLEAN OUT			POWER VAULT		
SANITARY SEWER MANHOLE			POWER JUNCTION BOX		
SIGN			POWER PEDESTAL		
STREET LIGHT			COMMUNICATIONS VAULT		
MAILBOX			COMMUNICATIONS JUNCTION BOX		
			COMMUNICATIONS RISER		
	EXISTING			PROPOSED	
RIGHT-OF-WAY LINE					
BOUNDARY LINE					
PROPERTY LINE					
CENTERLINE					
DITCH					
CURB					
EDGE OF PAVEMENT					
EASEMENT					
FENCE LINE					
GRAVEL EDGE					
POWER LINE					
OVERHEAD WIRE					
COMMUNICATIONS LINE					
FIBER OPTIC LINE					
GAS LINE					
STORM SEWER LINE					
SANITARY SEWER LINE					
WATER LINE					

CITY OF WEST LINN ENGINEERING
APPROVED
DATE 7/24/17 BY AP

AKS ENGINEERING & FORESTRY, LLC
12965 SW HERMAN RD. STE 100
TUALATIN, OR 97062
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ENGINEERING - SURVEYING - NATURAL RESOURCES
FORESTRY - PLANNING - LANDSCAPE ARCHITECTURE

TVFR STATION 55
WEST LINN
TAX LOT 12201
CLATSOP COUNTY TAX MAP 2 1E 2001

GENERAL NOTES
AND LEGEND

DESIGNED BY: BRB/AZV
DRAWN BY: AZV
CHECKED BY: AHH
SCALE: AS NOTED
DATE: 5/15/2017



RENEWAL DATE: 6/30/17
REVISIONS:

JOB NUMBER
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SHEET
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TVF&R STATION 55

1200CN EROSION AND SEDIMENT CONTROL PLANS

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West Linn APPROVED
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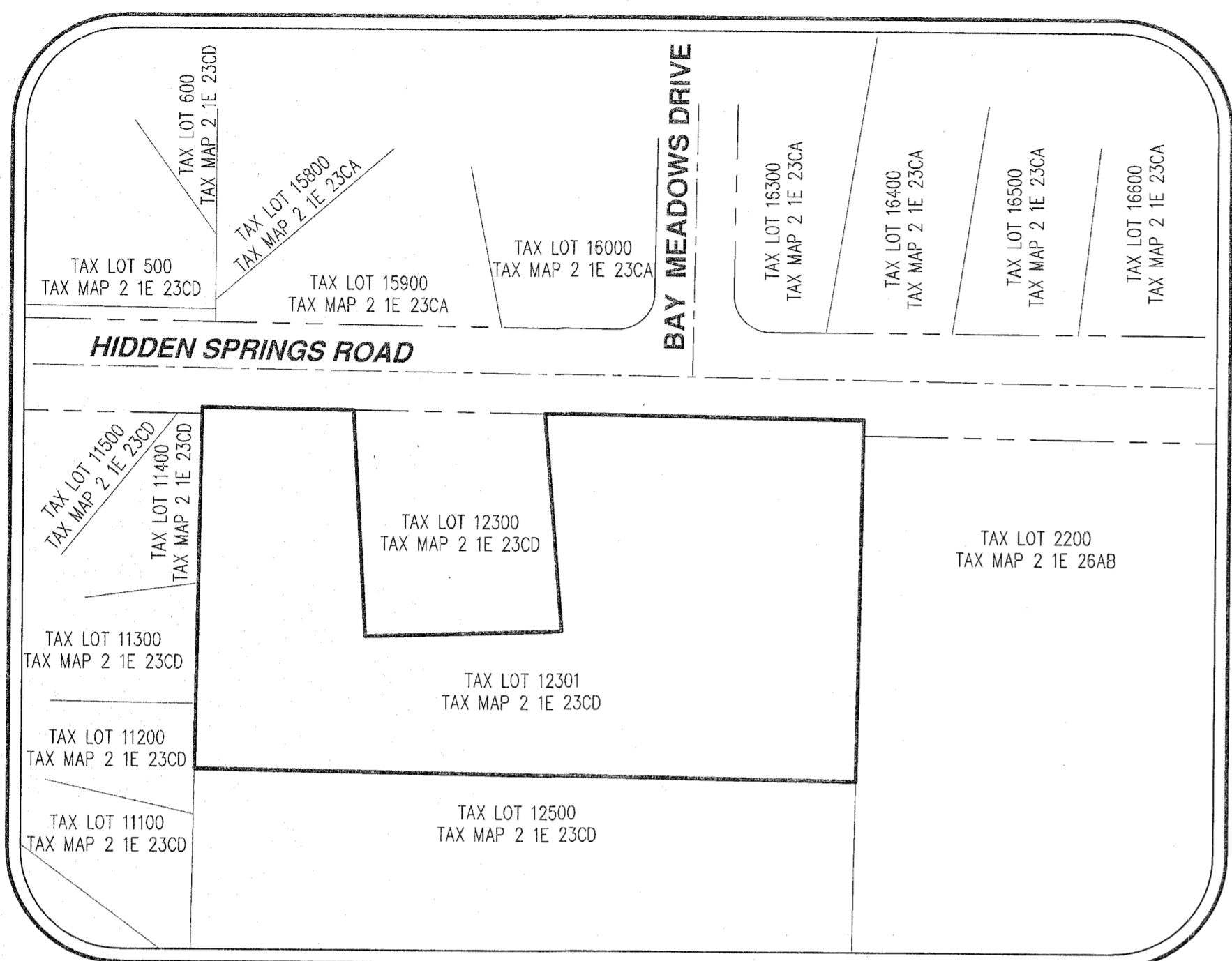
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OREGON
CLACKAMAS COUNTY TAX MAP 2 1E 230D
WEST LINN
TAX LOT 12301

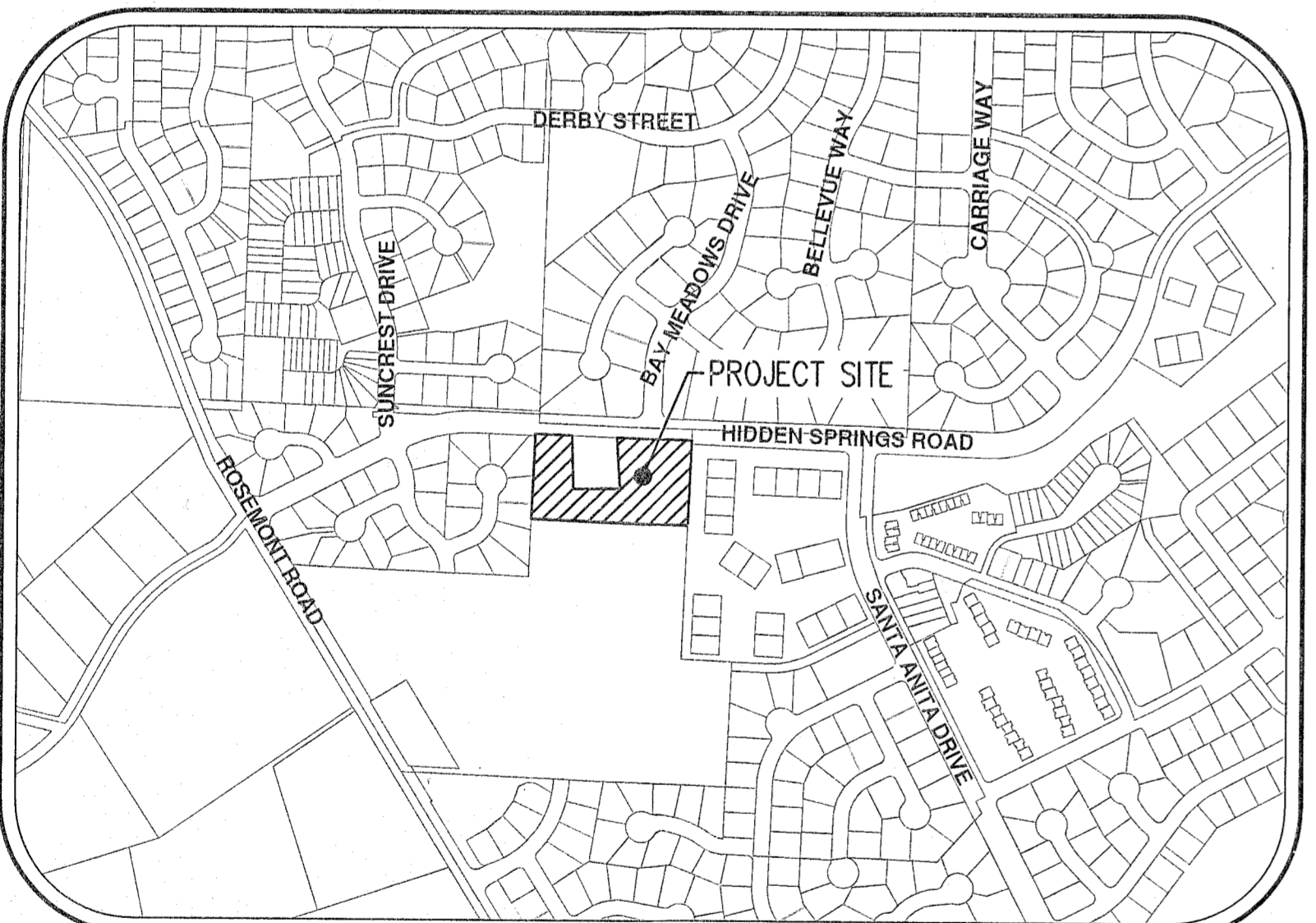
EROSION & SEDIMENT
CONTROL COVER SHEET

DESIGNED BY: BRG/AZV
DRAWN BY: AZV
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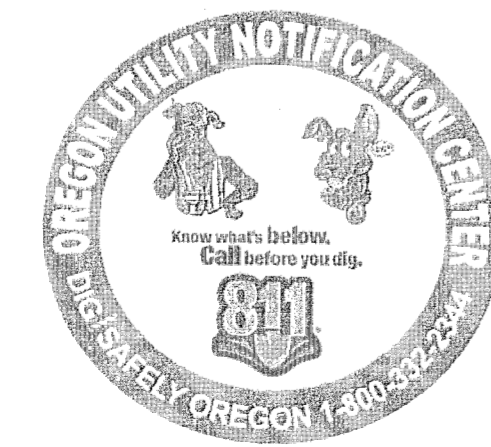


SITE MAP
1"=100'



VICINITY MAP
NOT TO SCALE

PERMITTEE'S SITE INSPECTOR: BILL JUDGE
COMPANY/AGENCY: EMERICK CONSTRUCTION CO.
PHONE: 503-539-1471
FAX: 503-771-2933
E-MAIL: BILL@EMERICK.COM
CERTIFICATION: CESC #70594



SHEET INDEX

- C2.1 EROSION & SEDIMENT CONTROL COVER SHEET
- C2.2 CLEARING & DEMOLITION EROSION & SEDIMENT CONTROL PLAN
- C2.3 GRADING & UTILITY CONSTRUCTION EROSION & SEDIMENT CONTROL PLAN
- C2.4 EROSION & SEDIMENT CONTROL DETAILS

OWNER/APPLICANT
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PROPERTY DESCRIPTION:
TAX LOT 12301 (CLACKAMAS COUNTY ASSESSOR'S MAP 2 1E 230D) LOCATED IN THE SOUTHWEST 1/4 SOUTHEAST 1/4 OF SECTION 23, TOWNSHIP 2 SOUTH, RANGE 1 EAST, WILLAMETTE MERIDIAN, CLACKAMAS COUNTY, OREGON

PROJECT LOCATION:
LOCATED SOUTH OF HIDDEN SPRING ROAD AND EAST OF ROSEMONT ROAD IN WEST LINN, OREGON
LATITUDE = 45.2237, LONGITUDE = 122.3903

NARRATIVE DESCRIPTIONS

- EXISTING SITE CONDITIONS**
- * VACANT LOT
- DEVELOPED CONDITIONS**
- * NEW TVFR FIRE STATION
- NATURE OF CONSTRUCTION ACTIVITY AND TIMETABLE FOR MAJOR ACTIVITIES**
- * CLEARING AND TREE REMOVAL (MAY 15, 2017 - MAY 30, 2017)
 - * GRADING [EXCAVATION AND FILL] (MAY 15, 2017 - AUG 15, 2017)
 - * INSTALLATION OF UTILITIES (MAY 15, 2017 - APRIL 30, 2018)
 - * FINAL STABILIZATION (APRIL 1, 2018 - APRIL 30, 2018)
- TOTAL SITE AREA = 112,420 SF = 2.58 ACRES
TOTAL DISTURBED AREA = 100,321 SF = 2.30 ACRES

SITE SOIL CLASSIFICATION:
23C - CORNELIUS SILT LOAM, 0-15 PERCENT SLOPES
70C - SAUM SILT LOAM, 0-15 PERCENT SLOPES
ON-SITE SOILS HAVE A MODERATE EROSION POTENTIAL

RECEIVING WATER BODIES:
TRILLIUM CREEK

THE PERMITTEE IS REQUIRED TO MEET ALL THE CONDITIONS OF THE 1200CN PERMIT. THIS ESCP AND GENERAL CONDITIONS HAVE BEEN DEVELOPED TO FACILITATE COMPLIANCE WITH THE 1200CN PERMIT REQUIREMENTS. IN CASES OF DISCREPANCIES OR OMISSIONS, THE 1200CN PERMIT REQUIREMENTS SUPERCEDE REQUIREMENTS OF THIS PLAN.

ATTENTION EXCAVATORS:
OREGON LAW REQUIRES YOU TO FOLLOW RULES ADOPTED BY THE OREGON UTILITY NOTIFICATION CENTER. THOSE RULES ARE SET FORTH IN OAR 952-001-0010 THROUGH OAR 952-001-0050. YOU MAY OBTAIN COPIES OF THESE RULES FROM THE CENTER BY CALLING 503-232-1987. IF YOU HAVE ANY QUESTIONS ABOUT THE RULES, YOU MAY CONTACT THE CENTER. YOU MUST NOTIFY THE CENTER AT LEAST TWO BUSINESS DAYS, BEFORE COMMENCING AN EXCAVATION. CALL 503-246-5599.

STANDARD EROSION AND SEDIMENT CONTROL PLAN DRAWING NOTES:

1. ALL PERMIT REGISTRANTS MUST IMPLEMENT THE ESCP. FAILURE TO IMPLEMENT ANY OF THE CONTROL MEASURES OR PRACTICES DESCRIBED IN THE ESCP IS A VIOLATION OF THE PERMIT. (SCHEDULE A.8.A)
2. THE ESCP MEASURES SHOWN ON THIS PLAN ARE MINIMUM REQUIREMENTS FOR ANTICIPATED SITE CONDITIONS. DURING THE CONSTRUCTION PERIOD, UPGRADE THESE MEASURES AS NEEDED TO COMPLY WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL EROSION AND SEDIMENT CONTROL REGULATIONS. (SCHEDULE A.8.C.I.(1)(C))
3. SUBMISSION OF ALL ESCP REVISIONS IS NOT REQUIRED. SUBMITTAL OF THE ESCP REVISIONS IS ONLY UNDER SPECIFIC CONDITIONS. SUBMIT ALL NECESSARY REVISION TO DEQ OR AGENT. (SCHEDULE A.12.C.IV)
4. PHASE CLEARING AND GRADING TO THE MAXIMUM EXTENT PRACTICAL TO PREVENT EXPOSED AREAS FROM BECOMING A SOURCE OF EROSION. (SCHEDULE A.8.C.I.(1)(D))
5. IDENTIFY, MARK, AND PROTECT (BY FENCING OFF OR OTHER MEANS) CRITICAL RIPARIAN AREAS AND VEGETATION INCLUDING IMPORTANT TREES AND ASSOCIATED ROOTING ZONES, AND VEGETATION AREAS TO BE PRESERVED. IDENTIFY VEGETATIVE BUFFER ZONES BETWEEN THE SITE AND SENSITIVE AREAS (E.G., WETLANDS), AND OTHER AREAS TO BE PRESERVED, ESPECIALLY IN PERIMETER AREAS. (SCHEDULE A.8.C.I.(1) & (2))
6. PRESERVE EXISTING VEGETATION WHEN PRACTICAL AND RE-VEGETATE OPEN AREAS. RE-VEGETATE OPEN AREAS WHEN PRACTICABLE BEFORE AND AFTER GRADING OR CONSTRUCTION. IDENTIFY THE TYPE OF VEGETATIVE SEED MIX USED. (SCHEDULE A.7.A.V.(1) AND A.7.A.V.(3))
7. EROSION AND SEDIMENT CONTROL MEASURES INCLUDING PERIMETER SEDIMENT CONTROL MUST BE IN PLACE BEFORE VEGETATION IS DISTURBED AND MUST REMAIN IN PLACE AND BE MAINTAINED, REPAIRED, AND PROMPTLY IMPLEMENTED FOLLOWING PROCEDURES ESTABLISHED FOR THE DURATION OF CONSTRUCTION, INCLUDING PROTECTION FOR ACTIVE STORM DRAIN INLETS AND CATCH BASINS AND APPROPRIATE NON-STORMWATER POLLUTION CONTROLS. (SCHEDULE A.7.D.I. AND A.8.C)
8. ESTABLISH CONCRETE TRUCK AND OTHER CONCRETE EQUIPMENT WASHOUT AREAS BEFORE BEGINNING CONCRETE WORK. DIRECT ALL WASH WATER INTO A PIT OR LEAK-PROOF CONTAINER. HANDLE WASH WATER AS WASTE. CONCRETE DISCHARGE TO WATERS OF THE STATE IS PROHIBITED. (SCHEDULE A.8.C.I.(5) AND A.8.C.II.(2))
9. APPLY TEMPORARY AND/OR PERMANENT SOIL STABILIZATION MEASURES IMMEDIATELY ON ALL DISTURBED AREAS AS GRADING PROGRESSES AND FOR ALL ROADWAYS INCLUDING GRAVEL ROADWAYS. (SCHEDULE A.8.C.II.(3))
10. ESTABLISH MATERIAL AND WASTE STORAGE AREAS, AND OTHER NON-STORMWATER CONTROLS. (SCHEDULE A.8.C.I.(7))
11. PREVENT TRACKING OF SEDIMENT ONTO PUBLIC OR PRIVATE ROADS USING BMPs SUCH AS: GRAVELED (OR PAVED) EXITS AND PARKING AREAS, GRVEL ALL UNPAVED ROADS LOCATED ONSITE, OR USE AN EXIT TIRE WASH. THESE BMPs MUST BE IN PLACE PRIOR TO LAND-DISTURBING ACTIVITIES. (SCHEDULE A.7.D.II AND A.8.C.I.(4))
12. WHEN TRUCKING SATURATED SOILS FROM THE SITE, EITHER USE WATER-TIGHT TRUCKS OR DRAIN LOADS ON SITE. (SCHEDULE A.7.D.II.(5))
13. USE BMPs TO PREVENT OR MINIMIZE STORMWATER EXPOSURE TO POLLUTANTS FROM SPILLS, VEHICLE AND EQUIPMENT FUELING, MAINTENANCE, AND STORAGE; OTHER CLEANING AND MAINTENANCE ACTIVITIES; AND WASTE HANDLING ACTIVITIES. THESE POLLUTANTS INCLUDE FUEL, HYDRAULIC FLUID, AND OTHER OILS FROM VEHICLES AND MACHINERY, AS WELL AS DEBRIS, LEFTOVER PAINTS, SOLVENTS, AND GLUES FROM CONSTRUCTION OPERATIONS. (SCHEDULE A.7.E.I.(2))
14. IMPLEMENT THE FOLLOWING BMPs WHEN APPLICABLE: WRITTEN SPILL PREVENTION AND RESPONSE PROCEDURES, EMPLOYEE TRAINING ON SPILL PREVENTION AND PROPER DISPOSAL PROCEDURES, SPILL KITS IN ALL VEHICLES, REGULAR MAINTENANCE SCHEDULE FOR VEHICLES AND MACHINERY, MATERIAL DELIVERY AND STORAGE CONTROLS, TRAINING AND SIGNAGE, AND COVERED STORAGE AREAS FOR WASTE AND SUPPLIES. (SCH A.7.A.IV)
15. USE WATER, SOIL-BINDING AGENT OR OTHER DUST CONTROL TECHNIQUE AS NEEDED TO AVOID WIND-BLOWN SOIL (SCHEDULE A.7.9.II)
16. THE APPLICATION RATE OF FERTILIZERS USED TO REESTABLISH VEGETATION MUST FOLLOW MANUFACTURER'S RECOMMENDATIONS TO MINIMIZE NUTRIENT RELEASES TO SURFACE WATERS. EXERCISE CAUTION WHEN USING TIME-RELEASE FERTILIZERS WITHIN ANY WATERWAY RIPARIAN ZONE. (SCHEDULE A.9.B.III)
17. IF A STORMWATER TREATMENT SYSTEM (FOR EXAMPLE, ELECTRO-COAGULATION, FLOCCULATION, FILTRATION, ETC.) FOR SEDIMENT OR OTHER POLLUTANT REMOVAL IS EMPLOYED, SUBMIT AN OPERATION AND MAINTENANCE PLAN (INCLUDING SYSTEM SCHEMATIC, LOCATION OF SYSTEM, LOCATION OF INLET, LOCATION OF DISCHARGE, DISCHARGE DISPERSION DEVICE DESIGN, AND A SAMPLING PLAN AND FREQUENCY) BEFORE OPERATING THE TREATMENT SYSTEM. OBTAIN PLAN APPROVAL BEFORE OPERATING THE TREATMENT SYSTEM. OPERATE AND MAINTAIN THE TREATMENT SYSTEM ACCORDING TO MANUFACTURER'S SPECIFICATIONS. (SCHEDULE A.9.D)
18. TEMPORARILY STABILIZE SOILS AT THE END OF THE SHIFT BEFORE HOLIDAYS AND WEEKENDS, IF NEEDED. THE REGISTRANT IS RESPONSIBLE FOR ENSURING THAT SOILS ARE STABLE DURING RAIN EVENTS AT ALL TIMES OF THE YEAR. (SCHEDULE A.7.A.II)
19. AT THE END OF EACH WORKDAY SOIL STOCKPILES MUST BE STABILIZED OR COVERED, OR OTHER BMPs MUST BE IMPLEMENTED TO PREVENT DISCHARGES TO SURFACE WATERS OR CONVEYANCE SYSTEMS LEADING TO SURFACE WATERS. (SCHEDULE A.7.E.II.(2))
20. CONSTRUCTION ACTIVITIES MUST AVOID OR MINIMIZE EXCAVATION AND CREATION OF BARE GROUND DURING WET WEATHER. (SCHEDULE A.7.A.I)
21. SEDIMENT FENCE: REMOVE TRAPPED SEDIMENT BEFORE IT REACHES ONE THIRD OF THE ABOVE GROUND FENCE HEIGHT AND BEFORE FENCE REMOVAL. (SCHEDULE A.9.C.I)
22. OTHER SEDIMENT BARRIERS (SUCH AS BIOBAGS): REMOVE SEDIMENT BEFORE IT REACHES TWO INCHES DEPTH ABOVE GROUND HEIGHT, AND BEFORE BMP REMOVAL. (SCHEDULE A.9.C.II)
23. CATCH BASINS: CLEAN BEFORE RETENTION CAPACITY HAS BEEN REDUCED BY FIFTY PERCENT. SEDIMENT BASINS AND SEDIMENT TRAPS: REMOVE TRAPPED SEDIMENTS BEFORE DESIGN CAPACITY HAS BEEN REDUCED BY FIFTY PERCENT AND AT COMPLETION OF PROJECT. (SCHEDULE A.9.C.III & IV)
24. WITHIN 24 HOURS, SIGNIFICANT SEDIMENT THAT HAS LEFT THE CONSTRUCTION SITE, MUST BE REMEDIATED. INVESTIGATE THE CAUSE OF THE SEDIMENT RELEASE AND IMPLEMENT STEPS TO PREVENT A RECURRENCE OF THE DISCHARGE WITHIN THE SAME 24 HOURS. ANY IN-STREAM CLEAN UP OF SEDIMENT SHALL BE PERFORMED ACCORDING TO THE OREGON DIVISION OF STATE LANDS REQUIRED TIMEFRAME. (SCHEDULE A.9.B.I)
25. THE INTENTIONAL WASHING OF SEDIMENT INTO STORM SEWERS OR DRAINAGE WAYS MUST NOT OCCUR. VACUUMING OR DRY SWEEPING AND MATERIAL PICKUP MUST BE USED TO CLEAN UP RELEASED SEDIMENTS. (SCHEDULE A.9.B.II)
26. THE ENTIRE SITE MUST BE TEMPORARILY STABILIZED USING VEGETATION OR A HEAVY MULCH LAYER, TEMPORARY SEEDING, OR OTHER METHOD SHOULD ALL CONSTRUCTION ACTIVITIES CEASE FOR 30 DAYS OR MORE. (SCHEDULE A.7.F.I)
27. PROVIDE TEMPORARY STABILIZATION FOR THAT PORTION OF THE SITE WHERE CONSTRUCTION ACTIVITIES CEASE FOR 14 DAYS OR MORE WITH A COVERING OF BLOWN STRAW AND A TACKIFIER, LOOSE STRAW, OR AN ADEQUATE COVERING OF COMPOST MULCH UNTIL WORK RESUMES ON THAT PORTION OF THE SITE. (SCHEDULE A.7.F.II)
28. PROVIDE PERMANENT EROSION CONTROL MEASURES ON ALL EXPOSED AREAS. DO NOT REMOVE TEMPORARY SEDIMENT CONTROL PRACTICES UNTIL PERMANENT VEGETATION OR OTHER COVER OF EXPOSED AREAS IS ESTABLISHED. HOWEVER, DO REMOVE ALL TEMPORARY EROSION CONTROL MEASURES AS EXPOSED AREAS BECOME STABILIZED, UNLESS DOING SO CONFLICTS WITH LOCAL REQUIREMENTS. PROPERLY DISPOSE OF CONSTRUCTION MATERIALS AND WASTE, INCLUDING SEDIMENT RETAINED BY TEMPORARY BMPs. (SCHEDULE A.7.A.V.(2) AND A.8.C.II)
29. IF WATER OF THE STATE IS WITHIN THE PROJECT SITE OR WITHIN 50 FEET OF THE PROJECT BOUNDARY, MAINTAIN THE EXISTING NATURAL BUFFER WITHIN THE 50-FOOT ZONE FOR THE DURATION OF THE PERMIT COVERAGE, OR MAINTAIN LESS THAN THE ENTIRE EXISTING NATURAL BUFFER AND PROVIDE ADDITIONAL EROSION AND SEDIMENT CONTROL BMPs. (SCHEDULE A.7.B.I)

LOCAL AGENCY-SPECIFIC EROSION CONTROL NOTES:

1. IF VEGETATIVE SEED MIXES ARE SPECIFIED, SEEDING MUST TAKE PLACE NO LATER THAN SEPTEMBER 1; THE TYPE AND PERCENTAGES OF SEED IN THE MIX MUST BE IDENTIFIED ON THE PLANS.
2. ALL PUMPS OF SEDIMENT LADEN WATER SHALL BE DISCHARGED OVER AN UNDISTURBED, PREFERABLY VEGETATED AREA, AND THROUGH A SEDIMENT CONTROL BMP I.E. (FILTER BAG)
3. ALL EXPOSED SOILS MUST BE COVERED DURING THE WET WEATHER PERIOD, OCTOBER 1 - MAY 31.

BMP MATRIX FOR CONSTRUCTION PHASES

REFER TO DEQ GUIDANCE MANUAL FOR A COMPREHENSIVE LIST OF AVAILABLE BMP'S

	CLEARING	MASS GRADING	UTILITY INSTALLATION	STREET AND SITE CONSTRUCTION	FINAL STABILIZATION	WET WEATHER (10/1-5/31)
EROSION PREVENTION						
PRESERVE NATURAL VEGETATION	X	X	X	X	X	X
GROUND COVER					X	
HYDRAULIC APPLICATIONS						
PLASTIC SHEETING						X
DUST CONTROL	X	X	X	X	X	
TEMPORARY/PERMANENT SEEDING					X	X
BUFFER ZONE	X	X	X	X	X	X
OTHER:						
SEDIMENT CONTROL						
SEDIMENT FENCE (PERIMETER)	**X	X	X	X	X	X
SEDIMENT FENCE (INTERIOR)						
STRAW WATTLES			X	X	X	X
INLET PROTECTION	**X	X	X	X	X	X
MATTING					X	X
SEDIMENT TRAP						
NATURAL BUFFER ENCROACHMENT	*X	*X	*X	*X	*X	*X
OTHER:						
RUN OFF CONTROL						
CONSTRUCTION ENTRANCE	**X	X	X	X		X
PIPE SLOPE DRAIN						
OUTLET PROTECTION			X		X	X
SURFACE ROUGHENING		X			X	
OTHER:						
POLLUTION PREVENTION						
PROPER SIGNAGE	X	X	X	X	X	X
HAZARDOUS WASTE MANAGEMENT	X	X	X	X	X	X
SPILL KIT ON-SITE	X	X	X	X	X	X
CONCRETE WASHOUT AREA			X	X		X
OTHER:						

* SIGNIFIES ADDITIONAL BMP'S REQUIRED FOR WORK WITHIN 50' OF WATER OF THE STATE
** SIGNIFIES BMP THAT WILL BE INSTALLED PRIOR TO ANY GROUND DISTURBING ACTIVITY.

INSPECTION FREQUENCY:

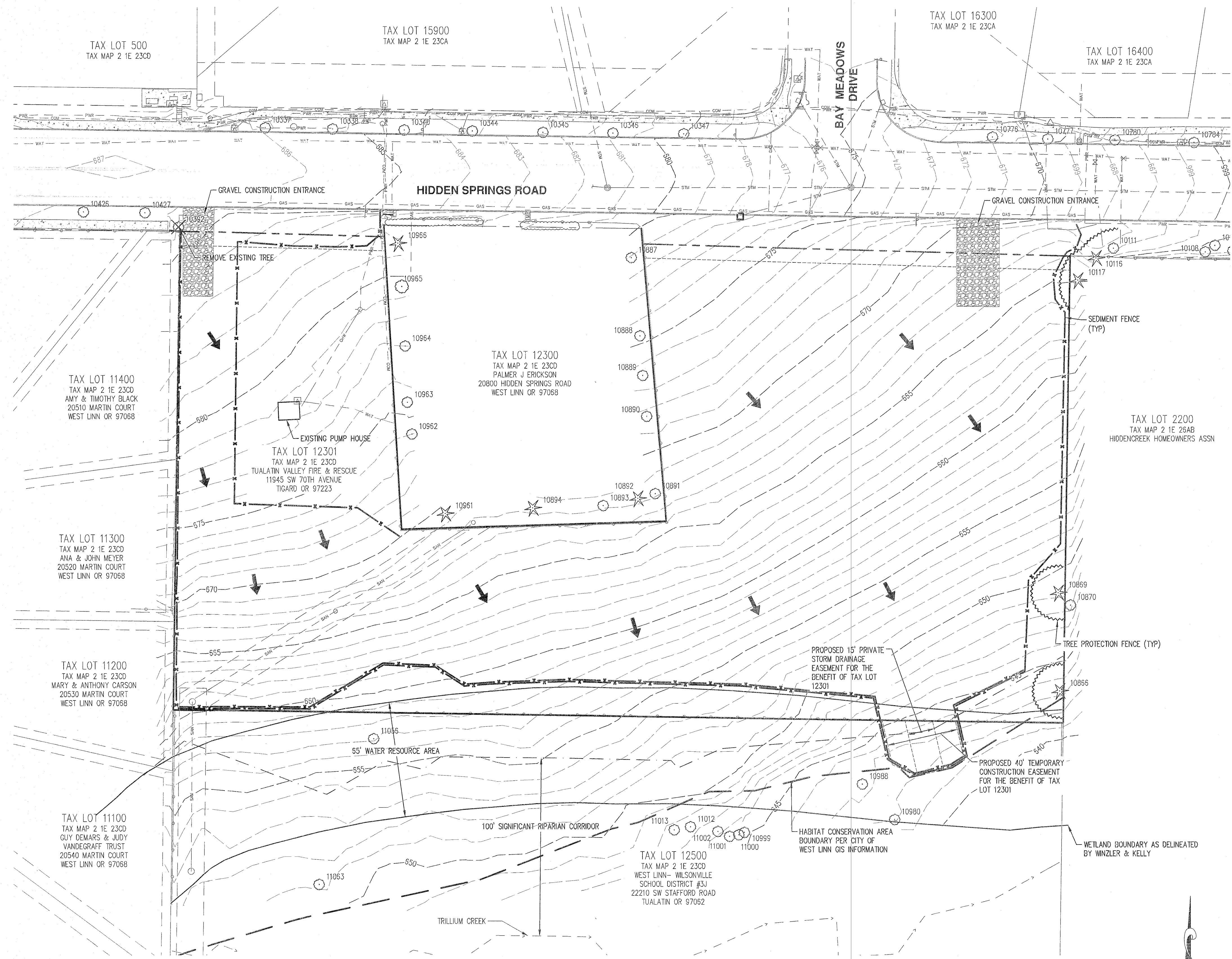
SITE CONDITION	MINIMUM FREQUENCY
1. ACTIVE PERIOD	DAILY WHEN STORMWATER RUNOFF, INCLUDING RUNOFF FROM SNOWMELT, IS OCCURRING. AT LEAST ONCE EVERY FOURTEEN (14) CALENDAR DAYS REGARDLESS OF WHETHER STORMWATER RUNOFF IS OCCURRING.
2. PRIOR TO THE SITE BECOMING INACTIVE OR IN ANTICIPATION OF SITE INACCESSIBILITY.	ONCE TO ENSURE THAT EROSION AND SEDIMENT CONTROL MEASURES ARE IN WORKING ORDER. ANY NECESSARY MAINTENANCE AND REPAIR MUST BE MADE PRIOR TO LEAVING THE SITE.
3. INACTIVE PERIODS GREATER THAN SEVEN (7) CONSECUTIVE CALENDAR DAYS.	ONCE EVERY MONTH.
4. PERIODS DURING WHICH THE SITE IS INACCESSIBLE DUE TO INCLEMENT WEATHER.	IF PRACTICAL, INSPECTIONS MUST OCCUR DAILY AT A RELEVANT AND ACCESSIBLE DISCHARGE POINT OR DOWNSTREAM LOCATION.
5. PERIODS DURING WHICH DISCHARGE IS UNLIKELY DUE TO FROZEN CONDITIONS.	MONTHLY, RESUME MONITORING IMMEDIATELY UPON MELT, OR WHEN WEATHER CONDITIONS MAKE DISCHARGES LIKELY.

- * HOLD A PRE-CONSTRUCTION MEETING OF PROJECT CONSTRUCTION PERSONNEL THAT INCLUDES THE INSPECTOR TO DISCUSS EROSION AND SEDIMENT CONTROL MEASURES AND CONSTRUCTION LIMITS. (SCHEDULE A.8.C.I.(3))
- * ALL INSPECTIONS MUST BE MADE IN ACCORDANCE WITH CITY OF WEST LINN'S 1200CN PERMIT REQUIREMENTS.
- * INSPECTION LOGS MUST BE KEPT IN ACCORDANCE WITH CITY OF WEST LINN'S 1200CN PERMIT REQUIREMENTS.
- * RETAIN A COPY OF THE ESCP AND ALL REVISIONS ON SITE AND MAKE IT AVAILABLE ON REQUEST TO DEQ, AGENT, OR THE LOCAL MUNICIPALITY. DURING INACTIVE PERIODS OF GREATER THAN SEVEN (7) CONSECUTIVE CALENDAR DAYS, RETAIN THE ESCP AT THE CONSTRUCTION SITE OR AT ANOTHER LOCATION. (SCHEDULE B.2.A)

RATIONALE STATEMENT

A COMPREHENSIVE LIST OF AVAILABLE BEST MANAGEMENT PRACTICES (BMP) OPTIONS BASED ON DEQ'S GUIDANCE MANUAL HAS BEEN REVIEWED TO COMPLETE THIS EROSION AND SEDIMENT CONTROL PLAN. SOME OF THE ABOVE LISTED BMP'S WERE NOT CHOSEN BECAUSE THEY WERE DETERMINED TO NOT EFFECTIVELY MANAGE EROSION PREVENTION AND SEDIMENT CONTROL FOR THIS PROJECT BASED ON SPECIFIC SITE CONDITIONS, INCLUDING SOIL CONDITIONS TOPOGRAPHIC CONSTRAINTS, ACCESSIBILITY TO THE SITE, AND OTHER RELATED CONDITIONS, AS THE PROJECT PROGRESSES AND THERE IS A NEED TO REVISE THE ESC PLAN, AN ACTION PLAN WILL BE SUBMITTED.

INITIAL



TREE PRESERVATION/REMOVAL TABLE:

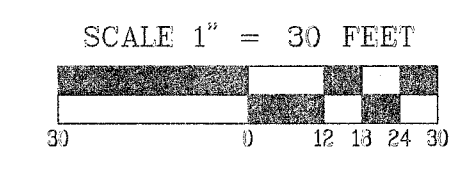
TREE NUMBER	SPECIES	DBH(IN.)	REMOVE/PRESERVE
10096	CONIFEROUS	26	PRESERVE
10098	DECIDUOUS	10,10	PRESERVE
10101	DECIDUOUS	10	PRESERVE
10102	DECIDUOUS	10	PRESERVE
10104	DECIDUOUS	12	PRESERVE
10105	DECIDUOUS	6	PRESERVE
10106	DECIDUOUS	10	PRESERVE
10108	DECIDUOUS	14	PRESERVE
10111	DECIDUOUS	8,8,8,8	PRESERVE
10116	CONIFEROUS	30	PRESERVE
10117	CONIFEROUS	8	PRESERVE
10337	DECIDUOUS	12	PRESERVE
10338	DECIDUOUS	12	PRESERVE
10340	DECIDUOUS	12	PRESERVE
10344	DECIDUOUS	12	PRESERVE
10345	DECIDUOUS	12	PRESERVE
10346	DECIDUOUS	12	PRESERVE
10347	DECIDUOUS	12	PRESERVE
10392	DECIDUOUS	8,8	REMOVE
10415	DECIDUOUS	14	PRESERVE
10418	DECIDUOUS	10	PRESERVE
10419	DECIDUOUS	14	PRESERVE
10426	DECIDUOUS	14	PRESERVE
10427	DECIDUOUS	14	PRESERVE
10776	DECIDUOUS	12	PRESERVE
10777	DECIDUOUS	12	PRESERVE
10780	DECIDUOUS	12	PRESERVE
10784	DECIDUOUS	12	PRESERVE
10785	DECIDUOUS	10	PRESERVE
10786	DECIDUOUS	12	PRESERVE
10787	DECIDUOUS	12	PRESERVE
10866	CONIFEROUS	30	PRESERVE
10869	CONIFEROUS	26	PRESERVE
10870	DECIDUOUS	6,6,6,6	PRESERVE
10887	DECIDUOUS	10	PRESERVE
10888	DECIDUOUS	10	PRESERVE
10889	DECIDUOUS	20	PRESERVE
10890	DECIDUOUS	10	PRESERVE
10891	DECIDUOUS	6	PRESERVE
10892	CONIFEROUS	28	PRESERVE
10893	DECIDUOUS	12	PRESERVE
10894	CONIFEROUS	14	PRESERVE
10961	CONIFEROUS	16	PRESERVE
10962	DECIDUOUS	12	PRESERVE
10963	DECIDUOUS	16	PRESERVE
10964	DECIDUOUS	18	PRESERVE
10965	DECIDUOUS	20	PRESERVE
10966	CONIFEROUS	36	PRESERVE

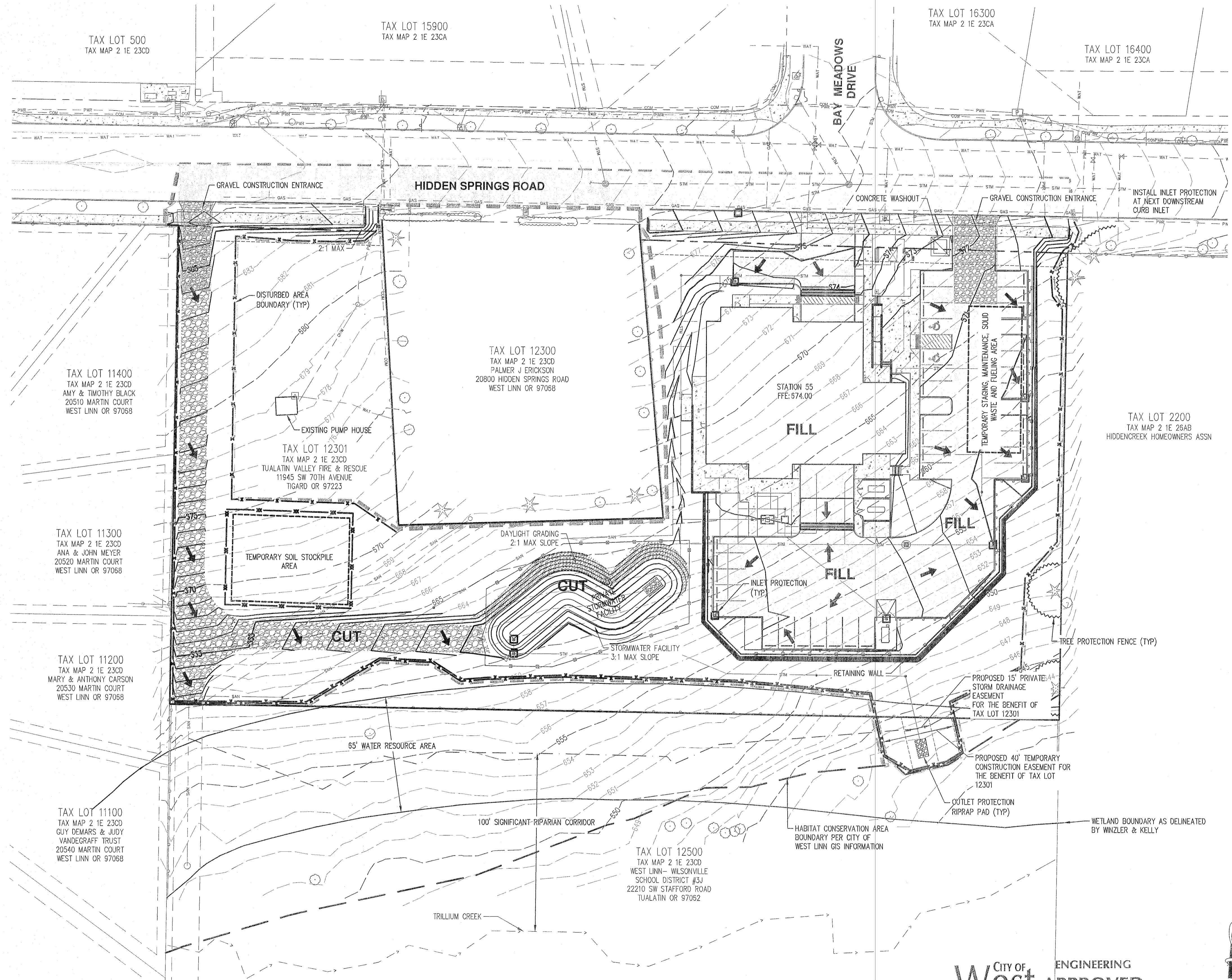
LEGEND

- EXISTING GROUND CONTOUR (2 FT)
- EXISTING GROUND CONTOUR (10 FT)
- EXISTING TREE TO REMAIN
- EXISTING TREE TO BE REMOVED
- SEDIMENT FENCE OR STRAW WATTLE
- TREE PROTECTION FENCE
- DRAINAGE FLOW ARROW
- INLET PROTECTION
- GRAVEL CONSTRUCTION ENTRANCE

PRE-CONSTRUCTION, CLEARING, AND DEMOLITION NOTES:

- ALL BASE ESC MEASURES (INLET PROTECTION, PERIMETER SEDIMENT CONTROL, GRAVEL CONSTRUCTION ENTRANCES, ETC.) MUST BE IN PLACE, FUNCTIONAL, AND APPROVED IN AN INITIAL INSPECTION, PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITIES.
- SEDIMENT BARRIERS APPROVED FOR USE INCLUDE SEDIMENT FENCE, BERMS CONSTRUCTED OUT OF MULCH, CHIPPINGS, OR OTHER SUITABLE MATERIAL, STRAW WATTLES, OR OTHER APPROVED MATERIALS.
- SENSITIVE RESOURCES INCLUDING, BUT NOT LIMITED TO, TREES, WETLANDS, AND RIPARIAN PROTECTION AREAS SHALL BE CLEARLY DELINEATED WITH ORANGE CONSTRUCTION FENCING OR CHAIN LINK FENCING IN A MANNER THAT IS CLEARLY VISIBLE TO ANYONE IN THE AREA. NO ACTIVITIES ARE PERMITTED TO OCCUR BEYOND THE CONSTRUCTION BARRIER.
- CONSTRUCTION ENTRANCES SHALL BE INSTALLED AT THE BEGINNING OF CONSTRUCTION AND MAINTAINED FOR THE DURATION OF THE PROJECT. ADDITIONAL MEASURES, INCLUDING, BUT NOT LIMITED TO, STREET SWEEPING AND VACUUMING, MAY BE REQUIRED TO INSURE THAT ALL PAVED AREAS ARE KEPT CLEAN FOR THE DURATION OF THE PROJECT.
- RUN-ON AND RUN-OFF CONTROLS SHALL BE IN PLACE AND FUNCTIONING PRIOR TO BEGINNING SUBSTANTIAL CONSTRUCTION ACTIVITIES. RUN-ON AND RUN-OFF CONTROL MEASURES INCLUDE: SLOPE DRAINS (WITH OUTLET PROTECTION), CHECK DAMS, SURFACE ROUGHENING, AND BANK STABILIZATION.
- AREAS SUBJECT TO WIND EROSION SHALL USE APPROPRIATE DUST CONTROL MEASURES INCLUDING THE APPLICATION OF A FINE SPRAY OF WATER, PLASTIC SHEETING, STRAW MULCHING, OR OTHER APPROVED MEASURES. PROJECT SITE AND DISTURBED AREA ARE TO BE PROPERLY MAINTAINED TO MINIMIZE DUST GENERATION.





GRADING, STREET AND UTILITY EROSION AND SEDIMENT CONSTRUCTION NOTES:

- SEED USED FOR TEMPORARY OR PERMANENT SEEDING SHALL BE COMPOSED OF ONE OF THE FOLLOWING MIXTURES, UNLESS OTHERWISE AUTHORIZED:
 - VEGETATED CORRIDOR AREAS REQUIRE NATIVE SEED MIXES. SEE RESTORATION PLAN FOR APPROPRIATE SEED MIX.
 - DWARF GRASS MIX (MIN. 100 LB./AC.)
 - DWARF PERENNIAL RYEGRASS (80% BY WEIGHT)
 - CREeping RED FESCUE (20% BY WEIGHT)
 - STANDARD HEIGHT GRASS MIX (MIN. 100LB./AC.)
 - ANNUAL RYEGRASS (40% BY WEIGHT)
 - TURF-TYPE FESCUE (60% BY WEIGHT)
- SLOPE TO RECEIVE TEMPORARY OR PERMANENT SEEDING SHALL HAVE THE SURFACE ROUGHENED BY MEANS OF TRACK-WALKING OR THE USE OF OTHER APPROVED IMPLEMENTS. SURFACE ROUGHENING IMPROVES SEED BEDDING AND REDUCES RUN-OFF VELOCITY.
- LONG TERM STABILIZATION MEASURES SHALL INCLUDE THE ESTABLISHMENT OF PERMANENT VEGETATIVE COVER VIA SEEDING WITH APPROVED MIX AND APPLICATION RATE.
- TEMPORARY STABILIZATION MEASURES SHALL INCLUDE: COVERING EXPOSED SOIL WITH PLASTIC SHEETING, STRAW MULCHING, WOOD CHIPS, OR OTHER APPROVED MEASURES.
- STOCKPILED SOIL OR STRIPPINGS SHALL BE PLACED IN A STABLE LOCATION AND CONFIGURATION. DURING "WET WEATHER" PERIODS, STOCKPILES SHALL BE COVERED WITH PLASTIC SHEETING OR STRAW MULCH. SEDIMENT FENCE IS REQUIRED AROUND THE PERIMETER OF THE STOCKPILE.
- EXPOSED CUT OR FILL AREAS SHALL BE STABILIZED THROUGH THE USE OF TEMPORARY SEEDING AND MULCHING, EROSION CONTROL BLANKETS OR SLOPE MATTING, MID-SLOPE SEDIMENT FENCES OR WATTLES, OR OTHER APPROPRIATE MEASURES. SLOPES EXCEEDING 25% MAY REQUIRE ADDITIONAL EROSION CONTROL MEASURES AS NEEDED.
- AREAS SUBJECT TO WIND EROSION SHALL USE APPROPRIATE DUST CONTROL MEASURES INCLUDING THE APPLICATION OF A FINE SPRAY OF WATER, PLASTIC SHEETING, STRAW MULCHING, OR OTHER APPROVED MEASURES.
- CONSTRUCTION ENTRANCES SHALL BE INSTALLED AT THE BEGINNING OF CONSTRUCTION AND MAINTAINED FOR THE DURATION OF THE PROJECT. ADDITIONAL MEASURES INCLUDING BUT NOT LIMITED TO, TIRE WASHES, STREET SWEEPING, AND VACUUMING MAY BE REQUIRED TO INSURE THAT ALL PAVED AREAS ARE KEPT CLEAN FOR THE DURATION OF THE PROJECT.
- ACTIVE INLETS TO STORM WATER SYSTEMS SHALL BE PROTECTED THROUGH THE USE OF APPROVED INLET PROTECTION MEASURES. ALL INLET PROTECTION MEASURES ARE TO BE REGULARLY INSPECTED AND MAINTAINED AS NEEDED.
- SATURATED MATERIALS THAT ARE HAULED OFF-SITE MUST BE TRANSPORTED IN WATER-TIGHT TRUCKS TO ELIMINATE SPILLAGE OF SEDIMENT AND SEDIMENT-LADEN WATER.
- AN AREA SHALL BE PROVIDED FOR THE WASHING OUT OF CONCRETE TRUCKS IN A LOCATION THAT DOES NOT PROVIDE RUN-OFF THAT CAN ENTER THE STORMWATER SYSTEM. IF THE CONCRETE WASH-OUT AREA CAN NOT BE CONSTRUCTED GREATER THAN 50' FROM ANY DISCHARGE POINT, SECONDARY MEASURES SUCH AS BERMS OR TEMPORARY SETTLING PITS MAY BE REQUIRED. THE WASH-OUT SHALL BE LOCATED WITHIN SIX FEET OF TRUCK ACCESS AND BE CLEANED WHEN IT REACHES 50% OF THE CAPACITY.
- SWEEPINGS FROM EXPOSED AGGREGATE CONCRETE SHALL NOT BE TRANSFERRED TO THE STORM WATER SYSTEM. SWEEPINGS SHALL BE PICKED UP AND DISPOSED IN THE TRASH.
- AVOID PAVING IN WET WEATHER WHEN PAVING CHEMICALS CAN RUN-OFF INTO THE STORM WATER SYSTEM.
- USE BMPs SUCH AS CHECK-DAMS, BERMS, AND INLET PROTECTION TO PREVENT RUN-OFF FROM REACHING DISCHARGE POINTS.
- COVER CATCH BASINS, MANHOLES, AND OTHER DISCHARGE POINTS WHEN APPLYING SEAL COAT, TACK COAT, ETC. TO PREVENT INTRODUCING THESE MATERIALS TO THE STORMWATER SYSTEM.
- PROJECT SITE AND DISTURBED AREAS TO BE PROPERLY MAINTAINED TO MINIMIZE DUST GENERATION.

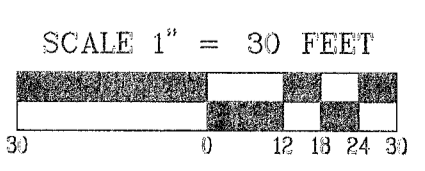
EROSION AND SEDIMENT CONTROL BMP IMPLEMENTATION:

- ALL BASE ESC MEASURES (INLET PROTECTION, PERIMETER SEDIMENT CONTROL, GRAVEL CONSTRUCTION ENTRANCES, ETC.) MUST BE IN PLACE, FUNCTIONAL, AND APPROVED IN AN INITIAL INSPECTION, PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITIES.
- ALL "SEDIMENT BARRIERS (TO BE INSTALLED AFTER GRADING)" SHALL BE INSTALLED IMMEDIATELY FOLLOWING ESTABLISHMENT OF FINISHED GRADE AS SHOWN ON THESE PLANS.
- LONG TERM STABILIZATION MEASURES INCLUDING SLOPE MATTING SHALL BE IN PLACE OVER ALL EXPOSED SOILS BY OCTOBER 1.
- INLET PROTECTION SHALL BE IN-PLACE IMMEDIATELY FOLLOWING PAVING ACTIVITIES.

LEGEND

EXISTING GROUND CONTOUR (1 FT)	---
EXISTING GROUND CONTOUR (5 FT)	-----
FINISHED GRADE CONTOUR (1 FT)	—●—
FINISHED GRADE CONTOUR (5 FT)	—●●—
EXISTING TREE TO REMAIN	○ ★
DISTURBANCE BOUNDARY	--- --- ---
SEDIMENT FENCE OR STRAW WATTLE	—x—x—x—x—
TREE PROTECTION FENCE	~ ~ ~ ~ ~
DRAINAGE FLOW ARROW	→
INLET PROTECTION	□
SLOPE MATTING (AMERICAN GREEN S150)	▨
GRAVEL CONSTRUCTION ENTRANCE	▩

City of **West Linn** ENGINEERING
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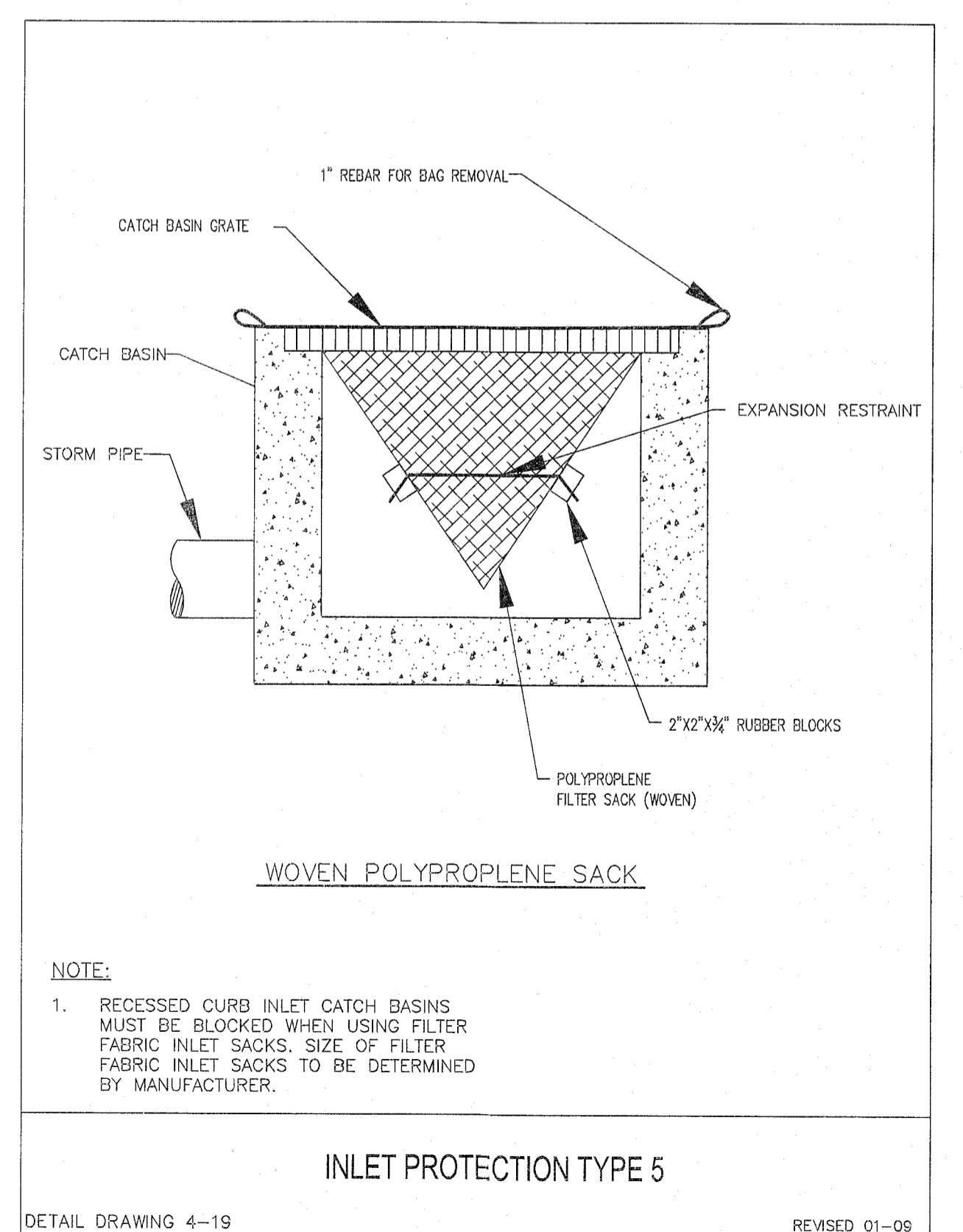
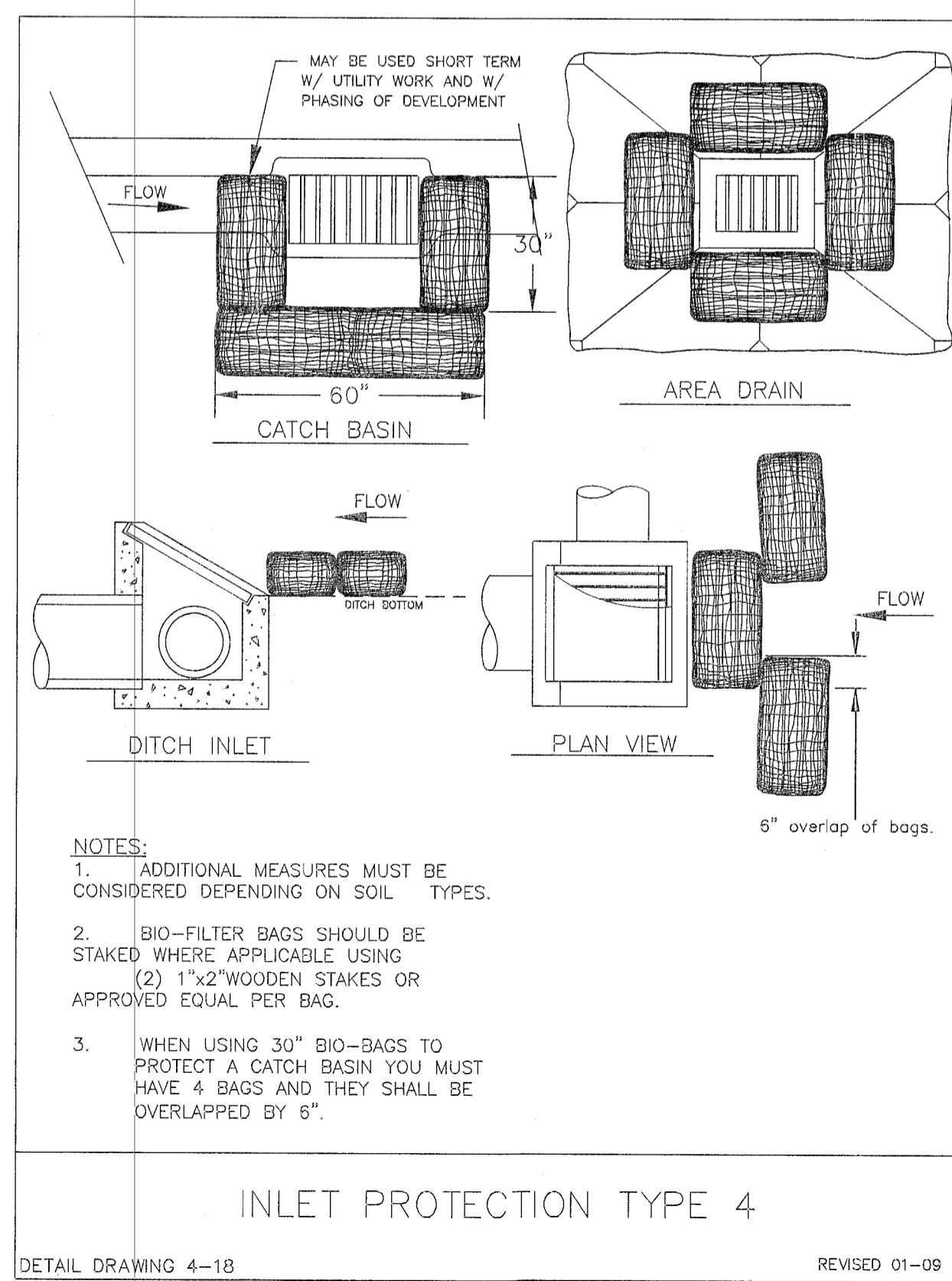
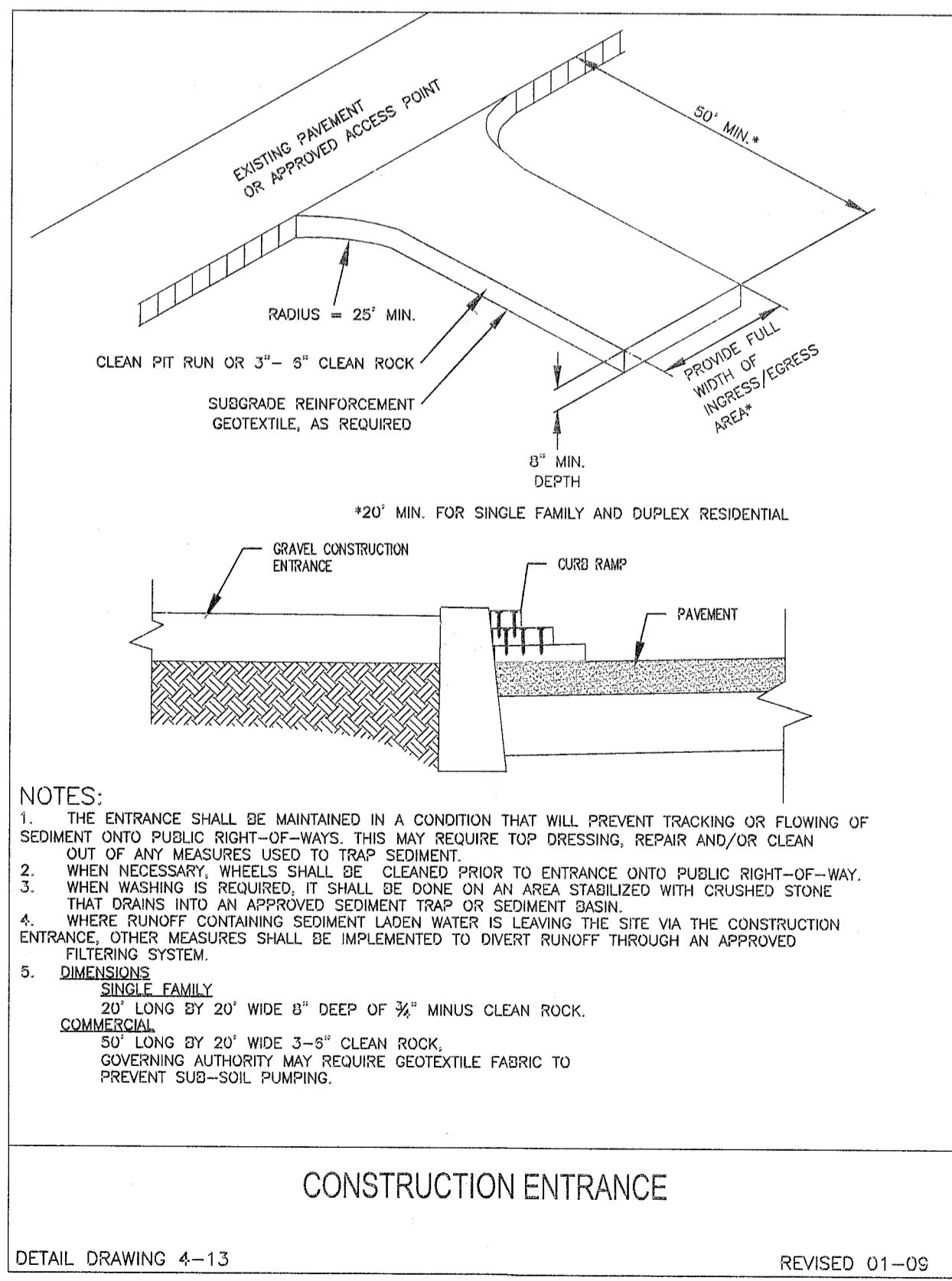
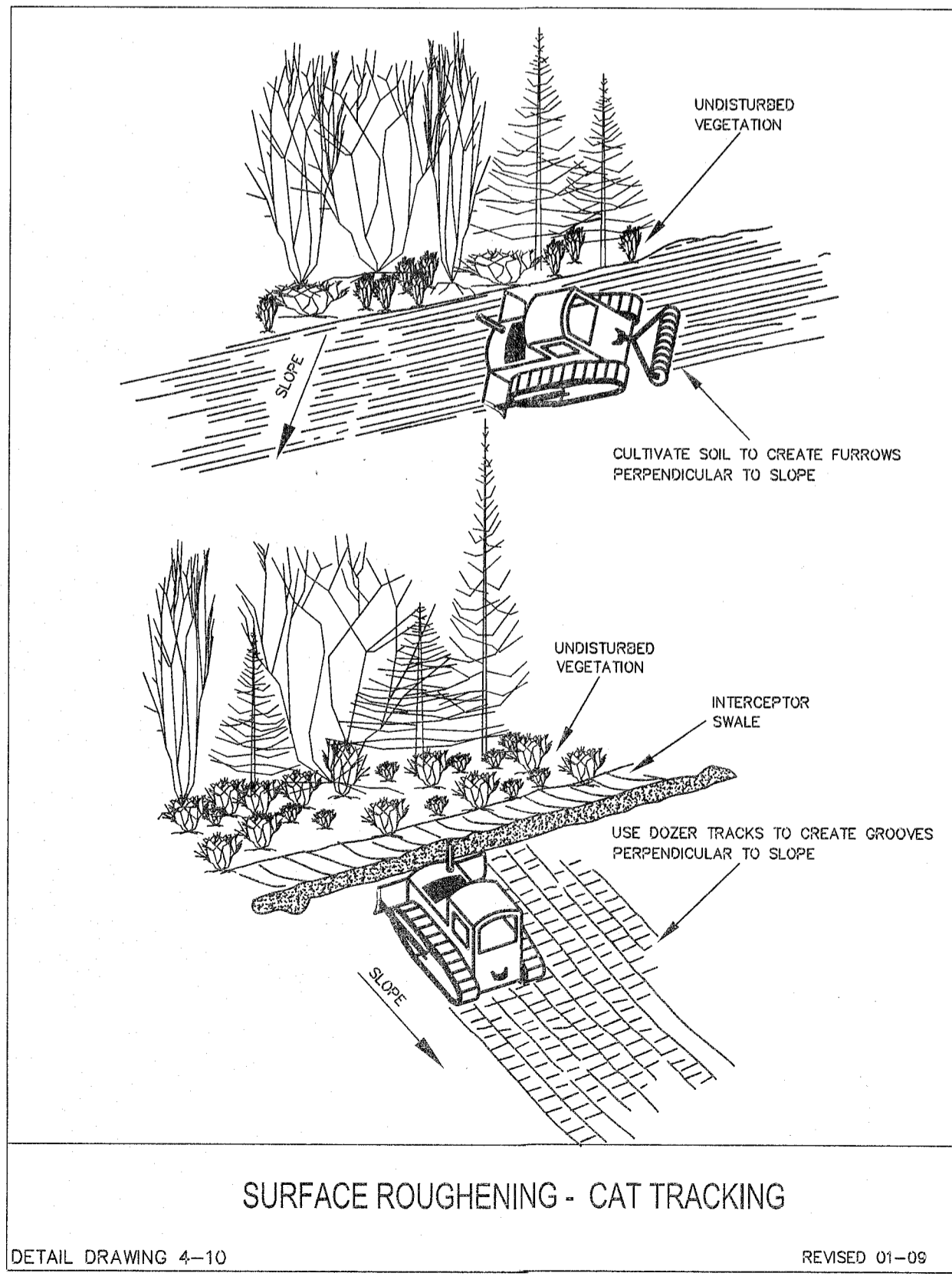
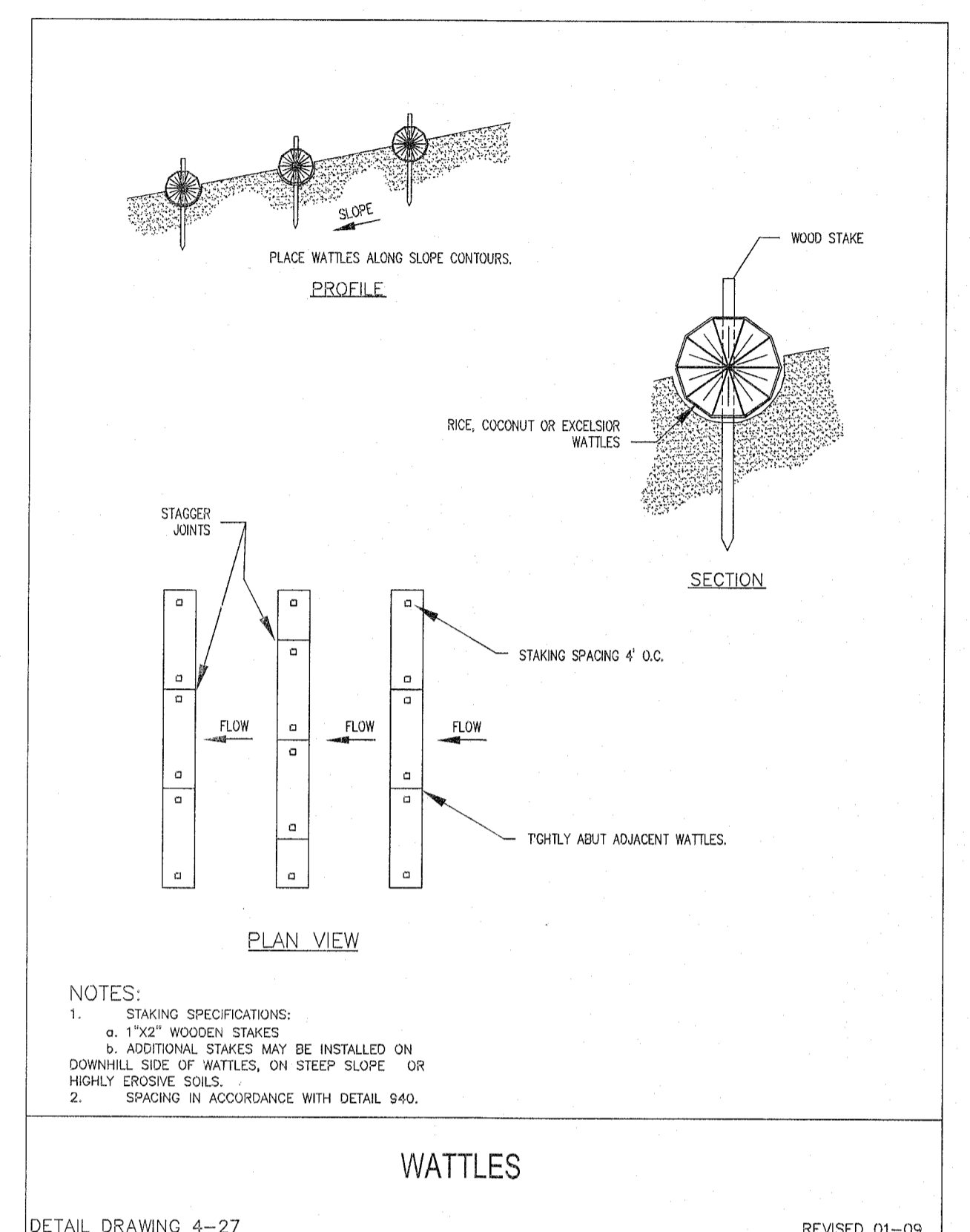
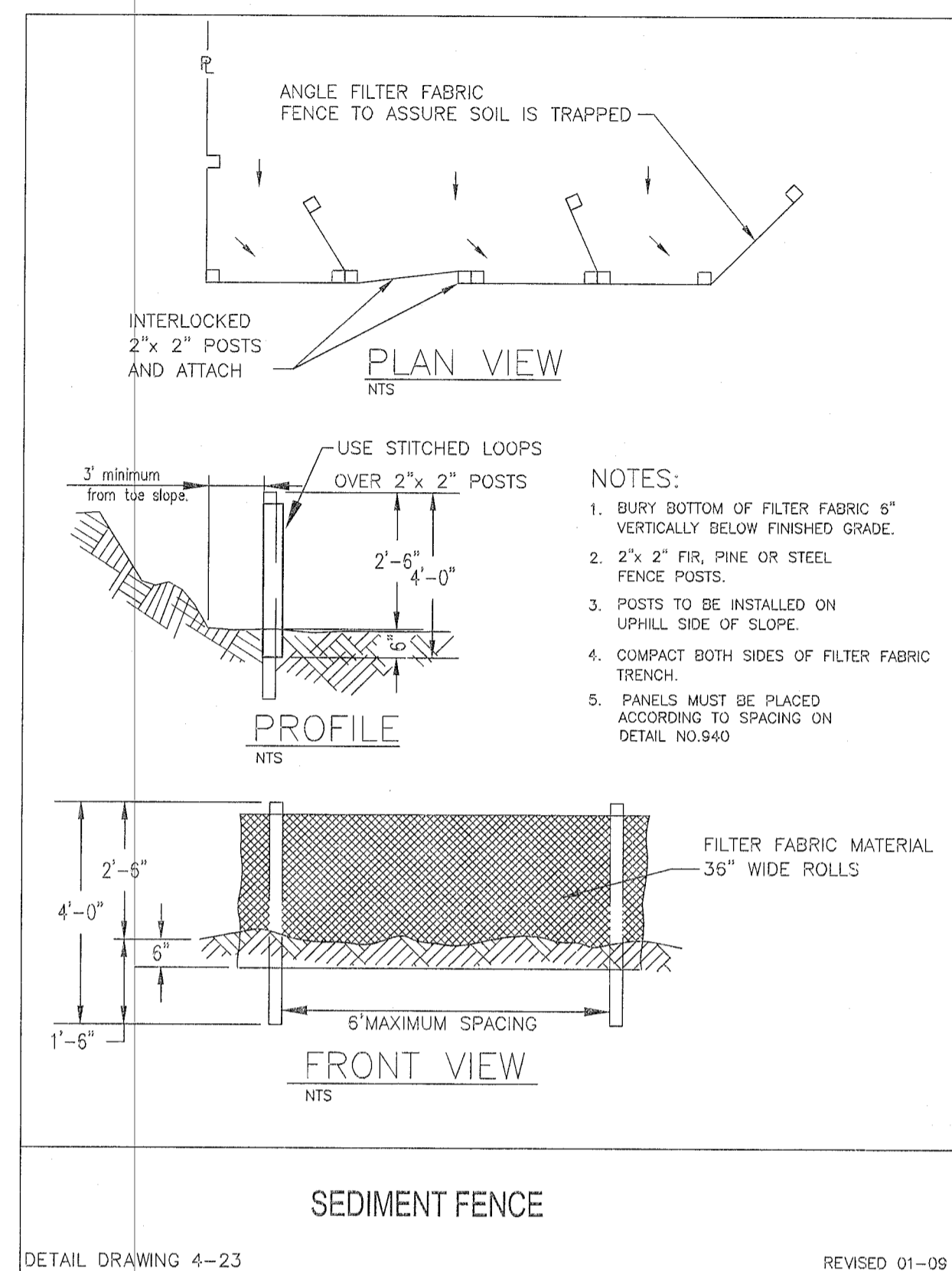
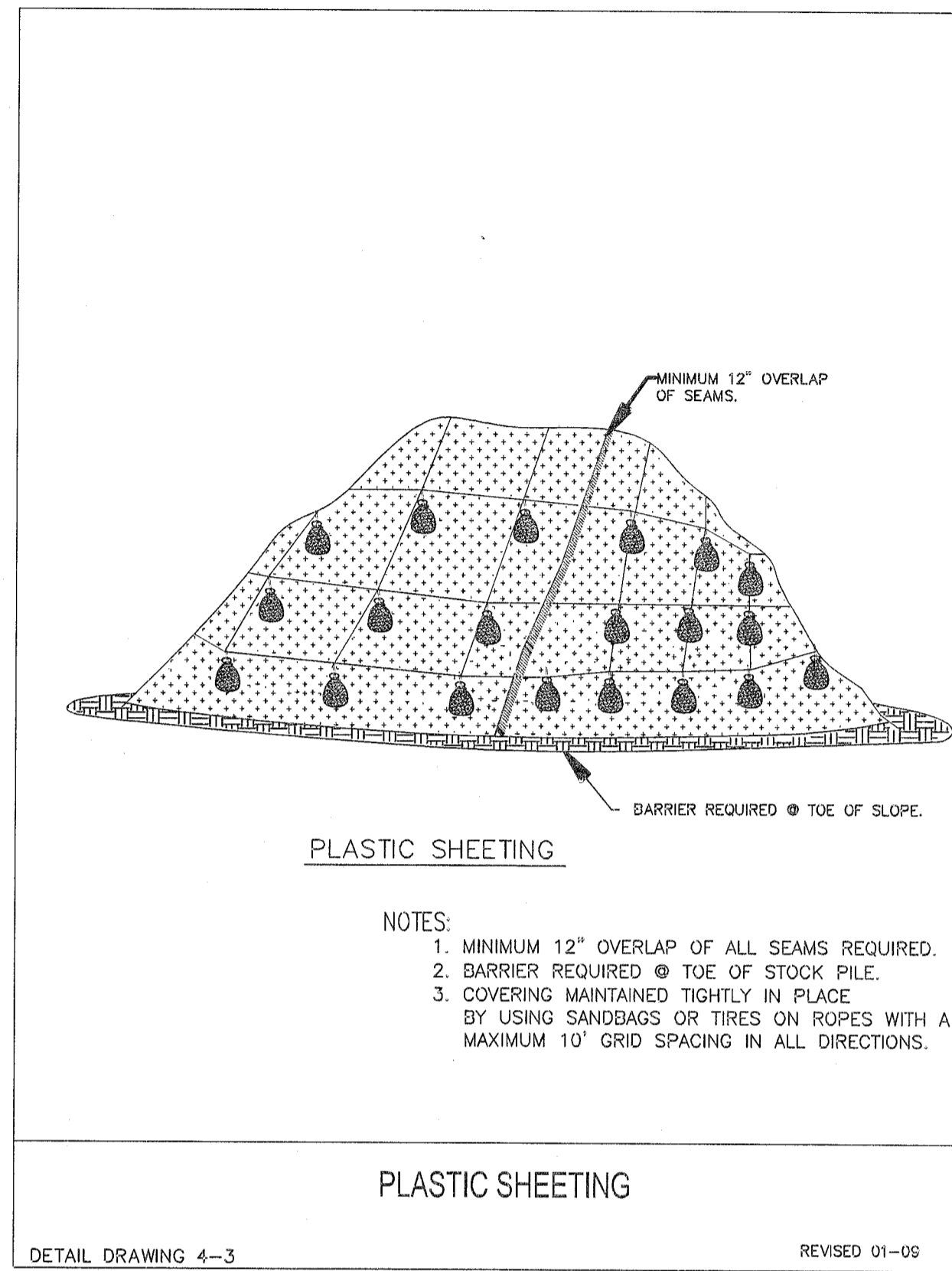
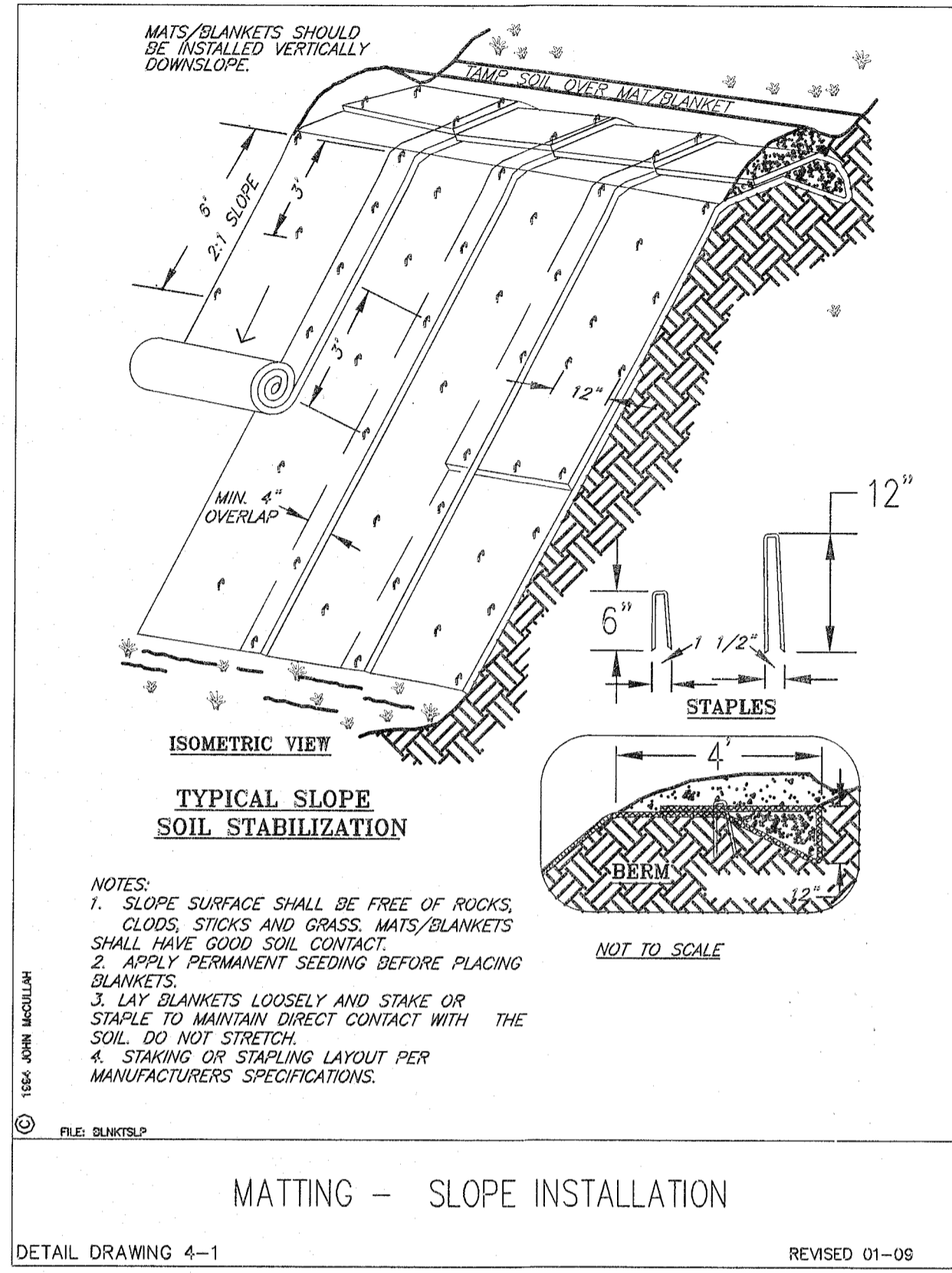
TVFR STATION 55
OREGON
 CLACKAMAS COUNTY TAX MAP 2 1E 23CD
WEST LINN
 TAX LOT 12301

GRADING & UTILITY CONSTRUCTION EROSION & SEDIMENT CONTROL PLAN

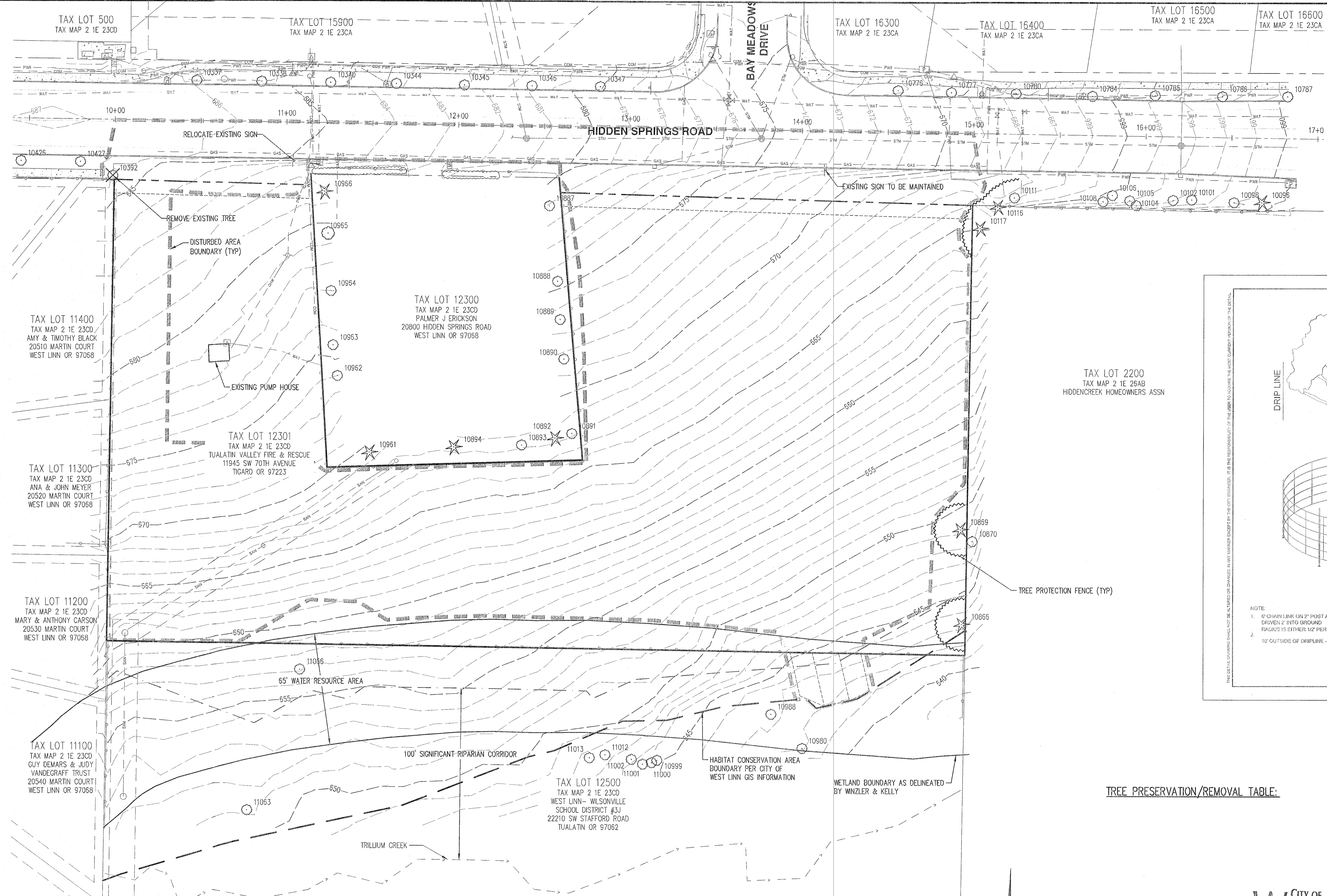
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 SCALE: AS NOTED
 DATE: 5/15/2017

 REVISIONS:

JOB NUMBER
4757
 SHEET
C2.3



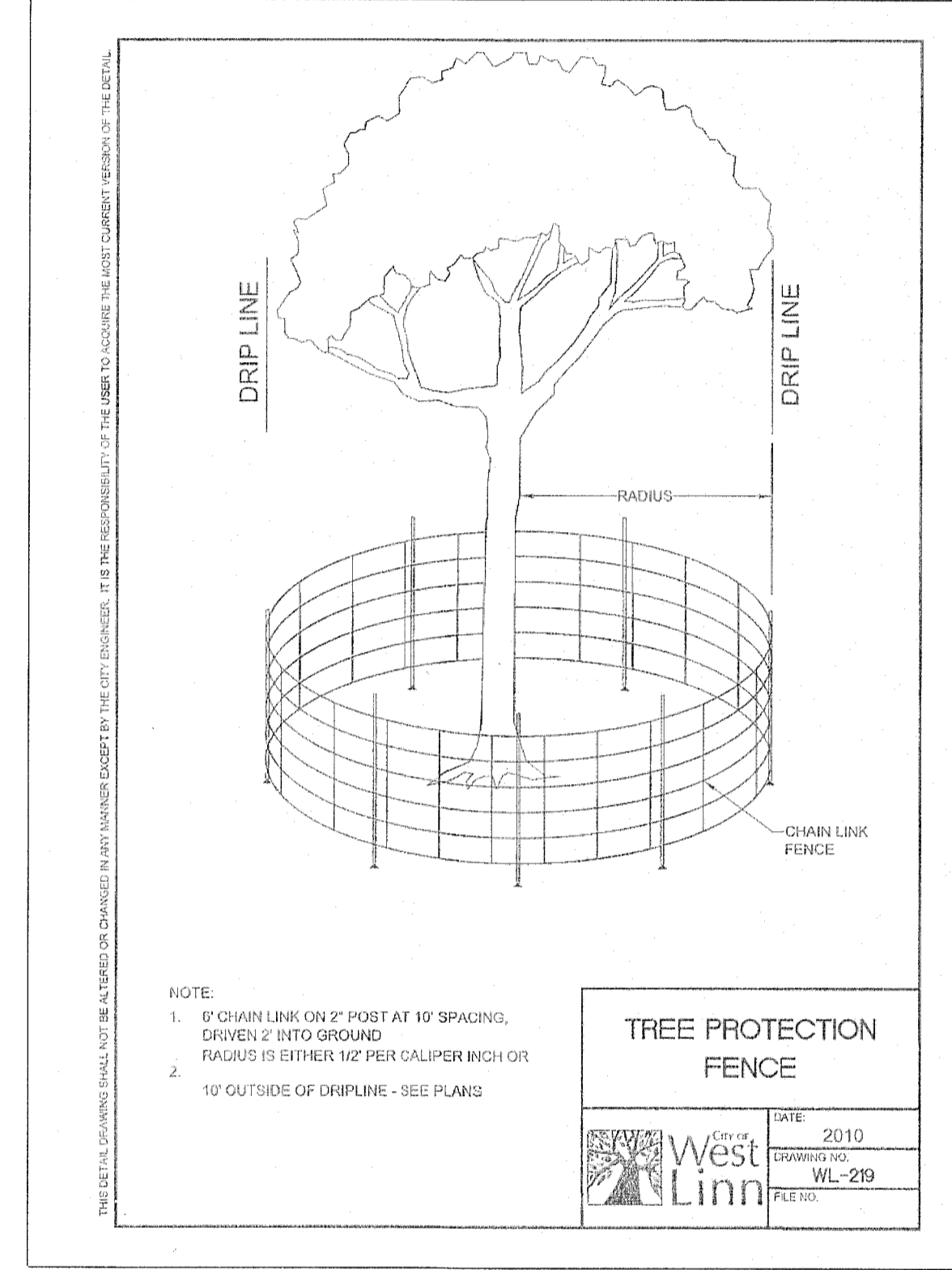
AKS DRAWING FILE: 4757 C2.4 ESP DETAILS.DWG | LAYOUT: C2.4



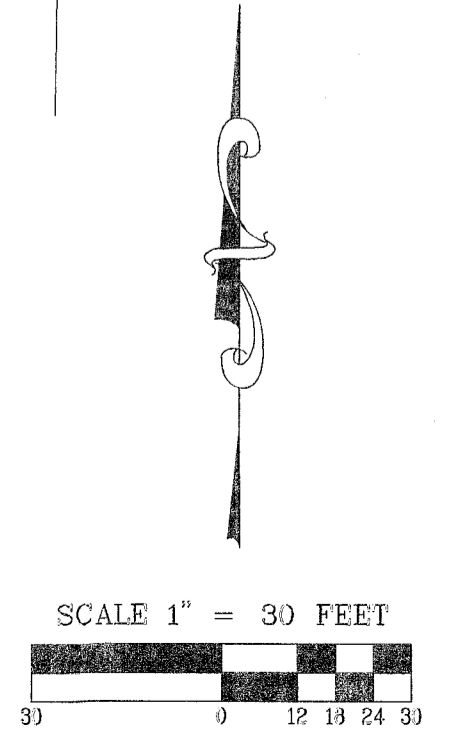
LEGEND

EXISTING GROUND CONTOUR (1 FT)	---
EXISTING GROUND CONTOUR (5 FT)	--- 400 ---
EXISTING TREE TO REMAIN	⊙ ✱
EXISTING TREE TO BE REMOVED	⊗ ✱
DISTURBANCE BOUNDARY	-----
TREE PROTECTION FENCE	~~~~~

- GENERAL NOTES:**
- MATERIALS AND DEBRIS SHALL BE REMOVED AND DISPOSED OF IN ACCORDANCE WITH DEQ, OSHA, AND ALL APPLICABLE RULES AND REGULATIONS.
 - CONTRACTOR TO COORDINATE THE REMOVAL AND/OR RELOCATION AND DISPOSAL OF ALL NECESSARY UTILITIES WITH THE APPROPRIATE SERVICE PROVIDERS AND PROPERTY OWNERS. THIS PLAN SHOWS UTILITIES THAT ARE OBSERVABLE FROM THE SURFACE. ADDITIONAL UTILITIES MAY EXIST. CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING AND REMOVAL/RELOCATION OF ALL UTILITIES NECESSARY FOR THE CONSTRUCTION OF THE SITE IMPROVEMENTS. CONTRACTOR IS RESPONSIBLE FOR BACKFILLING UTILITY TRENCHES AFTER UTILITIES ARE REMOVED/RELOCATED IN ACCORDANCE WITH THE PROJECT GEOTECHNICAL ENGINEER'S REQUIREMENTS.



TREE PRESERVATION/REMOVAL TABLE:



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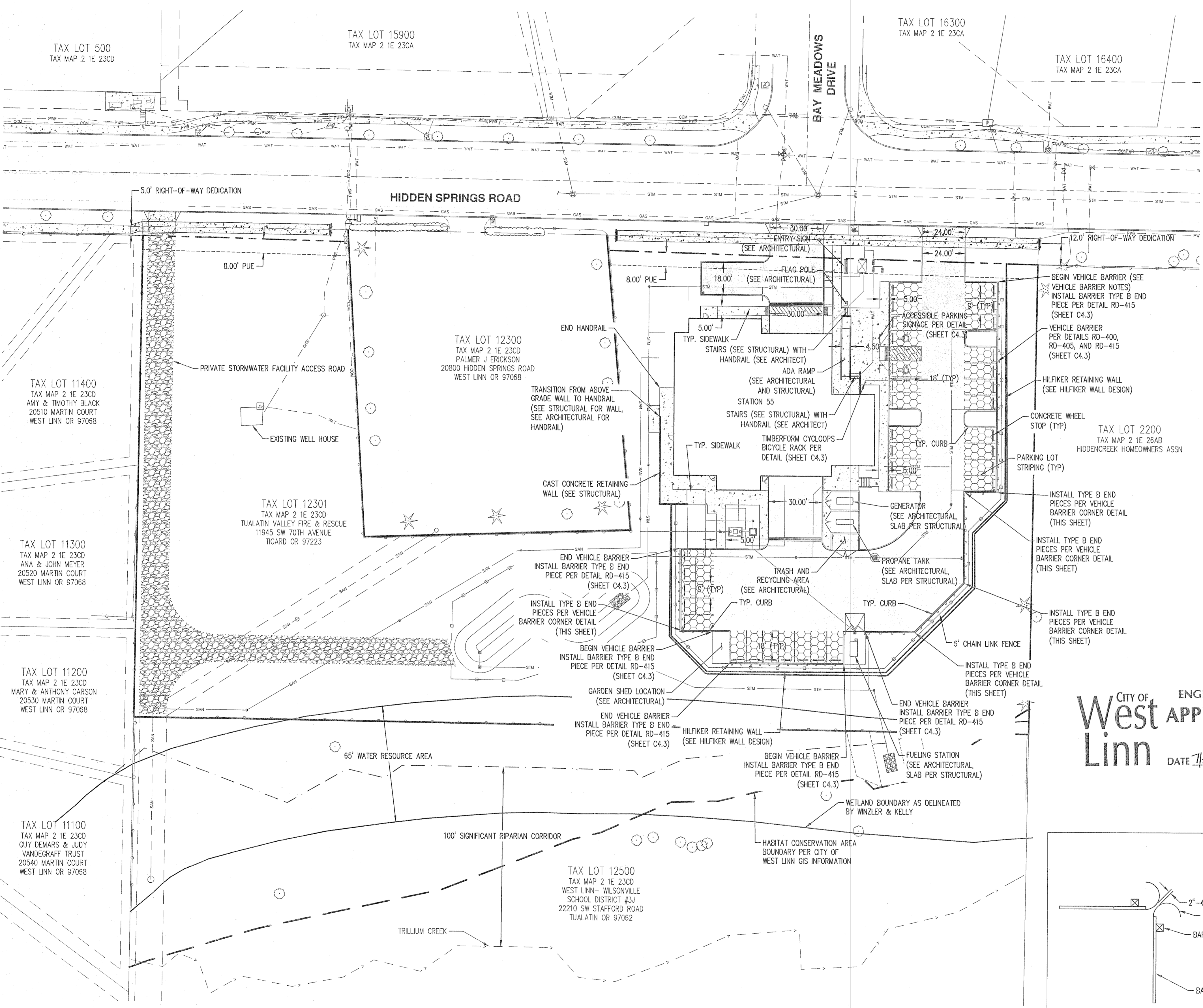
DESIGNED BY: BRB/AZV
 DRAWN BY: AZV
 CHECKED BY: AHH
 SCALE: AS NOTED
 DATE: 5/15/2017

REGISTERED PROFESSIONAL ENGINEER
 56539PE
 085008
 ALEXANDER H. HUNLEY
 RENEWAL DATE: 6/30/17

REVISIONS

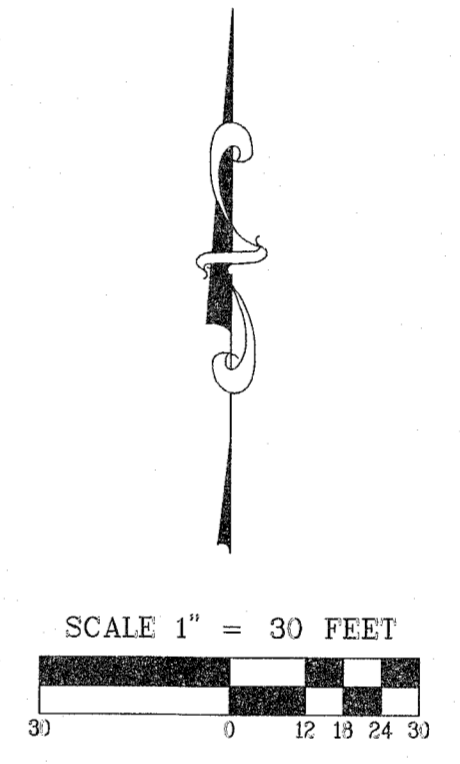
JOB NUMBER
4757

SHEET
C3.1



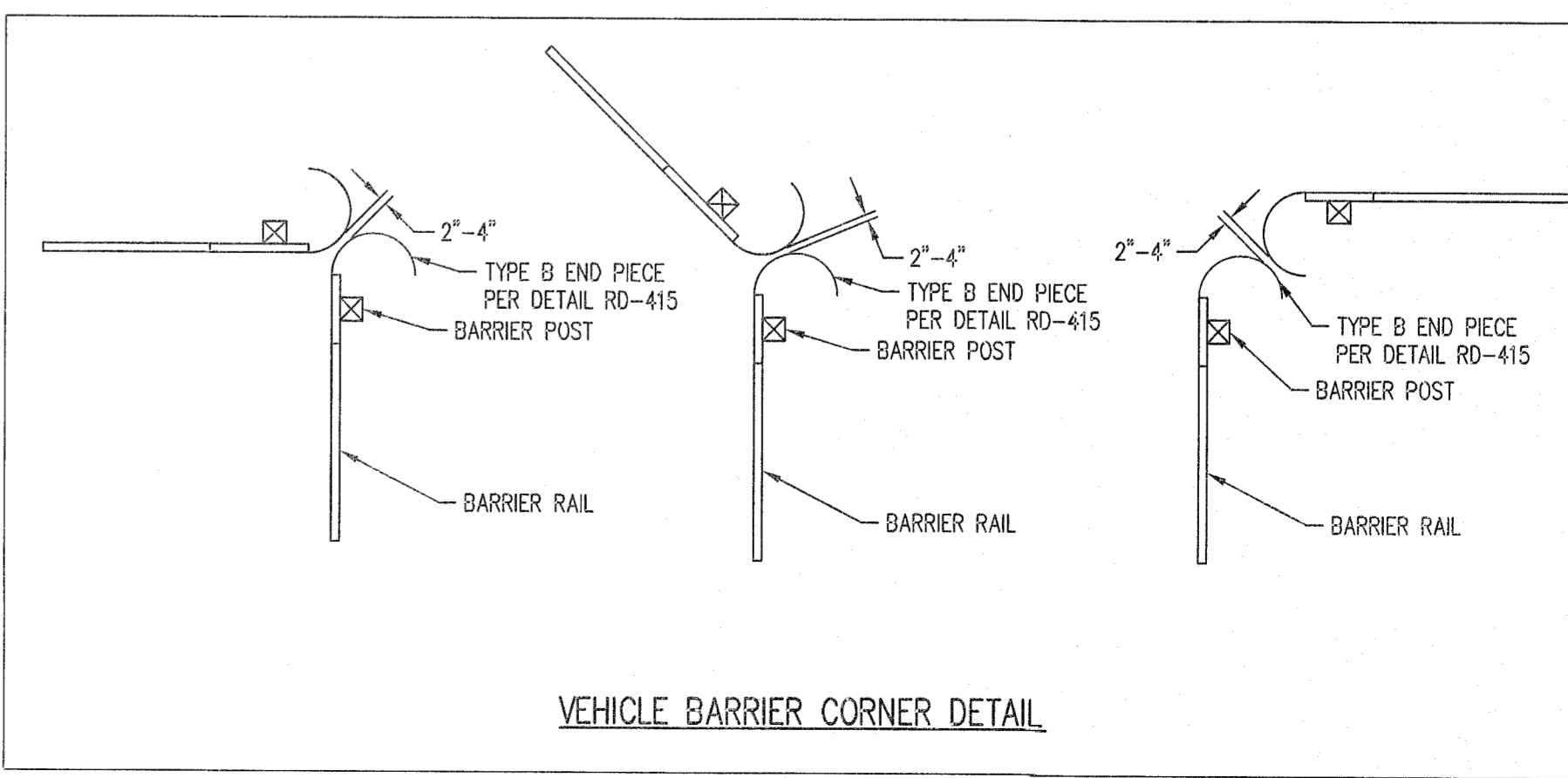
LEGEND

- TYPICAL DRIVE SECTION
- TYPICAL PARKING SECTION
- TYPICAL SIDEWALK SECTION
- TYPICAL CURB
- SIDEWALK PER CITY STD DETAIL WL-50B & WL-504A
- TRUNCATED DOME PER STD DETAIL RD759 (SHEET C4.3)



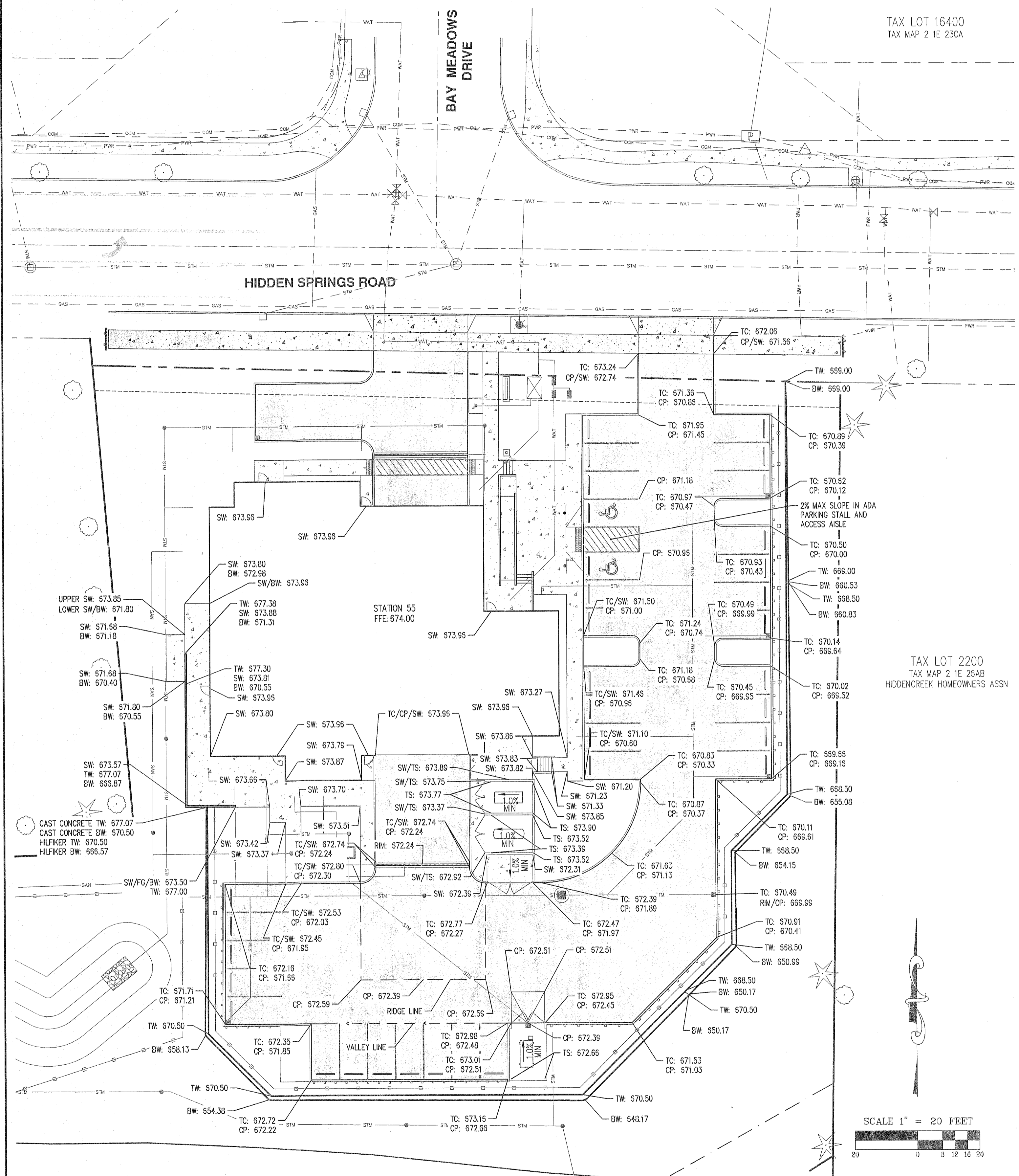
- VEHICLE BARRIER NOTES:**
- INSTALL TYPE 1 GUARDRAIL ON STEEL POST PER DETAIL RD-400
 - POSTS SHALL BE TYPE 2A 6'-0" LONG W6-8.5 STEEL POSTS PER DETAIL RD-405
 - POSTS SHALL BE INSTALLED AT TYPE 2A 6'-3" SPACING WITH 12.5' LONG RAIL (W BEAM) PER DETAIL RD-400 GUARDRAIL AND COMPONENTS TO BE PER ODOT STANDARD SPECIFICATIONS
 -

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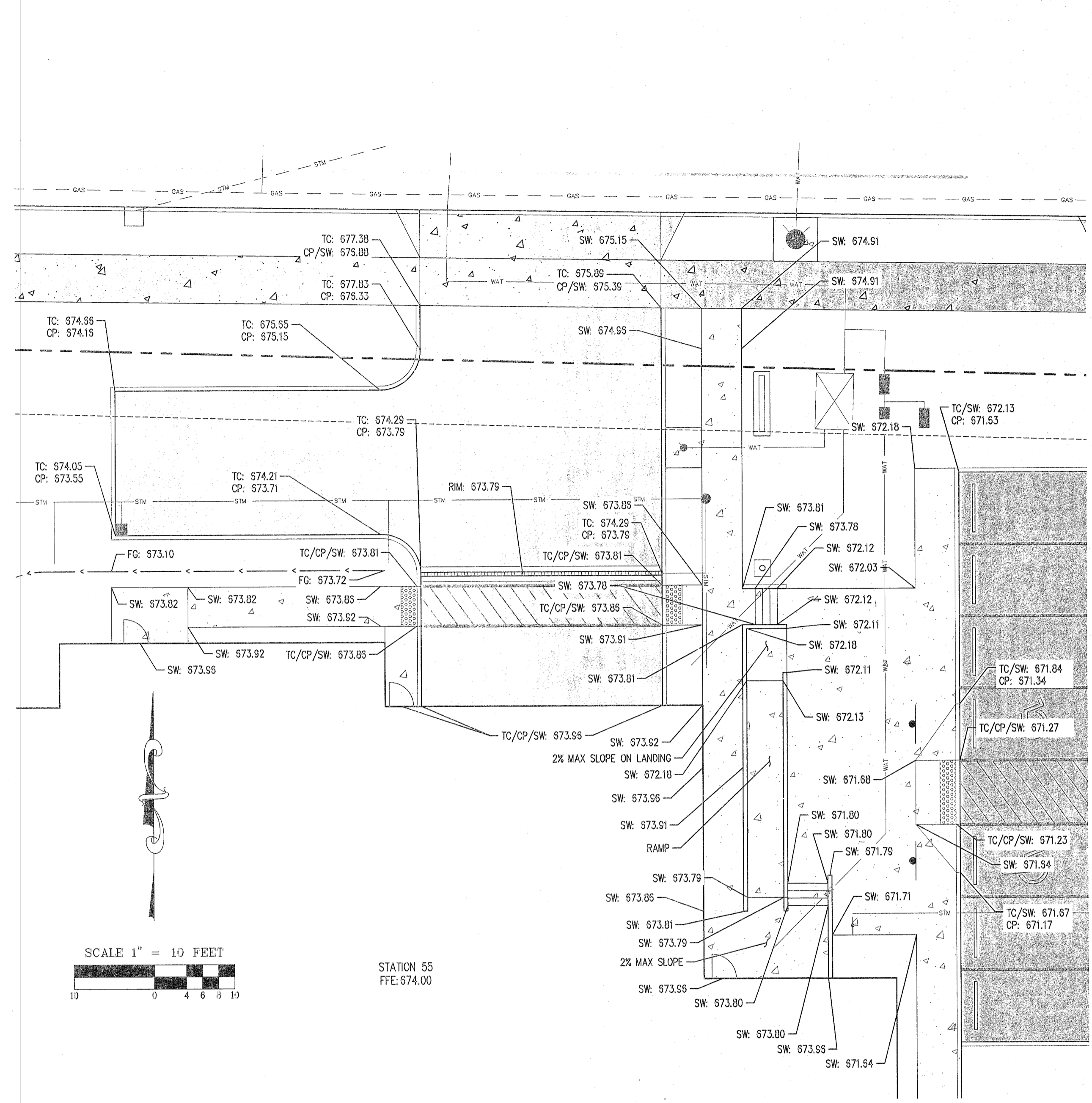


SEE ARCHITECTURAL PLANS FOR HANDRAILS FOR STAIRS AND ADA RAMP.

AKS DRAWING FILE: 4757 C4.2 SPOT ELEVATIONS | LAYOUT: C4.2



LEGEND
 RIDGE LINE ---
 VALLEY LINE --->



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ABBREVIATIONS:
 TC: TOP OF CURB ELEVATION (CURB HEIGHT 6" HIGHER THAN ADJACENT CP UNLESS OTHERWISE NOTED)
 TW: TOP OF WALL ELEVATION
 BW: BOTTOM FACE OF EXPOSED WALL ELEVATION
 SW: TOP OF SIDEWALK ELEVATION
 CP: TOP OF CONCRETE PAVING ELEVATION
 FFE: FINISHED FLOOR ELEVATION
 FG: FINISHED GRADE
 TS: TOP OF SLAB

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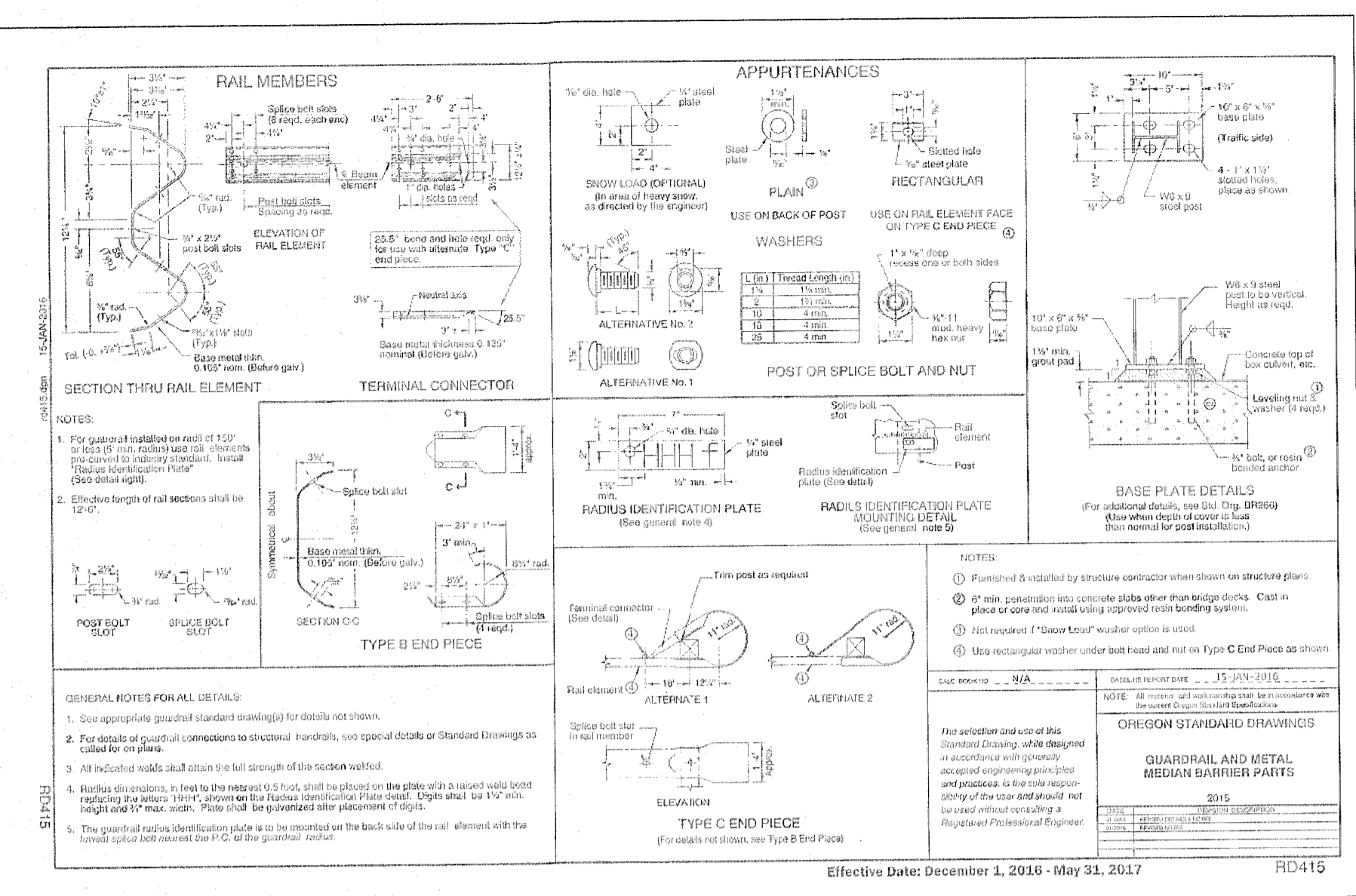
TVFR STATION 55
WEST LINN
 OREGON
 FORESTRY - PLANNING - LANDSCAPE ARCHITECTURE
 CLACKAMAS COUNTY TAX MAP 2 1E 230A
 TAX LOT 12301

SPOT ELEVATION PLAN

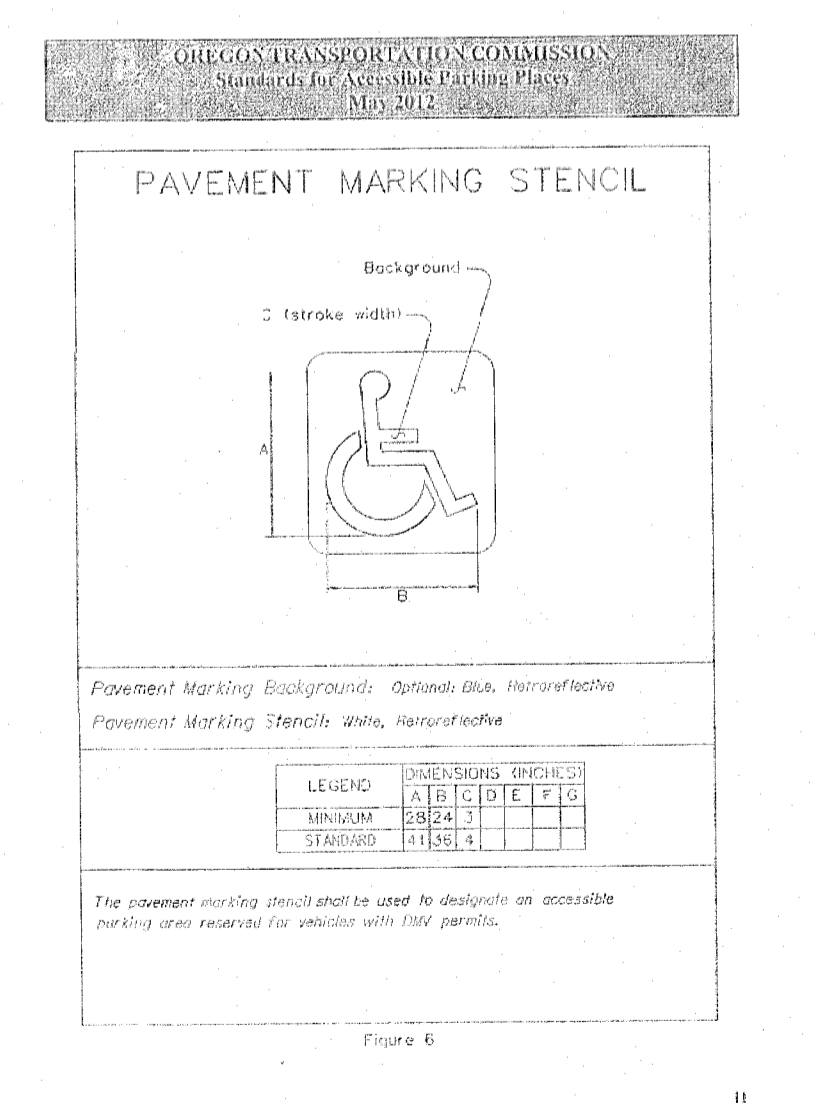
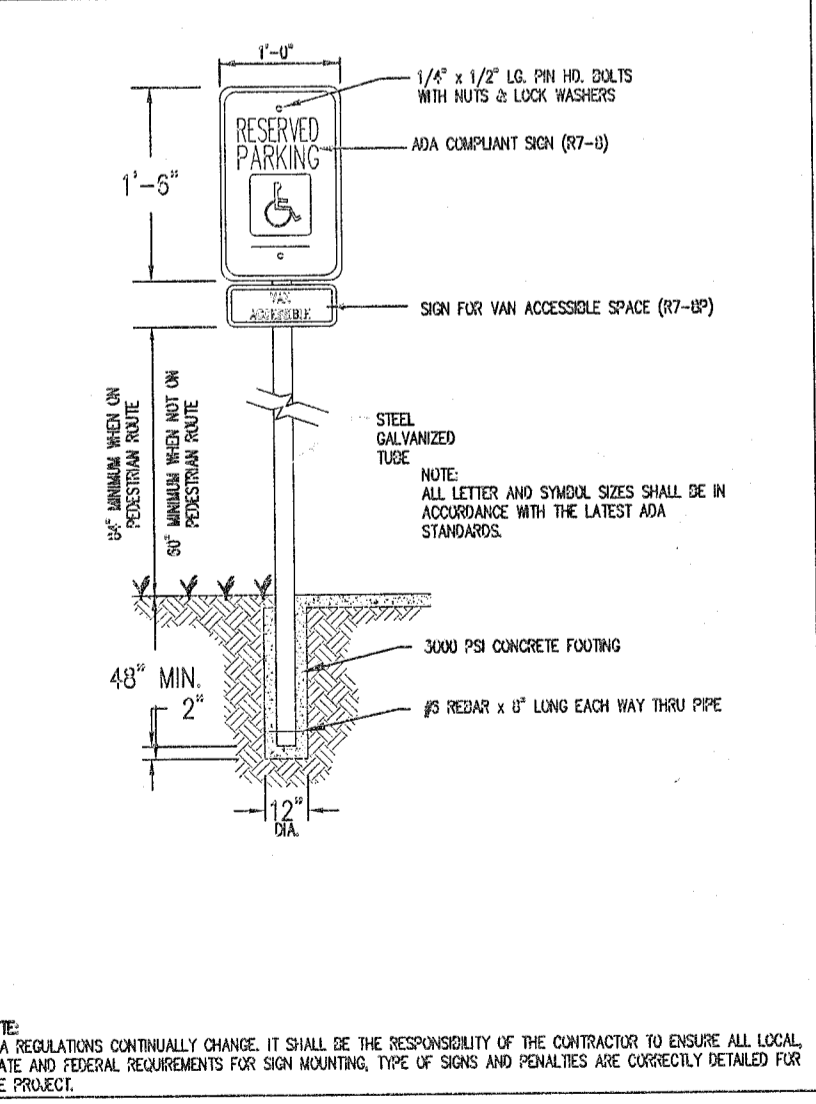
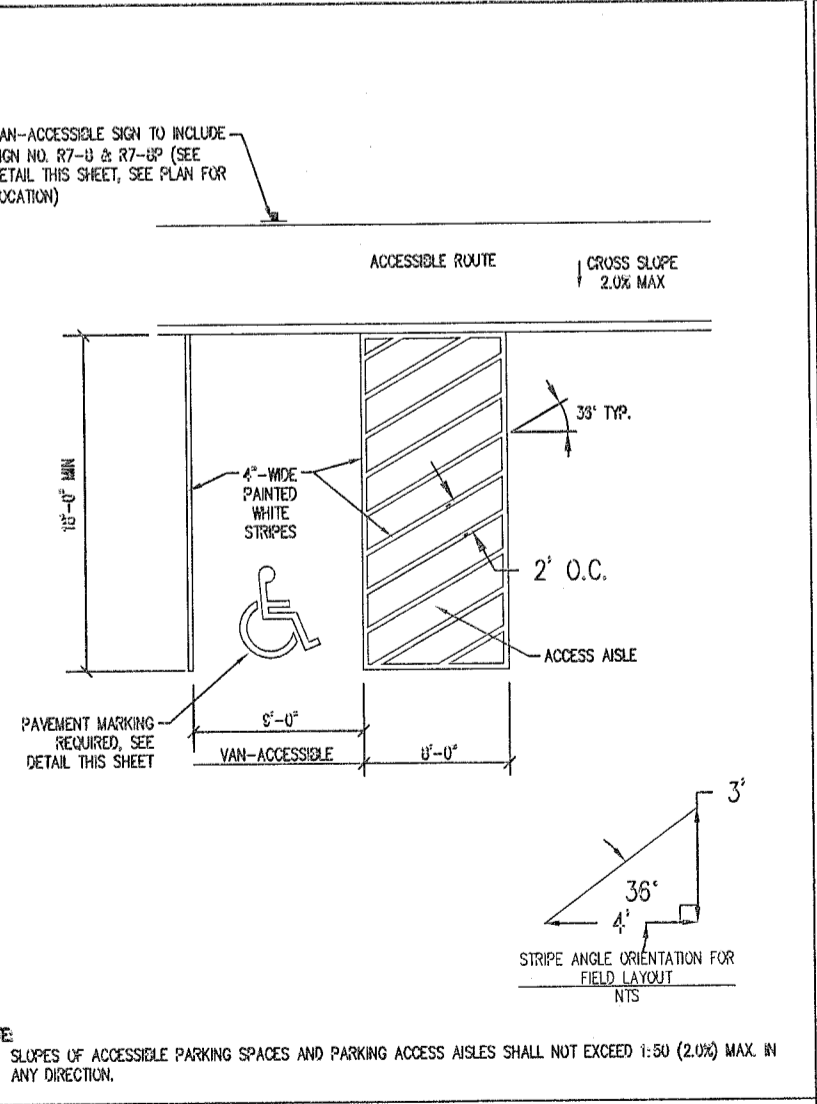
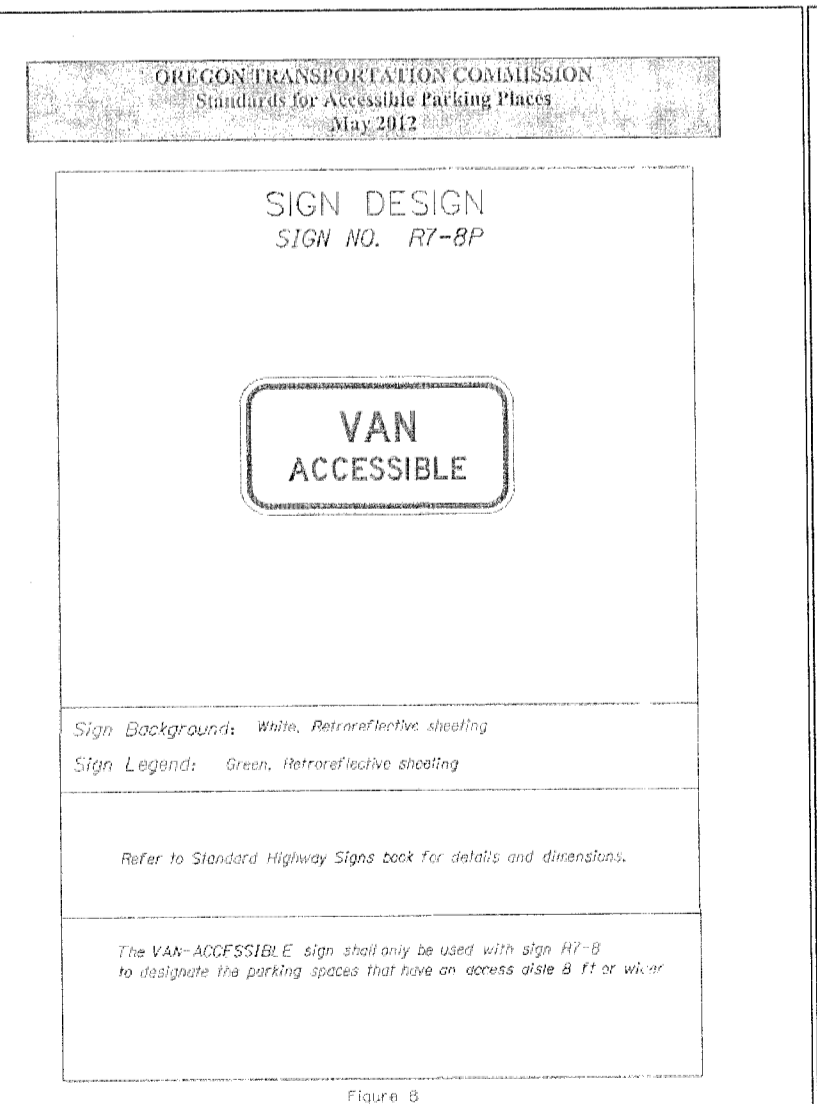
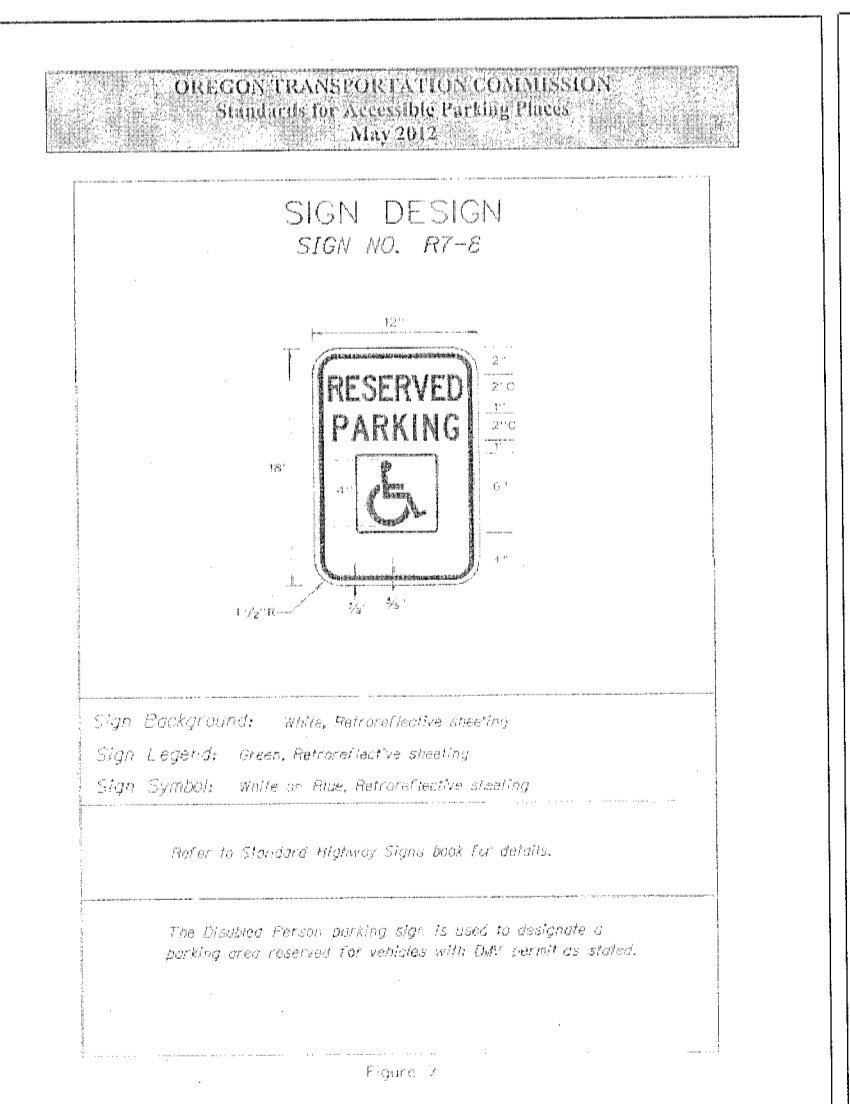
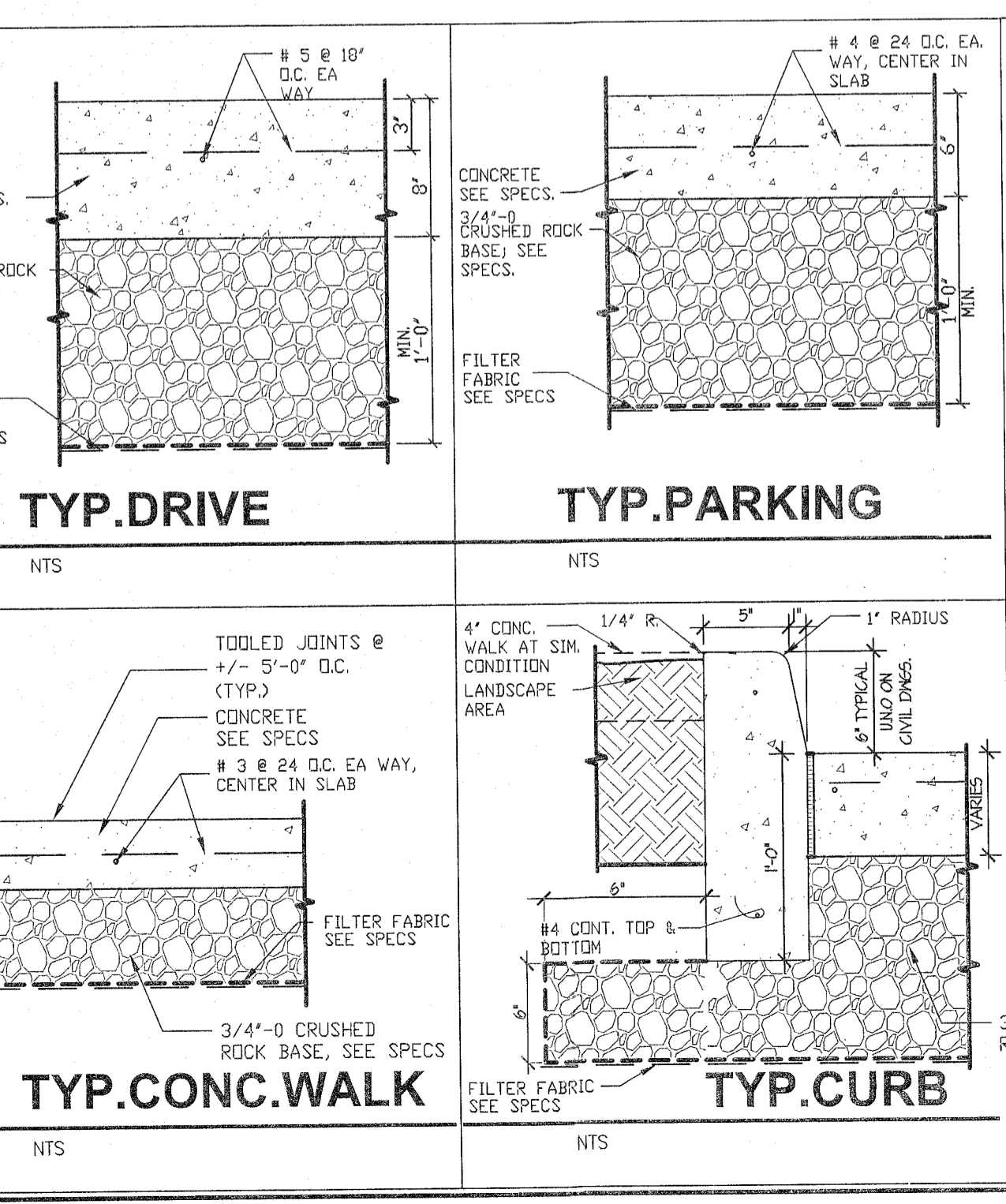
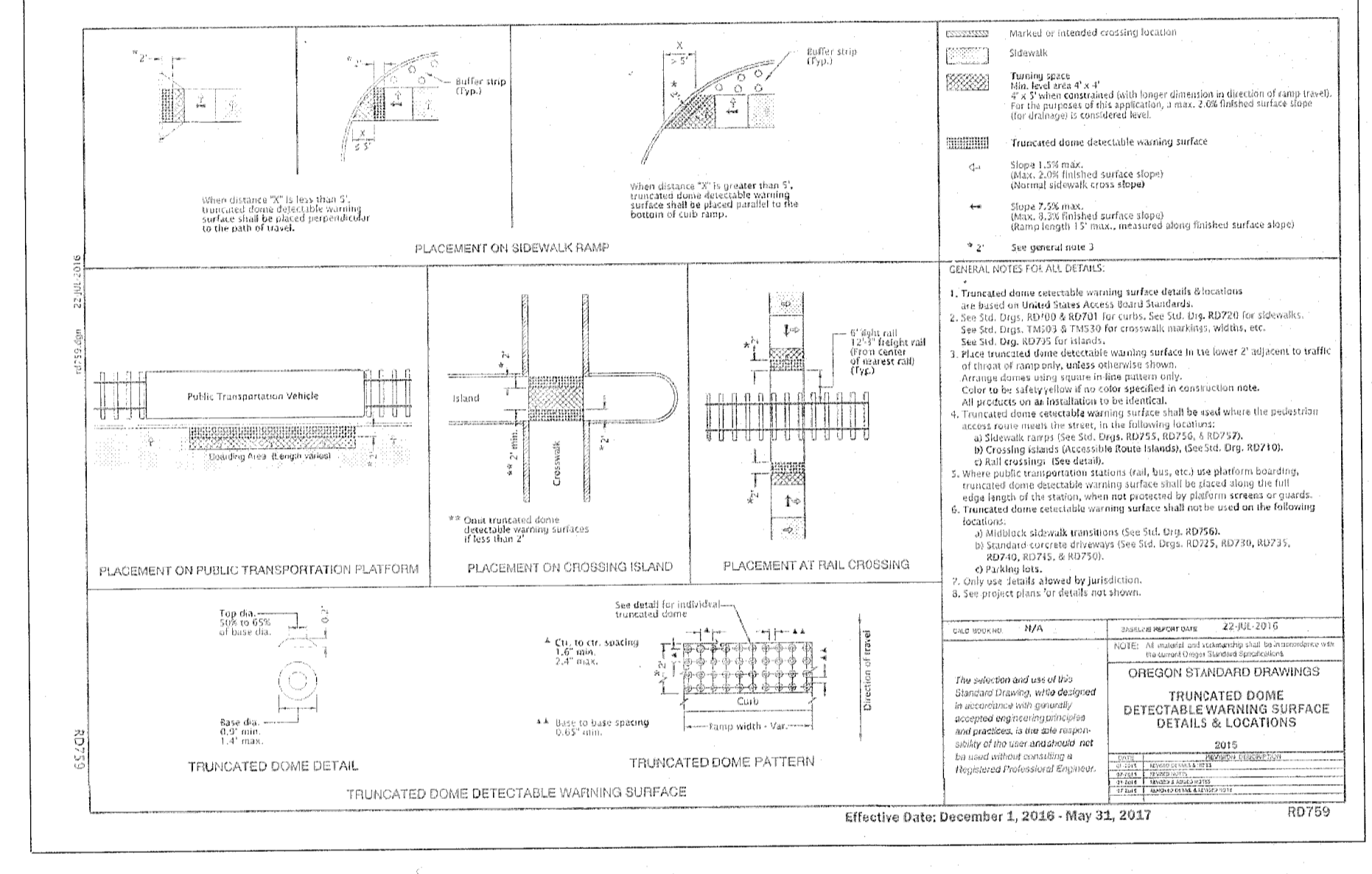
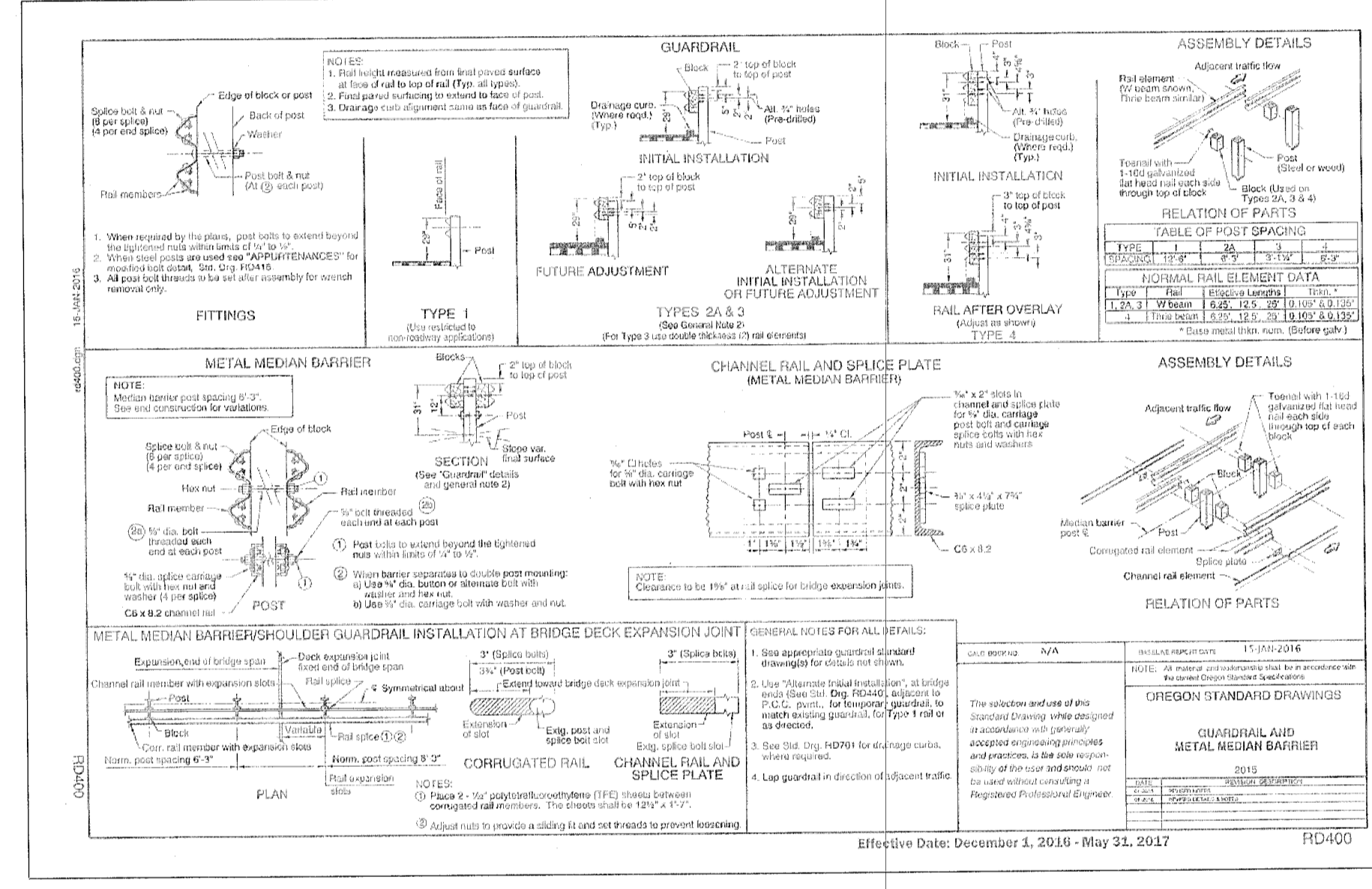
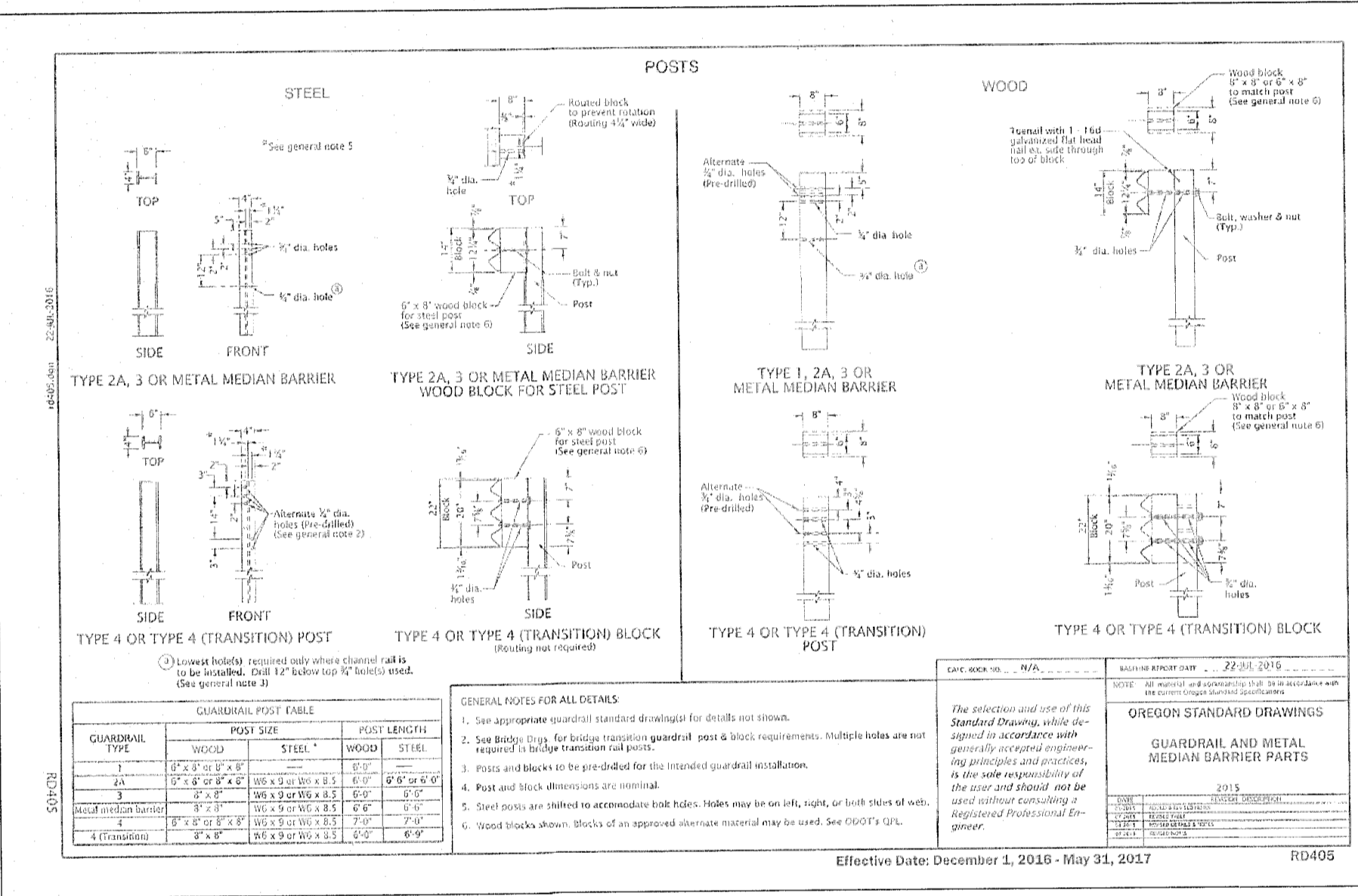
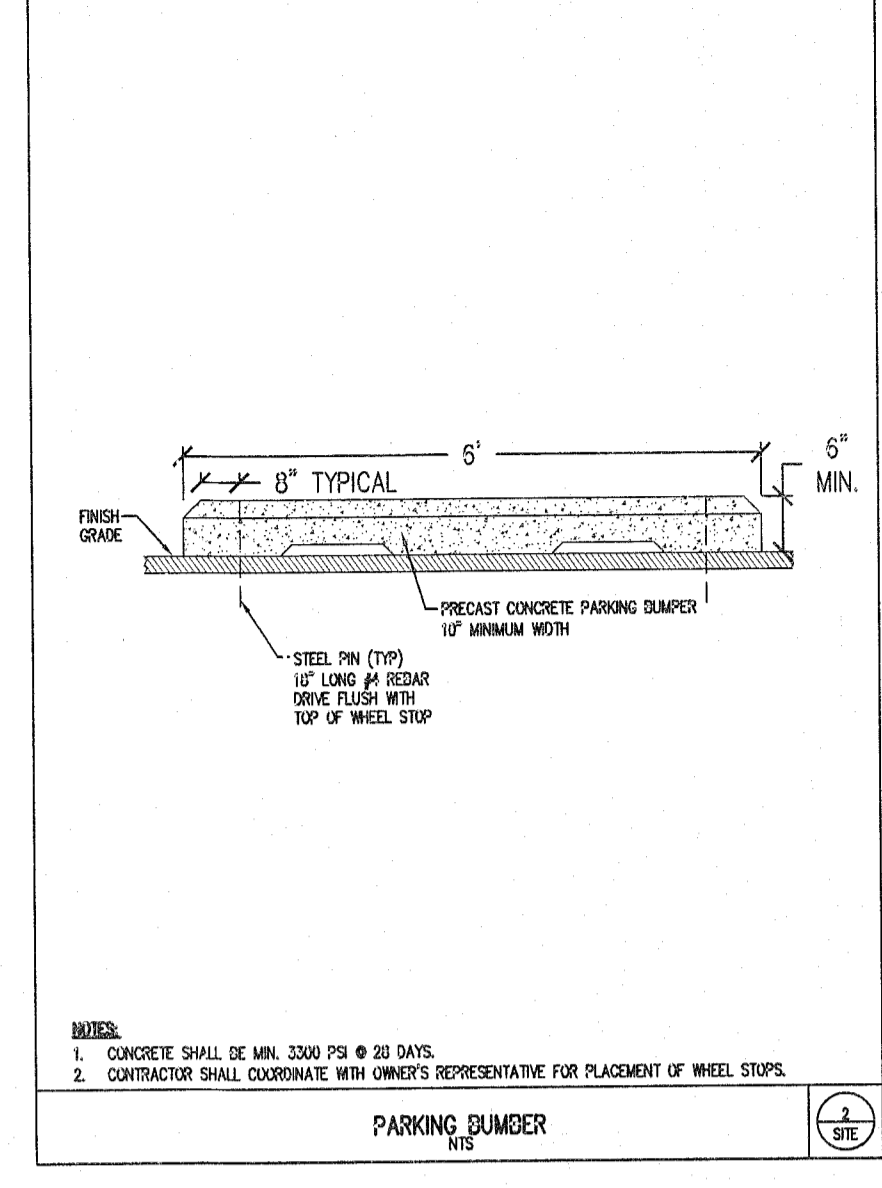
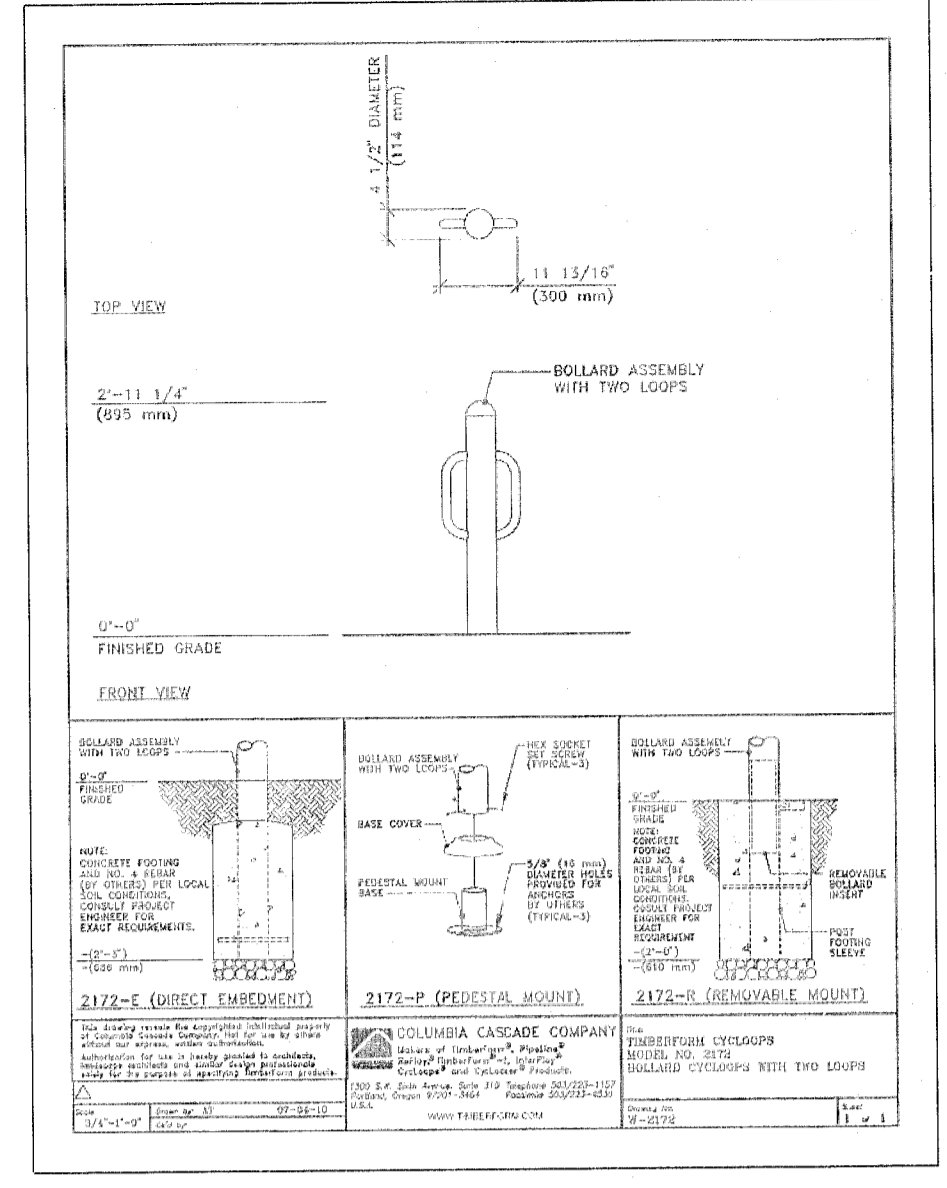
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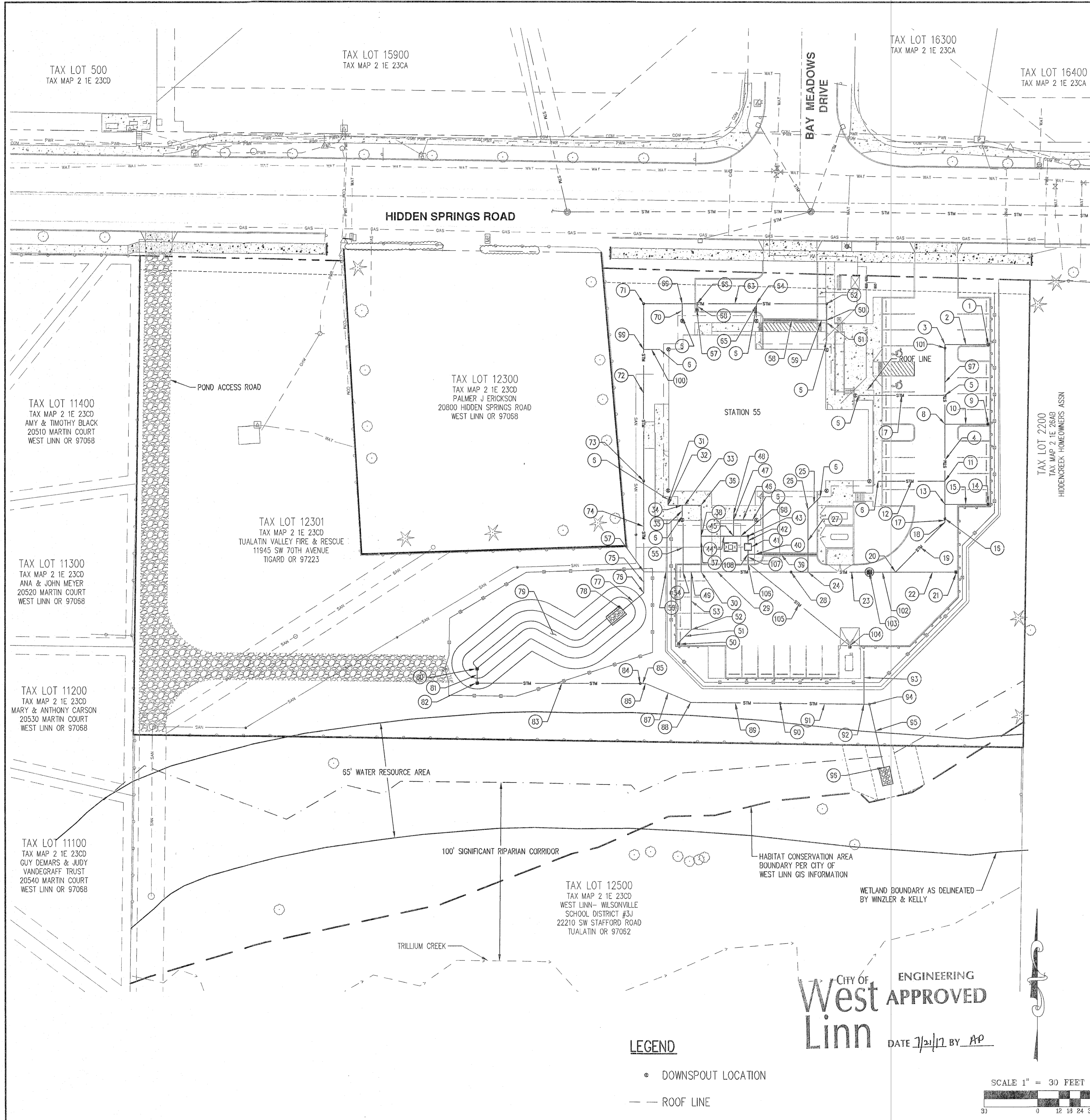
REVISIONS
 JOB NUMBER: 4757
 SHEET: C4.2



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AKS DRAWING FILE: 4757_C51 STORM DRAIN PLUMBING | LAYOUT: C51



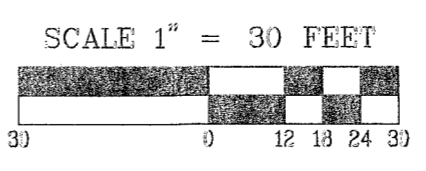
KEYED STORM DRAIN NOTES

- 1 STM CB
RM: 670.12
IE OUT: 667.12
- 2 6" PVC STM
L=23.8LF
S=0.0100FT/FT
- 3 90° BEND
IE: 666.88
- 4 12" DI STM
L=53.0LF
S=0.0100FT/FT
- 5 IE: 666.59
DI TO PVC COUPLER REQUIRED
FOR CONNECTION
- 6 CONNECT ROOF DRAIN TO STORM
LINE WITH 6" STM PIPE @ 2%
MIN SLOPE. REFER TO PLUMBING
PLAN
- 7 6" DI STM
L=48.4LF
S=0.0940FT/FT
IE STUB: 666.89
- 8 IE: 666.43
- 9 STM CB
RM: 669.54
IE OUT: 666.67
- 10 6" PVC STM
L=23.8LF
S=0.0100FT/FT
- 11 IE: 666.11
DI TO PVC COUPLER REQUIRED
FOR CONNECTION
- 12 6" DI STM
L=37.4LF
S=0.0850FT/FT
IE STUB: 666.29
- 13 IE: 666.98
- 14 STM CB
RM: 666.16
IE: 666.22
- 15 6" PVC STM
L=23.8LF
S=0.0100FT/FT
- 16 STM CO
RM: 669.94
IE: 666.90
- 17 8" PVC STM
L=2.0LF
S=0.0100FT/FT
- 18 45° BEND
IE: 666.88
- 19 8" PVC STM
L=39.2LF
S=0.0100FT/FT
- 20 45° BEND
IE: 666.49
- 21 STM CB
RM: 669.99
IE OUT: 669.99
- 22 6" PVC STM
L=33.3LF
S=0.0450FT/FT
- 23 10" PVC STM
L=44.1LF
S=0.0548FT/FT
- 24 IE: 663.26
- 25 6" PVC STM
L=9.9LF
S=0.1799FT/FT
IE STUB: 671.29
- 26 IE: 668.51
- 27 6" PVC STM
L=34.8LF
S=0.1799FT/FT
- 28 STM CO
RM: 672.30
IE: 662.73
- 29 10" PVC STM
L=82.8LF
S=0.0548FT/FT
- 30 IE: 669.98
- 31 6" PVC STM
L=3.2LF
S=0.0500FT/FT
IE STUB: 671.70
- 32 IE: 671.54
- 33 6" PVC STM
L=10.8LF
S=0.1000FT/FT
- 34 IE: 670.74
- 35 6" PVC STM
L=6.1LF
S=0.1270FT/FT
- 36 IE: 668.68
- 37 8" PVC STM
L=37.1LF
S=0.2515FT/FT
- 38 IE: 665.18
- 39 INSTALL TRENCH DRAIN WITH
SLOTTED DI GRATE PER ACO
DETAIL S100K (SHEET C5.3)
RM: 672.24
IE OUT: 670.23
- 40 4" PVC STM
L=8.7LF
S=0.1989FT/FT
- 41 DIVERTER VALVE REFER TO
SHEET C5.4 FOR INFORMATION
- 42 4" PVC STM
L=4.0LF
S=0.0200FT/FT
- 43 STM CO
RM: 673.25
IE: 668.40
- 44 6" PVC STM
L=18.2LF
S=0.1224FT/FT
- 45 IE: 667.41
- 46 6" PVC STM
L=10.8LF
S=0.1519FT/FT
IE STUB: 671.00
- 47 IE: 669.35
- 48 FOUNDATION FOOTING DRAIN
CONNECTION
IE STUB: 670.00
RM: 668.27
- 49 IE: 669.68
- 50 STM CB
RM: 671.21
IE: 668.63
- 51 6" PVC STM
L=10.3LF
S=0.2100FT/FT
- 52 45° BEND
IE: 666.45
- 53 6" PVC STM
L=32.3LF
S=0.2100FT/FT
- 54 IE: 666.43
- 55 WALL DRAIN CONNECTION
IE STUB: 663.00
4" PVC STM
L=27.1LF
S=0.1317FT/FT
- 56 HILFIKER WALL/PIPE CROSSING
PER DETAIL SHEET C5.5
- 57 IE: 668.22
- 58 INSTALL TRENCH DRAIN WITH
SLOTTED DI GRATE PER ACO
DETAIL S100K (SHEET C5.3)
RM: 673.79
IE OUT: 671.79
- 59 6" PVC STM
L=5.5LF
S=0.0164FT/FT
- 60 IE: 671.70
- 61 6" PVC STM
L=21.1LF
S=0.0100FT/FT
IE STUB: 671.82
- 62 STM CO
RM: 674.39
IE: 671.51
- 63 8" PVC STM
L=102.8LF
S=0.0100FT/FT
- 64 IE: 671.22
- 65 6" PVC STM
L=7.8LF
S=0.0705FT/FT
IE STUB: 671.77
- 66 IE: 670.88
- 67 STM CB
RM: 673.55
IE OUT: 670.94
- 68 6" PVC STM
L=2.8LF
S=0.0200FT/FT
- 69 IE: 670.80
- 70 6" PVC STM
L=7.7LF
S=0.0584FT/FT
IE STUB: 671.25
- 71 STM CO
RM: 675.43
IE: 670.50
- 72 8" PVC STM
L=100.0LF
S=0.0820FT/FT
- 73 STM CO
RM: 669.14
IE: 662.38
- 74 8" PVC STM
L=50.7LF
S=0.0820FT/FT
- 75 12" PVC STM
L=11.8LF
S=0.0820FT/FT
- 76 45° BEND
IE: 657.25
- 77 12" DI STM
L=15.0LF
S=0.0500FT/FT
- 78 STORMWATER FACILITY INLET
IE: 655.50
INSTALL RIP RAP PAD
6'Wx10'Lx2'D 200 LBS ROCK
CLASSIFICATION PER DETAIL
(SHEET C5.3)
- 79 PRIVATE STORMWATER FACILITY
(SHEET C5.2)
- 80 STORMWATER FACILITY OUTLET
STRUCTURE PER DETAIL (SHEET
C5.2)
RM: 655.00
IE OUT: 654.68
- 81 12" DI STM
L=6.5LF
S=0.0050FT/FT
- 82 STORMWATER FACILITY OVERFLOW
OUTLET STRUCTURE PER DETAIL
(SHEET C5.2)
RM: 658.27
IE IN: 654.65
IE OUT: 654.45
- 83 12" DI STM
L=90.7LF
S=0.0300FT/FT
- 84 STM CO
RM: 656.57
IE: 649.92
- 85 12" DI STM
L=3.0LF
S=0.0500FT/FT
- 86 45° BEND
IE: 649.77
- 87 12" DI STM
L=27.6LF
S=0.0500FT/FT
- 88 45° BEND
IE: 648.39
- 89 12" DI STM
L=50.1LF
S=0.0500FT/FT
- 90 STM CO
RM: 650.65
IE: 645.89
- 91 12" DI STM
L=50.1LF
S=0.0500FT/FT
- 92 IE: 643.54
- 93 HILFIKER WALL DRAIN
CONNECTION
HILFIKER WALL/PIPE CROSSING
PER DETAIL SHEET C5.5
IE STUB: 643.84
- 94 6" PVC STM
L=30.0LF
S=0.0100FT/FT
- 95 STM CO / 78.75° BEND
RM: 647.72
IE: 643.39
- 96 STORMWATER OUTLET
IE: 642.97
INSTALL RIP RAP PAD
6'Wx10'Lx2'D 200 LBS ROCK
CLASSIFICATION PER DETAIL
(SHEET C5.3)
OVER 6" OF 4"-0" ROCK
- 97 6" PVC STM
L=45.0LF
S=0.0100FT/FT
- 98 4" PVC STM
L=8.1LF
S=0.1224FT/FT
- 99 IE: 668.45
- 100 4" PVC STM
L=9.1LF
S=0.3000FT/FT
IE STUB: 671.19
- 101 STM CO
RM: 670.68
IE: 666.86
- 102 10" PVC STM
L=14.7LF
S=0.0100FT/FT
- 103 WATER QUALITY MANHOLE
PER DETAIL (SHEET C5.3)
RM: 671.77
IE IN: 665.34
IE OUT: 665.14
SUMP: 661.84

LEGEND

- DOWNSPOUT LOCATION
- ROOF LINE

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TVFR STATION 55

STORM DRAINAGE PLAN

WEST LINN

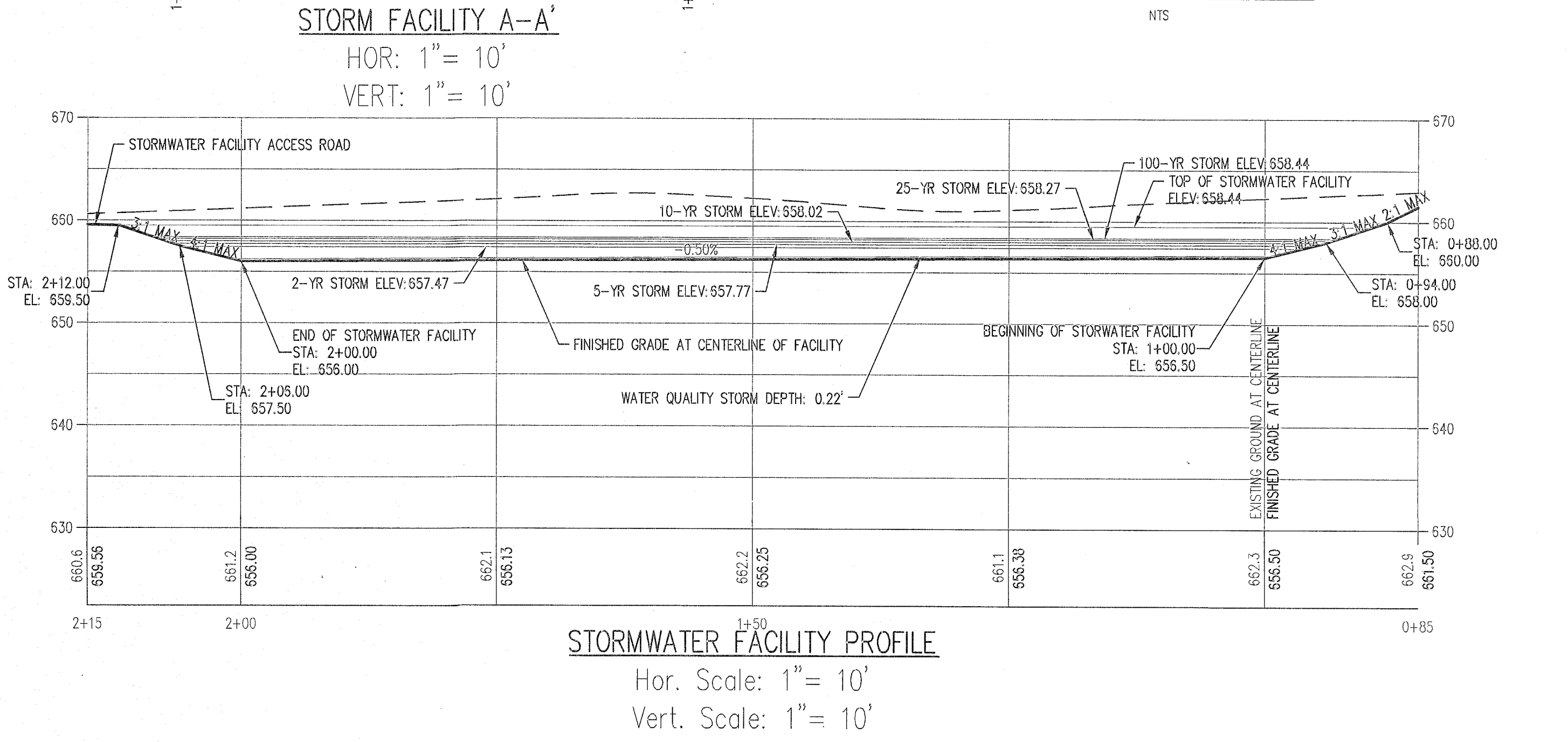
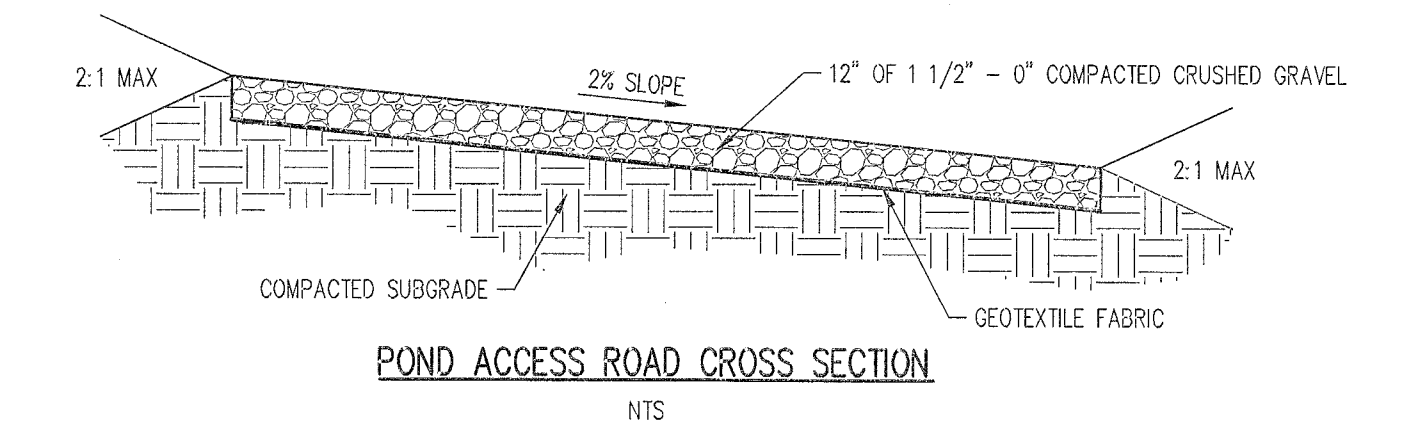
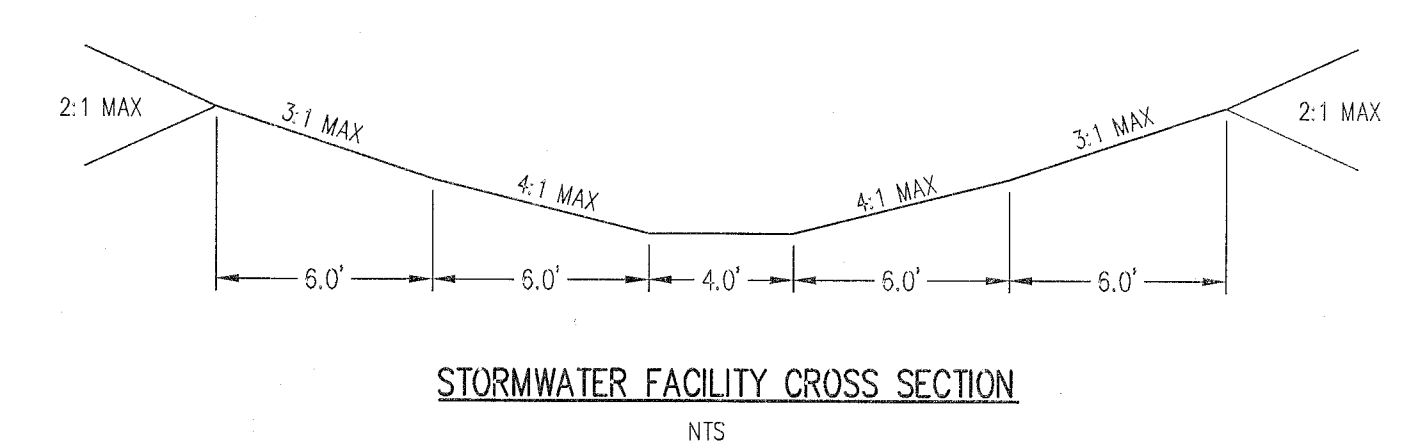
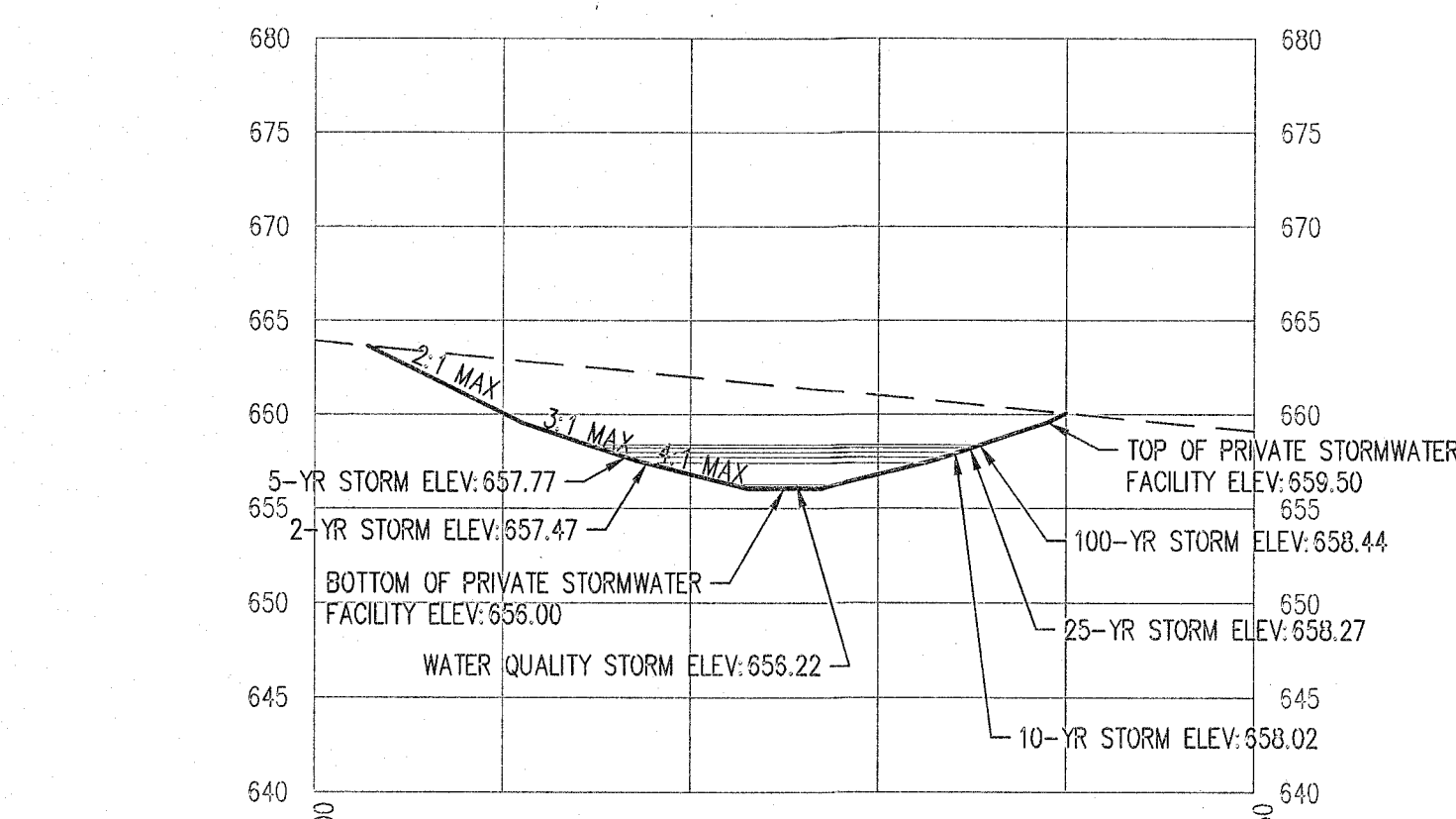
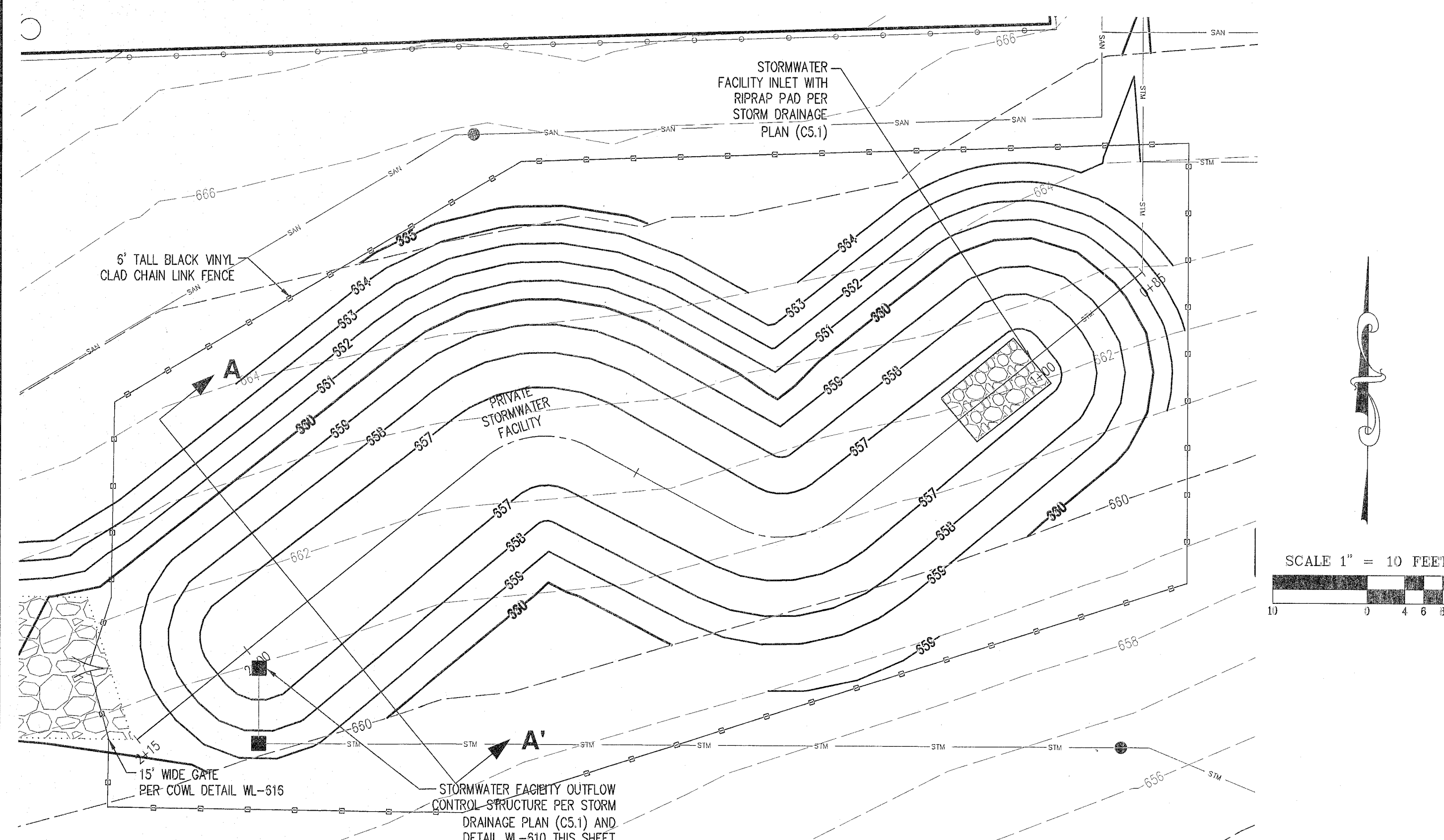
DESIGNED BY: BRB/AZV
DRAWN BY: AZV
CHECKED BY: AHH
SCALE: AS NOTED
DATE: 5/15/2017

REVISIONS

JOB NUMBER
4757

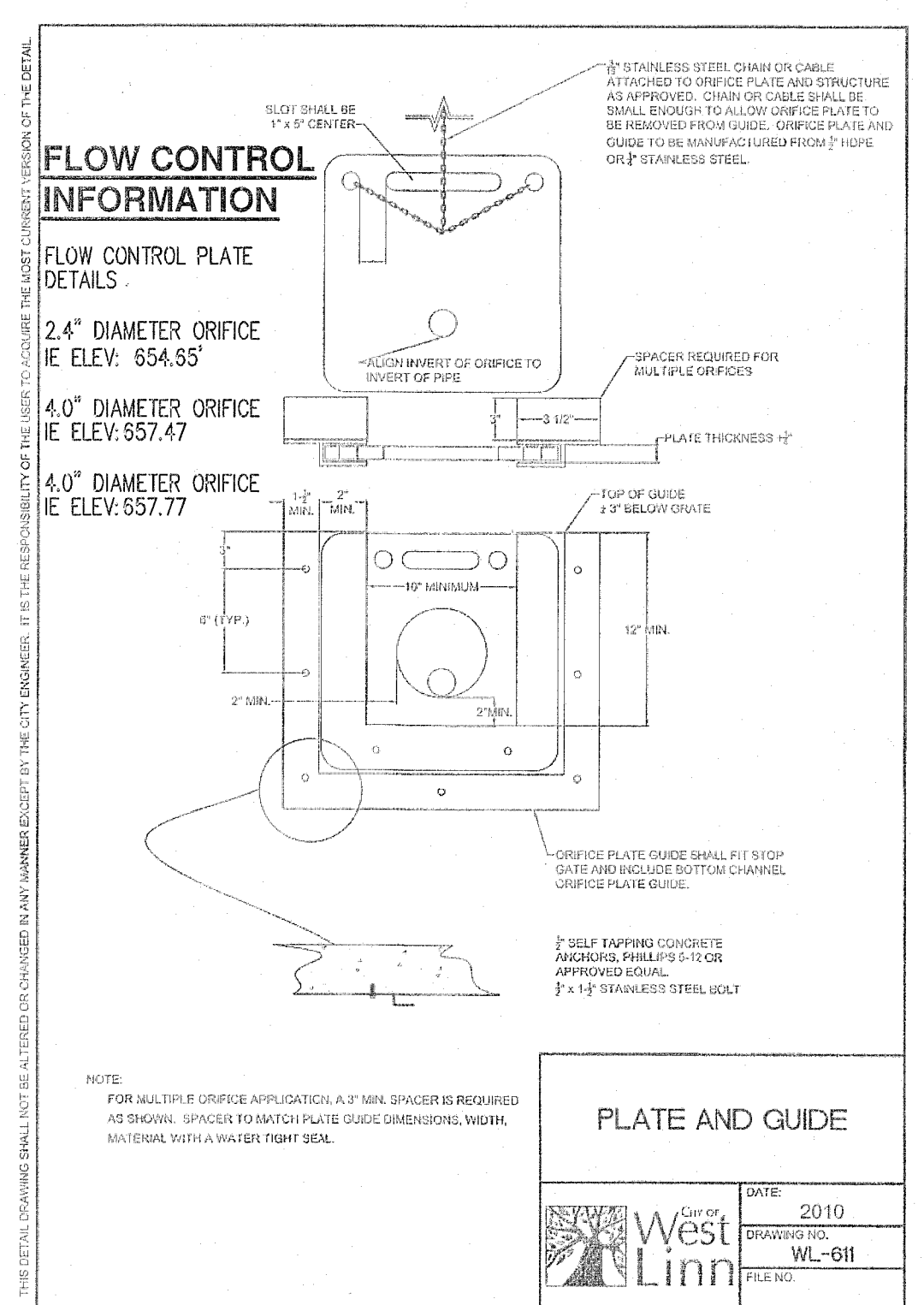
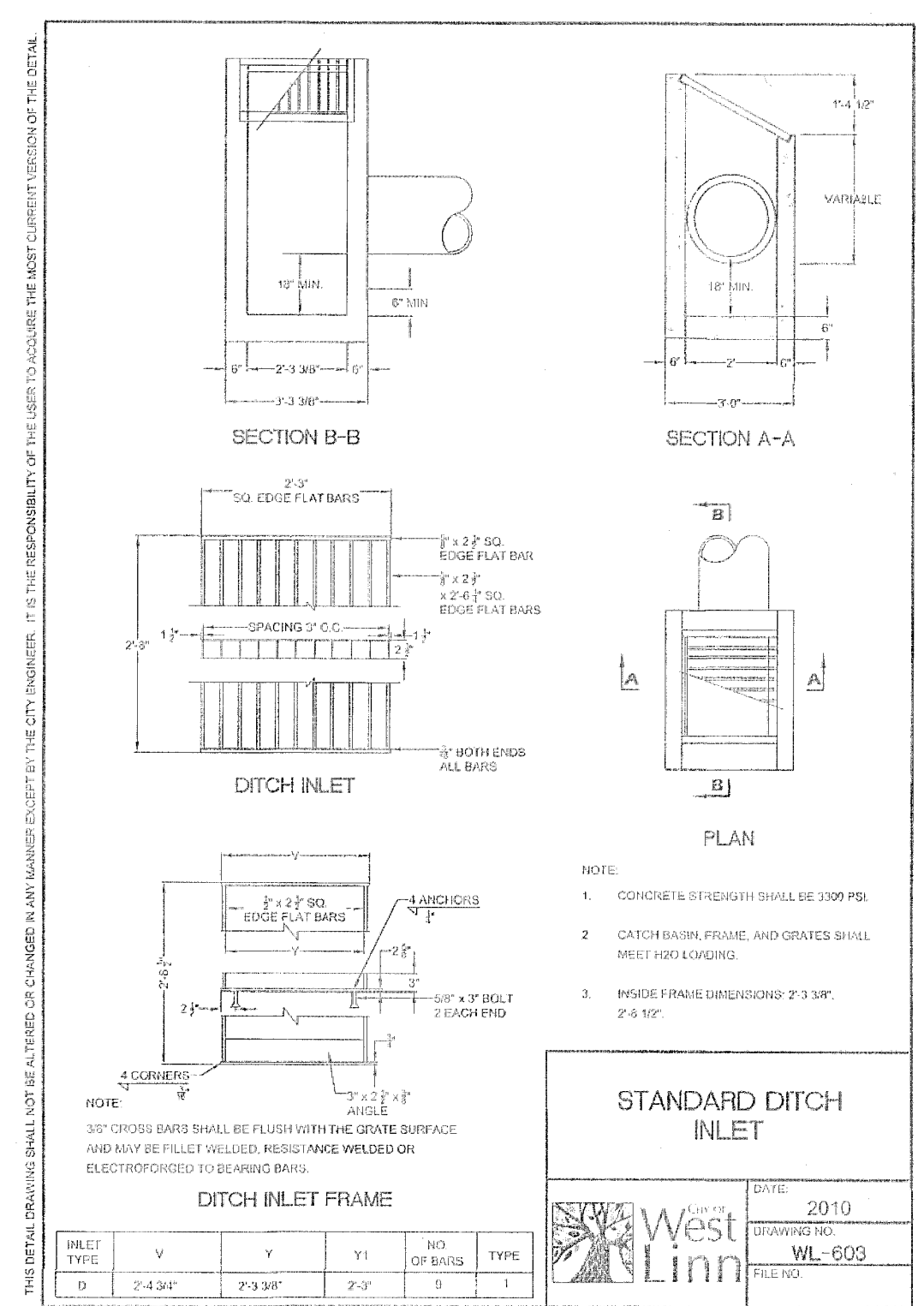
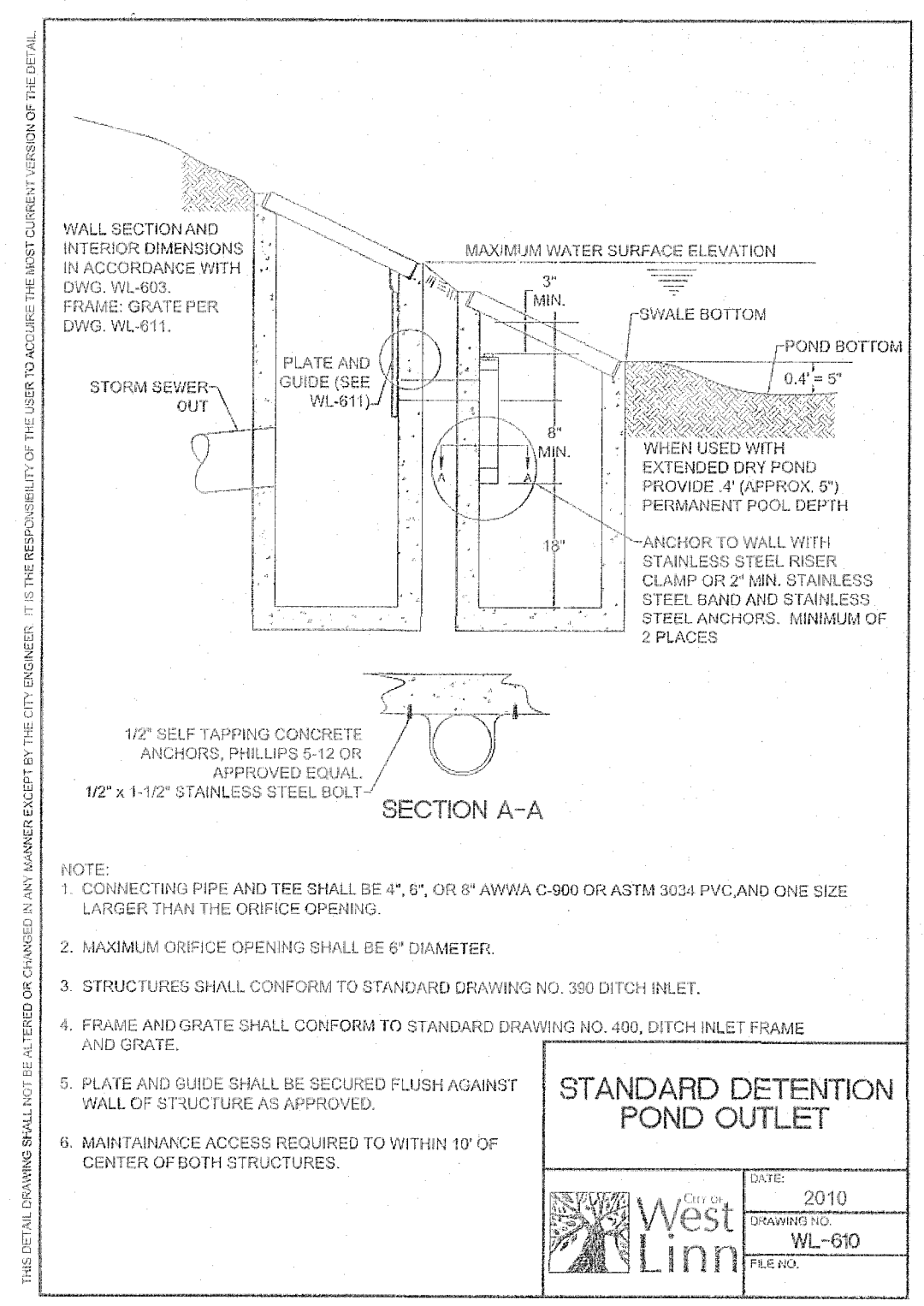
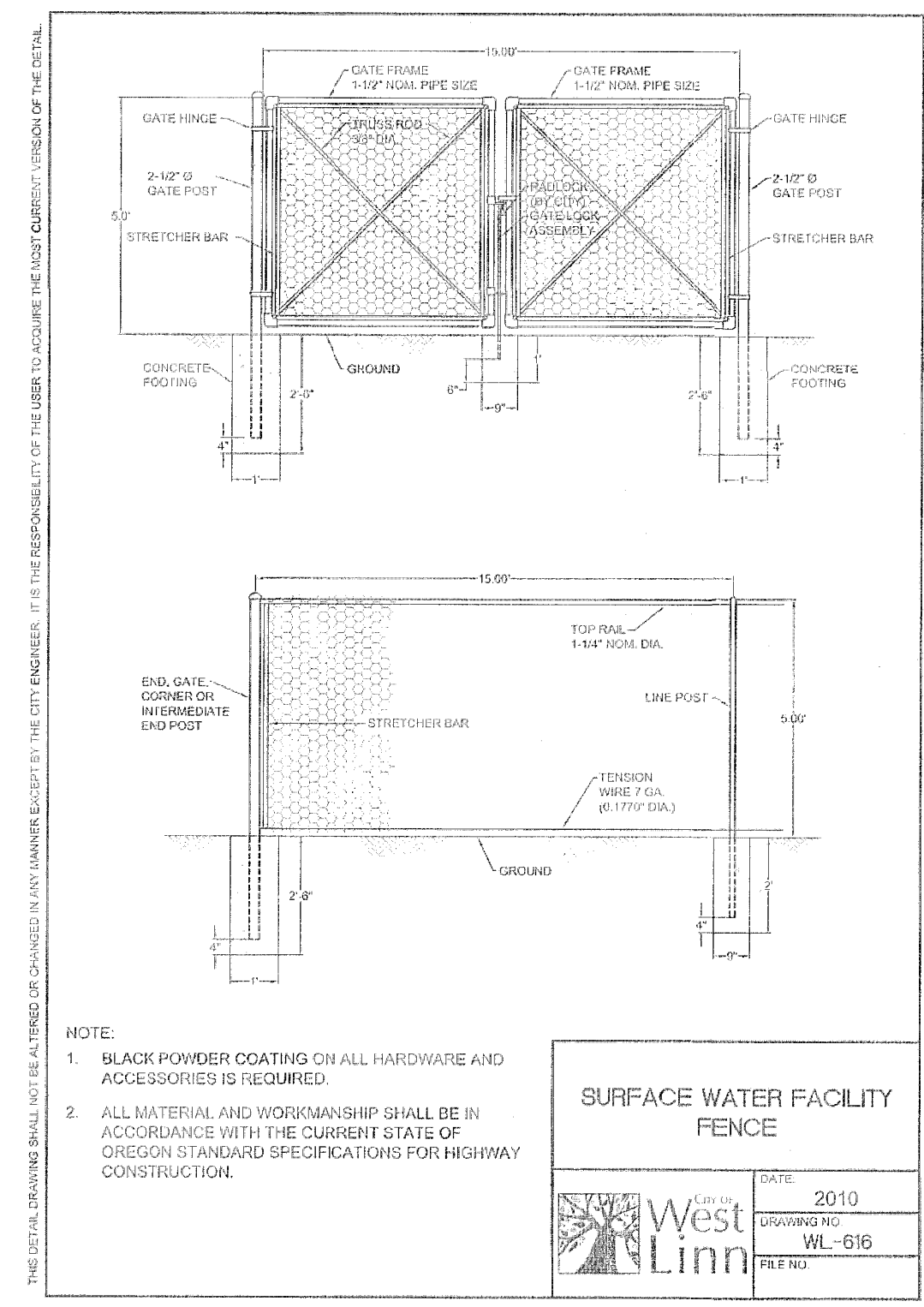
SHEET
C5.1

ENGINEERING - SURVEYING - NATURAL RESOURCES
FORESTRY - PLANNING - LANDSCAPE ARCHITECTURE



CITY OF **West Linn** ENGINEERING **APPROVED**
DATE 7/21/11 BY *AR*

- STORM POND CONSTRUCTION NOTES:**
1. THE STORMWATER FACILITY SHALL BE OVER-EXCAVATED 12" MINIMUM AND 12" OF CLEAN STRIPPINGS (OR TOPSOIL) SHALL BE SPREAD OVER THE POND FOR PLANTING OR AS OTHERWISE DIRECTED BY LANDSCAPE ARCHITECT.
 2. SURFACE NEEDS TO BE WETTED PRIOR TO PLACEMENT OF CLEAN STRIPPINGS (TOPSOIL). TOPSOIL SHALL BE LIGHTLY COMPACTED AND TRACKED IN. CONTRACTOR SHALL ENSURE NO SLUMPING.
 3. TEMPORARY EROSION CONTROL MEASURES (INCLUDING TEMPORARY SEEDING) SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION.
 4. STORMWATER FACILITY PLANTING SHALL BE PER THE LANDSCAPE PLANS.
 5. STORMWATER FACILITY SIDES SHALL BE CONSTRUCTED AT 3H:1V MAXIMUM SLOPE.
 6. THE CONTRACTOR SHALL NOTIFY THE PROJECT'S GEOTECHNICAL ENGINEER PRIOR TO ANY CONSTRUCTION ACTIVITIES ON THE STORMWATER FACILITY. THE CONTRACTOR SHALL COMPLY WITH THE FIELD RECOMMENDATIONS MADE BY THE PROJECT'S GEOTECHNICAL ENGINEER.



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ENGINEERING - SURVEYING - NATURAL RESOURCES
FORESTRY - PLANNING - LANDSCAPE ARCHITECTURE

TVFR STATION 55

WEST LINN OREGON
CLACKAMAS COUNTY TAX MAP 2, IE 2300
TAX LOT 12301

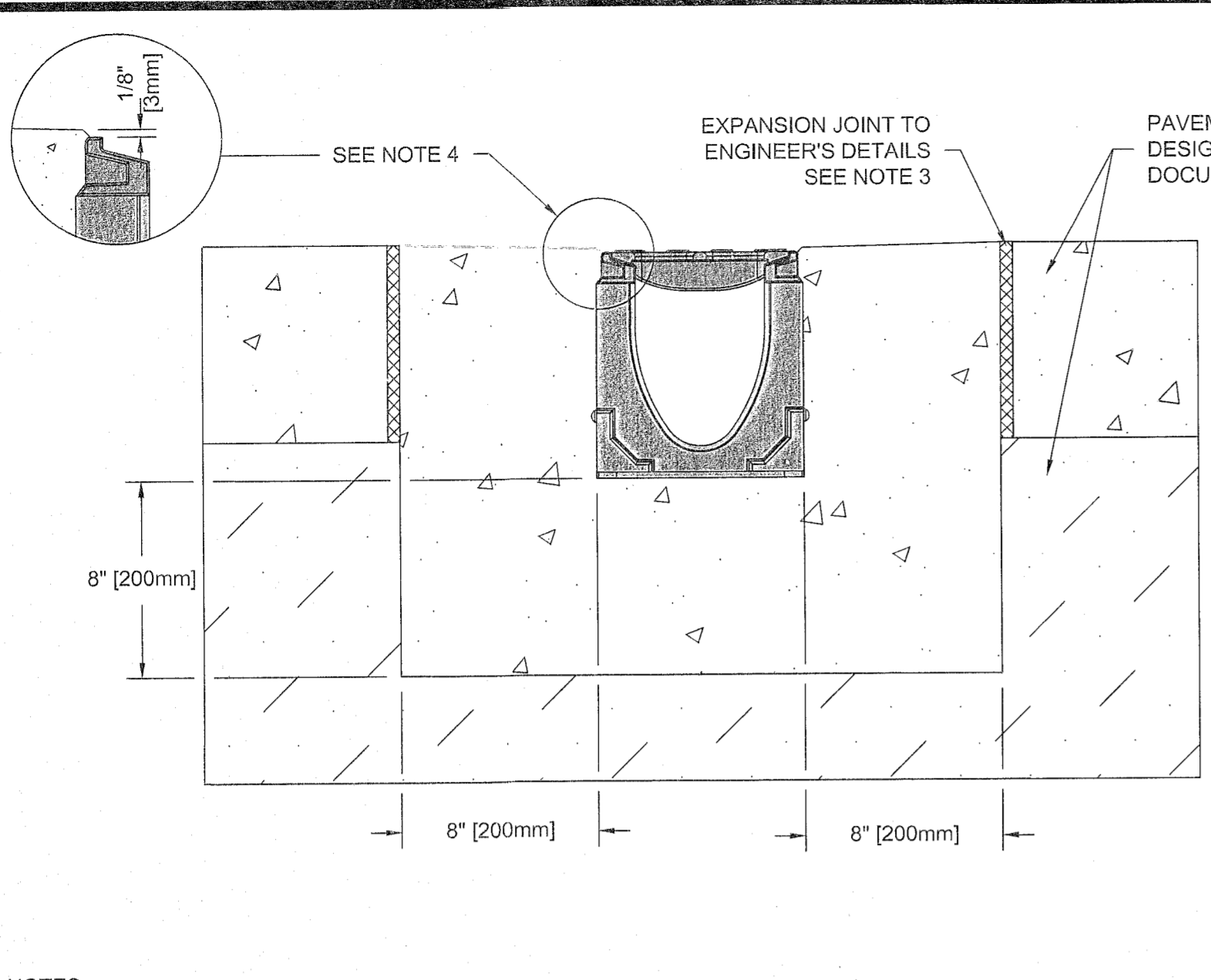
PRIVATE STORMWATER FACILITY PLAN AND SECTIONS

DESIGNED BY: BRB/AZV
DRAWN BY: AZV
CHECKED BY: AHH
SCALE: AS NOTED
DATE: 5/15/2017

REGISTERED PROFESSIONAL
58539PE
ALEXANDER H. HONEY
RENEWAL DATE: 6/30/17

REVISIONS:

JOB NUMBER: 4757
SHEET: C5.2



SPECIFICATION CLAUSE

S100K POWERDRAIN - LOAD CLASS F

GENERAL
THE SURFACE DRAINAGE SYSTEM SHALL BE POLYMER CONCRETE S100K CHANNEL SYSTEM WITH DUCTILE IRON RAILS AS MANUFACTURED BY ACO POLYMER PRODUCTS, INC.

MATERIALS
CHANNELS SHALL BE MANUFACTURED FROM POLYESTER RESIN POLYMER CONCRETE WITH AN INTEGRALLY CAST-IN DUCTILE IRON RAIL. MINIMUM PROPERTIES OF POLYMER CONCRETE WILL AS FOLLOWS:
 COMPRESSIVE STRENGTH: 14,000 PSI
 FLEXURAL STRENGTH: 4,000 PSI
 TENSILE STRENGTH: 1,500 PSI
 WATER ABSORPTION: 0.07%
 FROST PROOF: YES
 DILUTE ACID AND ALKALI RESISTANT: YES
 B117 SALT SPRAY TEST COMPLIANT: YES

THE SYSTEM SHALL BE 4" (100mm) NOMINAL INTERNAL WIDTH WITH A 6.29" (160mm) OVERALL WIDTH AND A BUILT-IN SLOPE OF 0.5%. CHANNEL INVERT SHALL HAVE DEVELOPED "V" SHAPE. ALL CHANNELS SHALL BE INTERLOCKING WITH A MALE/FEMALE JOINT.

THE COMPLETE DRAINAGE SYSTEM SHALL BE BY ACO POLYMER PRODUCTS, INC. ANY DEVIATION OR PARTIAL SYSTEM DESIGN AND/OR IMPROPER INSTALLATION WILL VOID ANY AND ALL WARRANTIES PROVIDED BY ACO POLYMER PRODUCTS, INC.

CHANNEL SHALL WITHSTAND LOADING TO PROPER LOAD CLASS AS OUTLINED BY EN 1433. GRATE TYPE SHALL BE APPROPRIATE TO MEET THE SYSTEM LOAD CLASS SPECIFIED AND INTENDED APPLICATION. GRATES SHALL BE SECURED USING "POWERLOK" BOLTLESS LOCKING SYSTEM. CHANNEL AND GRATE SHALL BE CERTIFIED TO MEET THE SPECIFIED EN 1433 LOAD CLASS. THE SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS.

NOTES:

- IT IS NECESSARY TO ENSURE MINIMUM DIMENSIONS SHOWN ARE SUITABLE FOR EXISTING GROUND CONDITIONS. *ENGINEERING ADVICE MAY BE REQUIRED.*
- MINIMUM CONCRETE STRENGTH OF 4,000 PSI IS RECOMMENDED. CONCRETE SHOULD BE VIBRATED TO ELIMINATE AIR POCKETS.
- EXPANSION AND CONTRACTION CONTROL JOINTS AND REINFORCEMENT ARE RECOMMENDED TO PROTECT CHANNEL AND CONCRETE SURROUND. *ENGINEERING ADVICE MAY BE REQUIRED.*
- THE FINISHED LEVEL OF THE CONCRETE SURROUND MUST BE APPROX. 1/8" (3mm) ABOVE THE TOP OF THE CHANNEL EDGE.
- CONCRETE BASE THICKNESS SHOULD MATCH SLAB THICKNESS. *ENGINEERING ADVICE MAY BE REQUIRED TO DETERMINE PROPER LOAD CLASS.*
- REFER TO ACO'S LATEST INSTALLATION INSTRUCTIONS FOR FURTHER DETAILS.

SK1-F-ECP

ACO Polymer Products, Inc.

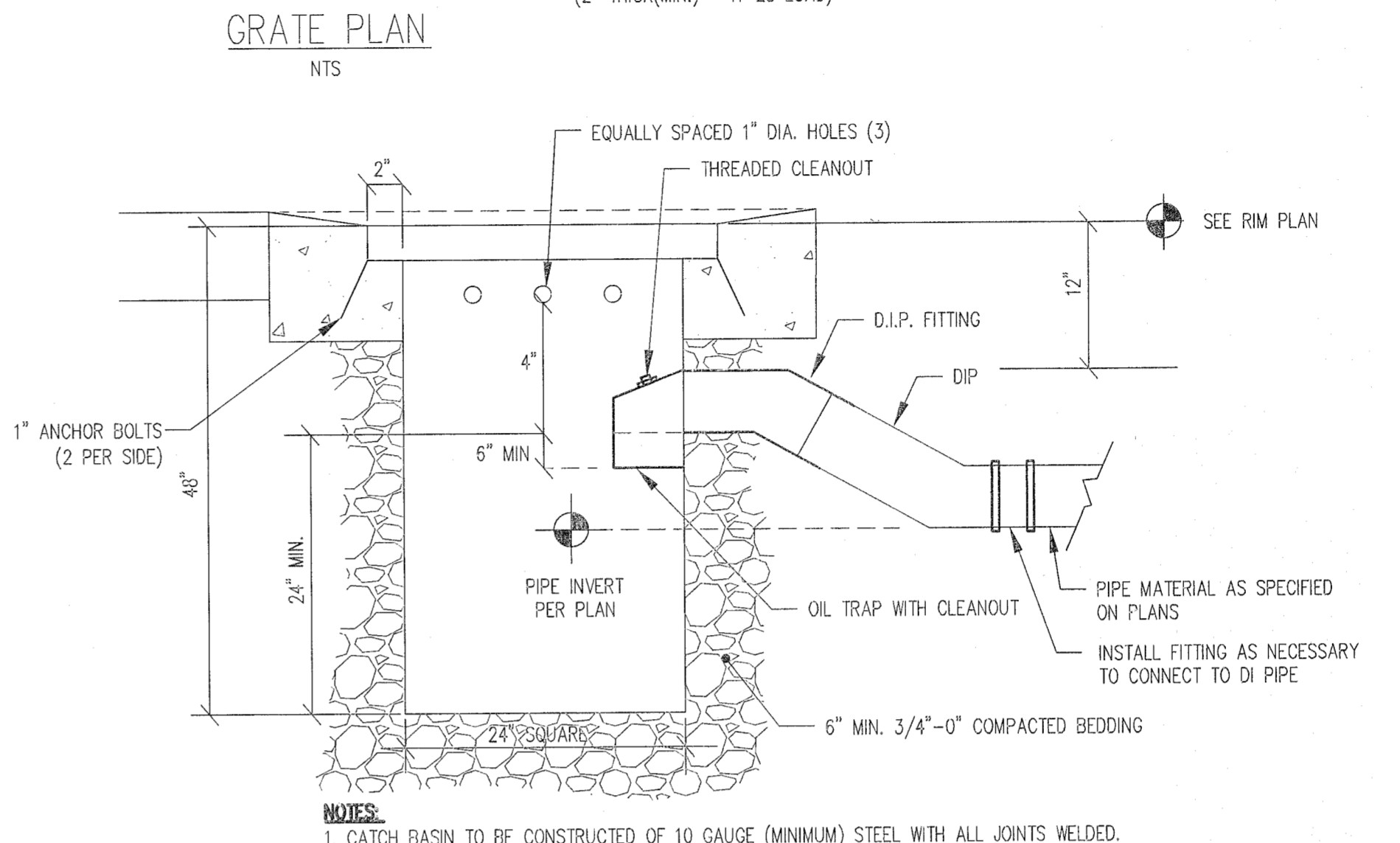
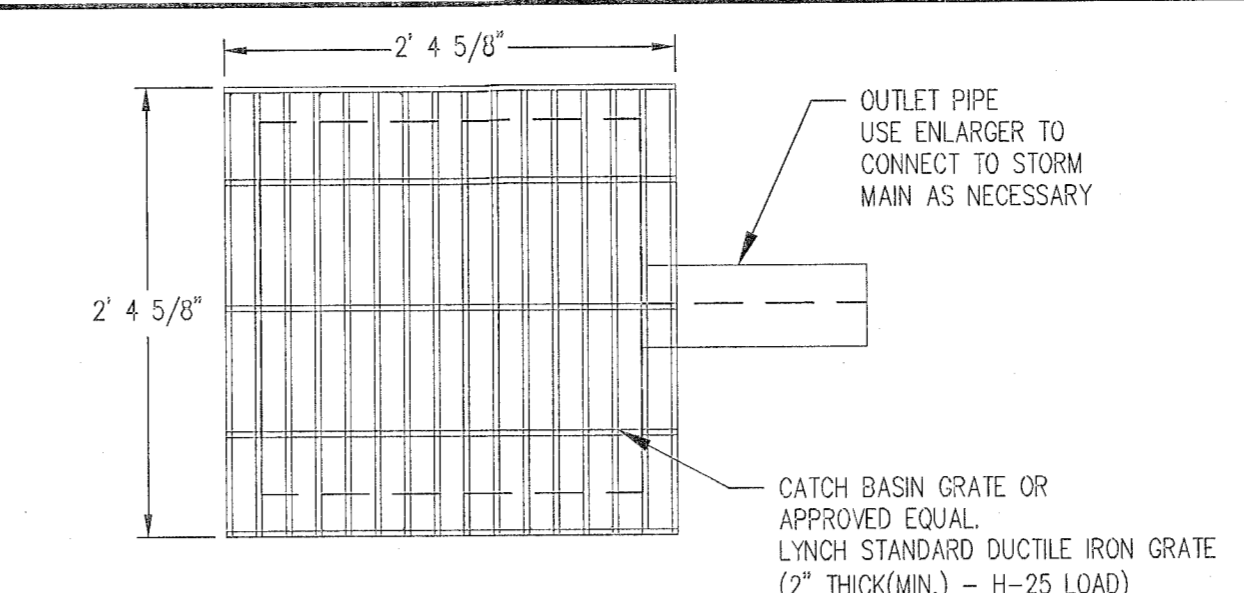
825 W. Beechcraft St. Casa Grande, AZ 85122
Tel: 520-421-9988 Fax: 520-421-9899

9470 Pinecone Dr. Mentor, OH 44060
Tel: 440-639-7230 Fax: 440-639-7235

4211 Pleasant Rd. Fort Mill, SC 29708
Tel: 440-639-7230 Fax: 803-802-1063

Arizona Tel: 888-490-9552 e-mail: sales@acousa.com Ohio Tel: 800-543-4764 www.acousa.com South Carolina Tel: 800-543-4764

INSTALLATION DRAWING - ACO DRAIN



NOTES:

- CATCH BASIN TO BE CONSTRUCTED OF 10 GAUGE (MINIMUM) STEEL WITH ALL JOINTS WELDED.
- OIL TRAP CLEANOUT LID TO BE PLUGGED ACCESS.
- SET CATCH BASIN ON 6" THICK COMPACTED CRUSHED ROCK.
- CATCH BASIN AND GRATE TO BE DESIGNED TO SUPPORT H-25 LOADING. CONTRACTOR SHALL SUPPLY PROJECT ENGINEER WITH MANUFACTURE SPECIFICATIONS PRIOR TO INSTALLATION.

STANDARD CATCH BASIN

CITY OF **West Linn** ENGINEERING APPROVED
DATE 7/1/17 BY AP

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Tulsa, OK 74137
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TVFR STATION 55

WEST LINN OREGON
CLACKAMAS COUNTY TAX MAP 2 1E 230D
WEST LINN OREGON
TAX LOT 12301

GENERAL STORM DRAIN NOTES:

- THE FOLLOWING STANDARD SPECIFICATIONS ARE INCORPORATED BY REFERENCE. ALL MATERIALS AND WORK SHALL CONFORM TO APPLICABLE REQUIREMENTS OF THE INTERNATIONAL BUILDING CODE (IBC), UNIFORM PLUMBING CODE (UPC) AND THE AMERICAN PUBLIC WORKS ASSOCIATION.
- ALL STORM SYSTEMS SHALL BE CLEANED AND FLUSHED. SEDIMENT, ROCK, AND OTHER DEBRIS SHALL BE COLLECTED AND DISPOSED OF IN A PROPER MANNER. IN NO CASE SHALL DEBRIS BE FLUSHED DOWN A STORM OR SANITARY SEWER FOR DISPOSAL. ALL DAMAGED IRRIGATION AND DRAINAGE PIPE, DRAIN TILES, SEWER LATERALS AND CULVERTS SHALL BE REPAIRED EXPEDITIOUSLY. DEBRIS COLLECTED SHALL BE DISPOSED OF IN A COMMERCIAL LANDFILL OR OTHER APPROVED LOCATION.
- INSTALLATION OF THE STORM SEWER SHALL BE PERFORMED ACCORDING TO THE STANDARD PRACTICE. ALL BACKFILL WITHIN TRAFFIC AREAS SHALL BE 3/4"-0" COMPACTED CRUSHED ROCK, COMPACTED TO 95% ASTM D-958 PER DETAIL.
- CONTRACTOR TO COORDINATE THE RELOCATION OF DRY UTILITIES (CABLE, PHONE, GAS, POWER, ETC.) WITH OWNER AS NECESSARY.
- STORM SEWER PIPE SHALL BE OF THE SIZE AND TYPE LISTED UNLESS SPECIFICALLY SHOWN ON THE PLANS. STORM STRUCTURES SHALL BE THE TYPE SHOWN ON THE DETAIL SHEET. INSTALLATION SHALL BE PER MANUFACTURERS RECOMMENDATIONS.
- POLYVINYL CHLORIDE (PVC) PIPE SHALL CONFORM TO THE REQUIREMENTS OF ASTM D-3034, SDR 35 (4"-15"), ASTM F-897 SDR 35 (18"-24"), ASTM C-900 D-1740R18 (4"-12"), AND/OR ASTM C-905 D-1740R18 (16"-24"). GASKETS SHALL CONFORM TO THE REQUIREMENTS OF ASTM C-477 AND ASTM D-3212.
- DUCTILE IRON (DI) PIPE SHALL CONFORM TO THE REQUIREMENTS OF ANSI A21.50-1 OR AWWA C150-1, CEMENT LINED PUSH ON JOINT WITH WATER TIGHT GASKETS. THE MINIMUM THICKNESS CLASS SHALL BE CLASS 50 (12" AND LESS) AND CLASS 51 (14" AND GREATER).
- ALL STORM PIPES SHALL BE INSTALLED WITH TRACER WIRE. (18 GAUGE, INSULATED COPPER, OR HEAVIER, GREEN IN COLOR OR OTHER APPROVED MATERIALS). THE TRACER WIRE SHALL RUN THE FULL LENGTH OF PIPE AND TO THE TOP OF STRUCTURES AT THE END OF THE PIPE RUN.
- THE RESPONSIBILITY FOR CONSTRUCTION OF SITE UTILITIES SHALL BEGIN AT A POINT 5' OUTSIDE THE BUILDING SLAB. ALL STORM SEWER PIPING WITHIN 5 FEET OF BUILDINGS SHALL BE IN ACCORDANCE WITH BUILDING PLUMBING PLANS.
- STORM SEWER PIPES SHALL BE PROVIDED WITH A CLEANOUT AT ITS UPPER TERMINAL AND EACH RUN OF PIPING, WHICH IS MORE THAN ONE HUNDRED (100) FEET IN TOTAL DEVELOPED LENGTH. SHALL BE PROVIDED WITH A CLEANOUT FOR EACH ONE HUNDRED (100) FEET, OR FRACTION THEREOF, IN LENGTH OF SUCH PIPING. ADDITIONAL CLEANOUTS SHALL BE PROVIDED FOR EACH AGGREGATE CHANGE IN HORIZONTAL DIRECTION EXCEEDING 135 DEGREES. ALL REQUIRED CLEANOUTS MAY NOT BE SHOWN ON THE PLANS.
- ALL PRIVATE STORM SEWER PIPES SHALL BE TESTED AND INSPECTED PER JURISDICTIONAL AND IBC/UPC REQUIREMENTS. CONTRACTOR IS RESPONSIBLE FOR COORDINATING INSPECTIONS WITH THE APPROPRIATE JURISDICTION'S INSPECTOR(S).
- ALL MANHOLES SHALL BE 48" DIAMETER UNLESS NOTED OTHERWISE.
- UTILITIES SHOWN ARE DRAWN SCHEMATICALLY. UTILITY PLANS MAY NOT REFLECT THE ACTUAL SPACING AND HORIZONTAL / VERTICAL LOCATION OF NEW OR EXISTING UTILITIES. PLANS DO NOT SHOW ALL BENDS, REDUCERS, WYES, GASKETS, CLEANOUTS, FITTINGS, AND STRUCTURES. CONTRACTOR IS RESPONSIBLE FOR MATERIALS AND LABOR NECESSARY TO CONSTRUCT UTILITIES SHOWN AS INTENDED IN ACCORDANCE WITH APPLICABLE MANUFACTURER, LOCAL, STATE, AND FEDERAL REQUIREMENTS.
- CONTRACTOR IS RESPONSIBLE FOR SUPPLYING THE PROJECT ENGINEER WITH COPIES OF VIDEO LINE INSPECTION AND PROOF OF COMPACTION TESTING OF BACKFILL.

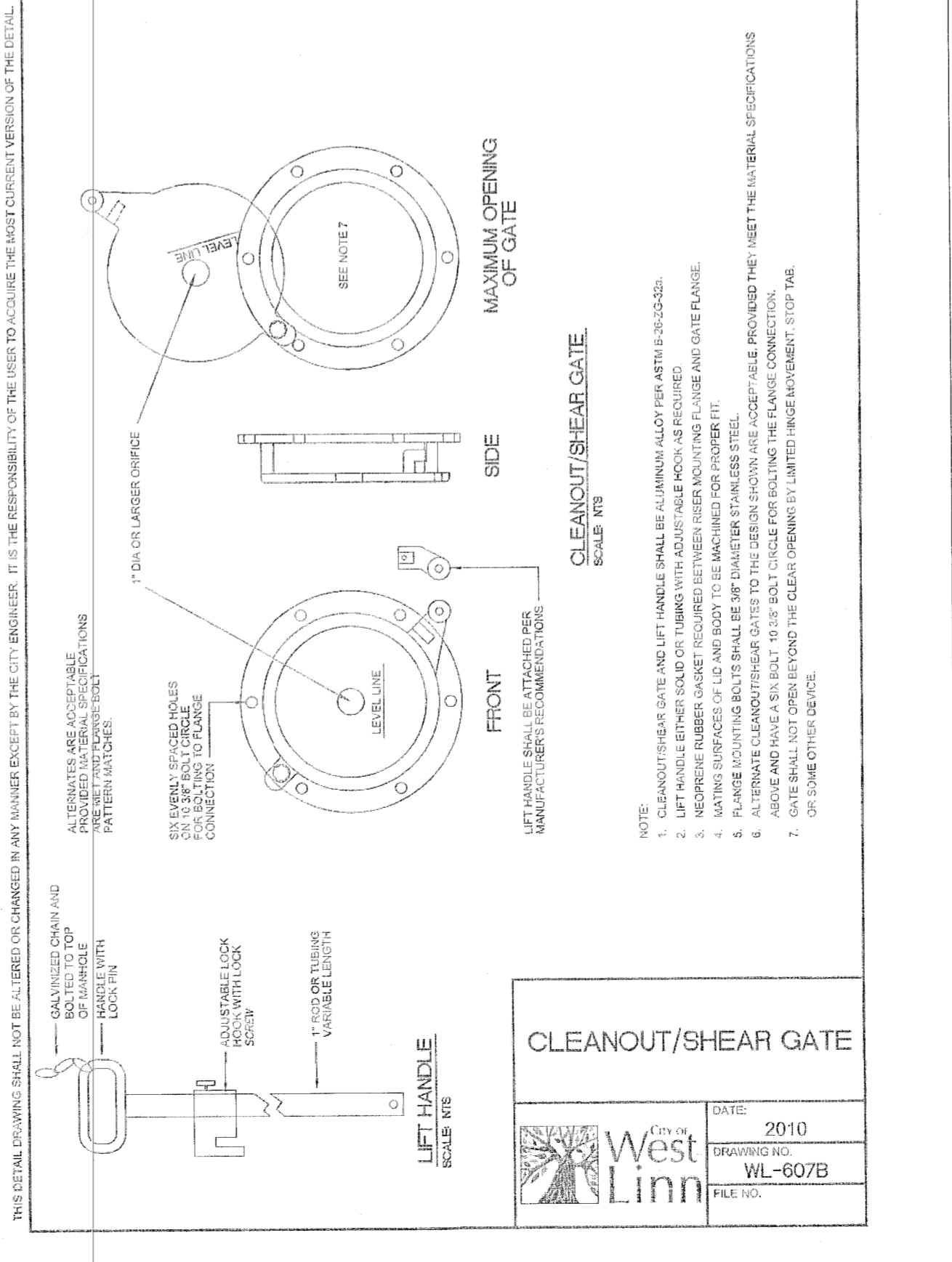
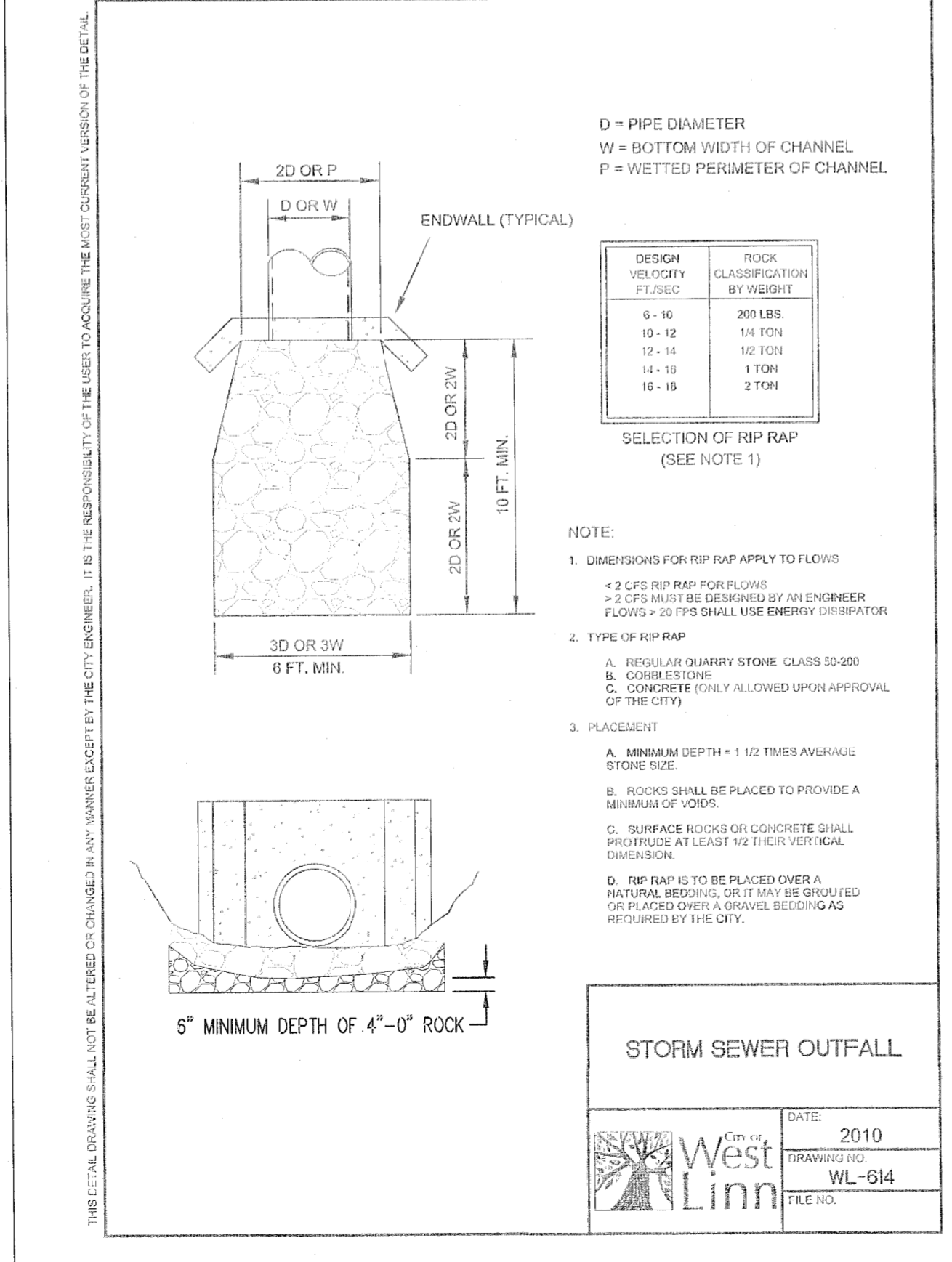
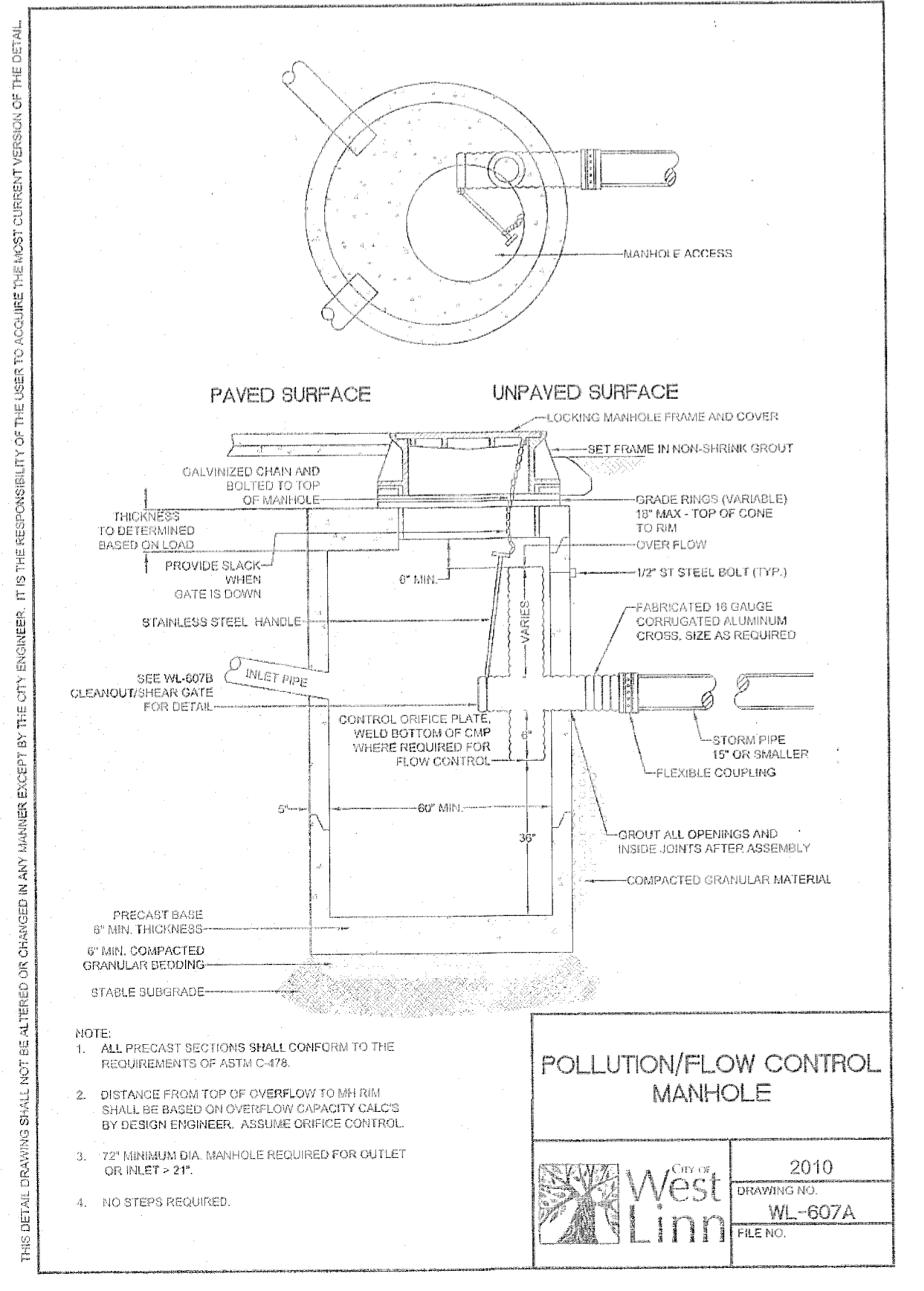
STORM DRAINAGE NOTES AND DETAILS

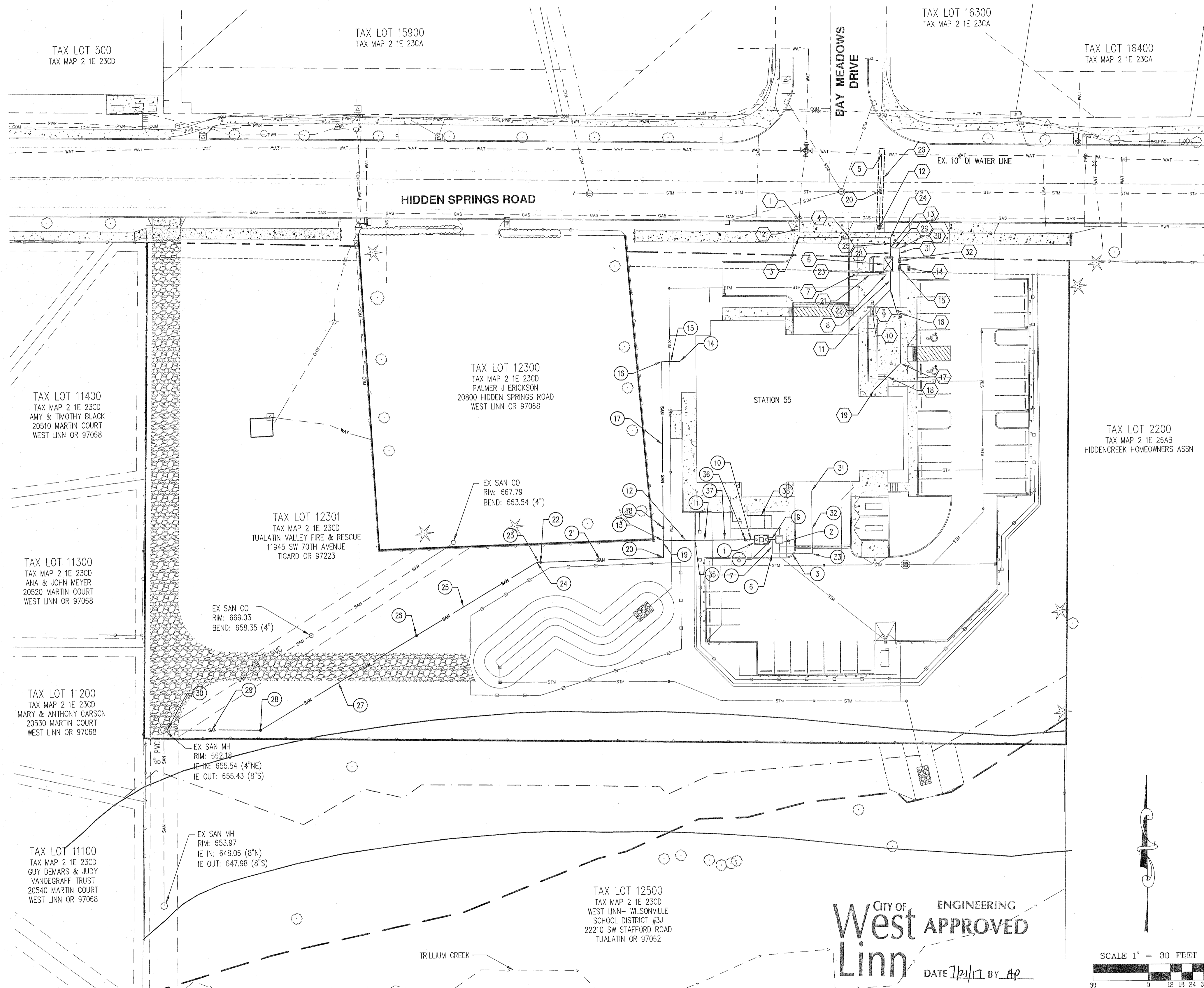
DESIGNED BY: BRB/AZY
DRAWN BY: AZY
CHECKED BY: AHH
SCALE: AS NOTED
DATE: 5/15/2017

REGISTERED PROFESSIONAL ENGINEER
58539PE
ALEXANDER H. HURLEY
RENEWAL DATE: 6/30/17

REVISIONS

JOB NUMBER: 4757
SHEET: C5.3





GENERAL NOTES:

1. ALL WATER LINES SHALL BE FULLY RESTRAINED. ALL WATER LINE FITTINGS TO BE MECHANICAL JOINT (MJ)
2. ALL DUCTILE IRON PIPE RELATED TO PUBLIC WATER IMPROVEMENTS SHALL BE ENCASED IN POLYETHYLENE WRAP (SEE PUBLIC WATER NOTE 4 - SHEET C5.6)
3. SEE SHEET C5.6 FOR WATER GENERAL NOTES.
4. SEE SHEET C5.5 FOR SANITARY SEWER GENERAL NOTES.

PUBLIC KEYED WATER NOTES

- 1 WATER POINT OF CONNECTION (EXISTING 8")
INSTALL 8"x4" DI REDUCER
- 2 INSTALL 9 LF 4" DI PIPE
- 3 INSTALL 4" DI MJ 90° ELBOW BEND (DEFLECT 90')
- 4 INSTALL 50 LF 4" DI PIPE
- 5 INSTALL 10"x6" WET TAP PER DETAIL WL-410
INSTALL THRUST BLOCK PER DETAIL WL-405 (SHEET C5.7)
- 12 INSTALL PUBLIC FIRE HYDRANT PER DETAIL WL-401 (SHEET C5.6)
- 13 INSTALL 4"x4" DI TEE
- 20 INSTALL 40 LF 6" DI PIPE
- 24 INSTALL 4" DI MJ 90° ELBOW BEND (DEFLECT 90')
- 25 INSTALL 6 LF 4" DI PIPE
- 26 AC SAWCUT LINE
T-CUT PER DETAIL WL-203 (SHEET C5.7)
- 27 NOT USED
- 28 INSTALL 6 LF 4" DI PIPE
- 29 INSTALL 5 LF 4" DI PIPE
- 30 INSTALL 4" DI MJ 90° ELBOW BEND (DEFLECT 90')
- 31 INSTALL 5 LF 4" DI PIPE
- 32 INSTALL 4"x2" DI REDUCER
INSTALL 2" WATER SERVICE METER BOX PER DETAIL WL-403 (SHEET C5.6)

PRIVATE KEYED WATER NOTES

- 6 INSTALL VAULT, 4" DOUBLE CHECK DETECTOR ASSEMBLY, FDC BRANCH, AND SUMP PUMP PER DETAIL WL-414A (SHEET C5.6). INSTALL TAMPER SWITCHES ON DOUBLE CHECK DETECTOR ASSEMBLY PER ELECTRICAL PLANS. SUMP PUMP SHALL BE 1/3 HP STAINLESS STEEL AS APPROVED BY THE CITY OF WEST LINN. CONNECT SUMP TO POWER PER ELECTRICAL PLANS. INSTALL 1-1/2" PVC SUMP PUMP DISCHARGE PIPE FROM VAULT TO STORM DRAINAGE SYSTEM. CONTRACTOR TO PROVIDE MATERIALS SUBMITTAL AND SHOP DRAWINGS SHOWING VAULT CONTAINING ALL VALVES, FITTINGS, METERS, AND APPURTENANCES.
- 7 INSTALL FIRE DEPARTMENT CONNECTION PER FIRE DEPARTMENT CONNECTION DETAIL (SHEET C5.7).
- 8 INSTALL 10 LF 4" CS90 PIPE
- 9 INSTALL 4" DI MJ 45° ELBOW BEND (DEFLECT 45')
- 10 INSTALL 27 LF 4" CS90 PIPE
- 11 END 4" FIRE SERVICE WATER LINE. CONNECT TO BUILDING PER PLUMBING PLANS.
- 14 INSTALL 1-1/4" IRRIGATION WATER DOUBLE CHECK VALVE ASSEMBLY PER DETAIL (SHEET C5.7). IRRIGATION POC. COORDINATE WITH LANDSCAPE PLANS.
- 15 INSTALL 2" DOMESTIC WATER DOUBLE CHECK VALVE ASSEMBLY PER DETAIL (SHEET C5.7)
- 16 INSTALL 52 LF 3" PVC DOMESTIC WATER LINE.
- 17 INSTALL 3" 45° PVC ELBOW BEND (DEFLECT 45')
- 18 INSTALL 20 LF 3" PVC DOMESTIC WATER LINE.
- 19 END 3" PVC DOMESTIC WATER LINE. CONNECT TO BUILDING PER PLUMBING PLANS
- 20 NOT USED
- 21 INSTALL 18 LF 4" CS90 PIPE
- 22 INSTALL 4" DI MJ 90° ELBOW BEND (DEFLECT 90')
- 23 INSTALL 2 LF 4" CS90 PIPE

KEYED SANITARY SEWER NOTES

- 1 INSTALL OIL/WATER SEPARATOR UTILITY VAULT 576-SA W/ DIAMOND PLATE COVER (SEE DETAILS ON SHEET C5.5). INSTALL RISERS AS NECESSARY TO REACH RIM ELEVATION SHOWN.
RIM: 572.99
IE IN: 558.40
IE OUT: 558.24
- 2 INSTALL UTILITY VAULT 444-LA W/ DIAMOND PLATE LID (SEE DETAILS ON SHEET C5.5) INSTALL 4" PNEUMATIC ACTUATED DIVERTER VALVE W/ WATER TIGHT CONNECTIONS IN VAULT AND CONNECT TO COMPRESSED AIR LUBING PER PLUMBING PLANS. INSTALL RISERS AS NECESSARY TO REACH RIM ELEVATION SHOWN. MANUFACTURER: MCMASTER-CARR #4873K84 WITH FLOW PATTERN B
RIM: 573.05
IE IN: 558.40
IE OUT SANITARY: 558.40
IE OUT STORM: 558.40
INSTALL SUMP PUMP PER SPECIFICATIONS AND CONNECT TO POWER PER ELECTRICAL PLANS
INSTALL 1-1/2" PVC SUMP PUMP DISCHARGE PIPE FROM VAULT TO STORM DRAINAGE SYSTEM.
- 3 4" CS90 SAN
L=21.7LF
S=0.0100FT/FT
- 4 NOT USED
- 5 NOT USED
- 6 IE: 559.51
- 7 4" CS90 SAN
L=7.7LF
S=0.1519FT/FT
- 8 IE: 558.44
- 9 4" PVC SAN
L=4.0LF
S=0.0200FT/FT
- 10 4" PVC SAN
L=5.0LF
S=0.0200FT/FT
- 11 VERTICAL BEND
IE: 563.33
- 12 4" PVC SAN
L=22.5LF
S=0.0200FT/FT
- 13 IE: 562.88
- 14 CONNECT TO BUILDING PER PLUMBING PLANS
IE: 559.42
- 15 6" PVC SAN
L=9.5LF
S=0.0200FT/FT
- 16 90° BEND
IE: 559.22
- 17 6" PVC SAN
L=90.1LF
S=0.0553FT/FT
- 18 SSCO
RIM: 555.27
IE: 553.34
- 19 6" PVC SAN
L=16.0LF
S=0.0553FT/FT
- 20 90° BEND
IE: 552.29
- 21 6" PVC SAN
L=66.5LF
S=0.0200FT/FT
- 22 SSCO
RIM: 555.92
IE: 550.95
- 23 6" PVC SAN
L=2.0LF
S=0.0200FT/FT
- 24 45° BEND
IE: 550.92
- 25 6" PVC SAN
L=76.3LF
S=0.0200FT/FT
- 26 SSCO
RIM: 554.70
IE: 559.35
- 27 6" PVC SAN
L=29.0LF
S=0.0200FT/FT
- 28 SSCO/45° BEND
RIM: 550.14
IE: 557.41
- 29 6" PVC SAN
L=52.4LF
S=0.0200FT/FT
- 30 CONNECT TO EXISTING SANITARY SEWER MANHOLE
IE: 555.37
- 31 CONNECT TO BUILDING PER PLUMBING PLANS
IE: 571.18
- 32 4" CS90 SAN
L=33.7.0LF
S=0.0400FT/FT
- 33 45° BEND
IE: 559.83
- 34 NOT USED
- 35 HILFKER WALL/PIPE CROSSING
PER DETAIL (SHEET C5.5)
- 36 SSCO/VERTICAL BEND
RIM: 572.91
IE: 558.14
- 37 4" PVC SAN
L=21.5LF
S=0.2158FT/FT
- 38 2" PVC VENT FOR OIL/WATER SEPARATOR
CONNECT TO BUILDING PER PLUMBING PLANS

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**ENGINEERING - SURVEYING - NATURAL RESOURCES
FORESTRY - PLANNING - LANDSCAPE ARCHITECTURE**

TVFR STATION 55
CLACKAMAS COUNTY TAX MAP 2 1E 23CD

WEST LINN
TAX LOT 12301

**SANITARY SEWER AND
WATER PLAN**

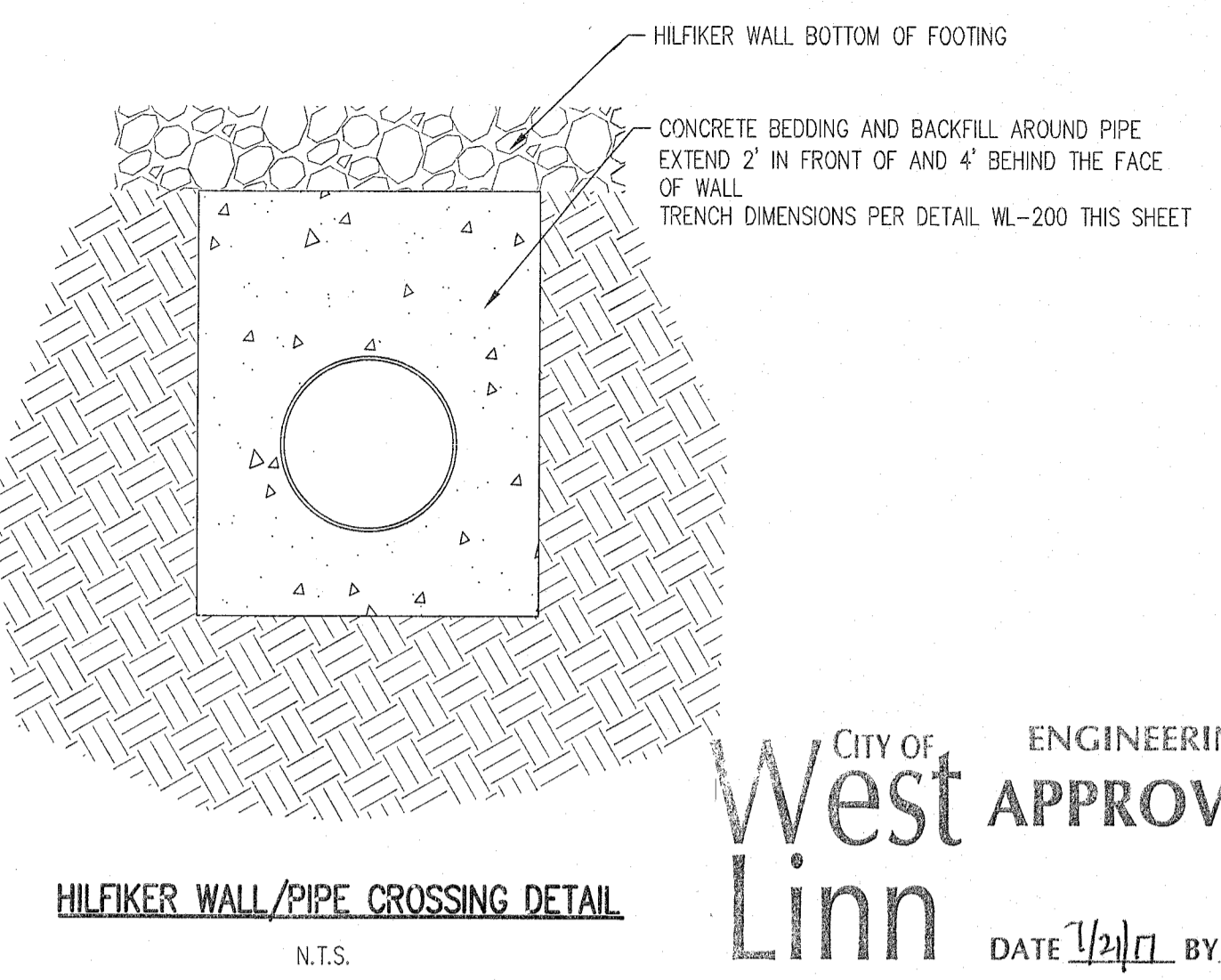
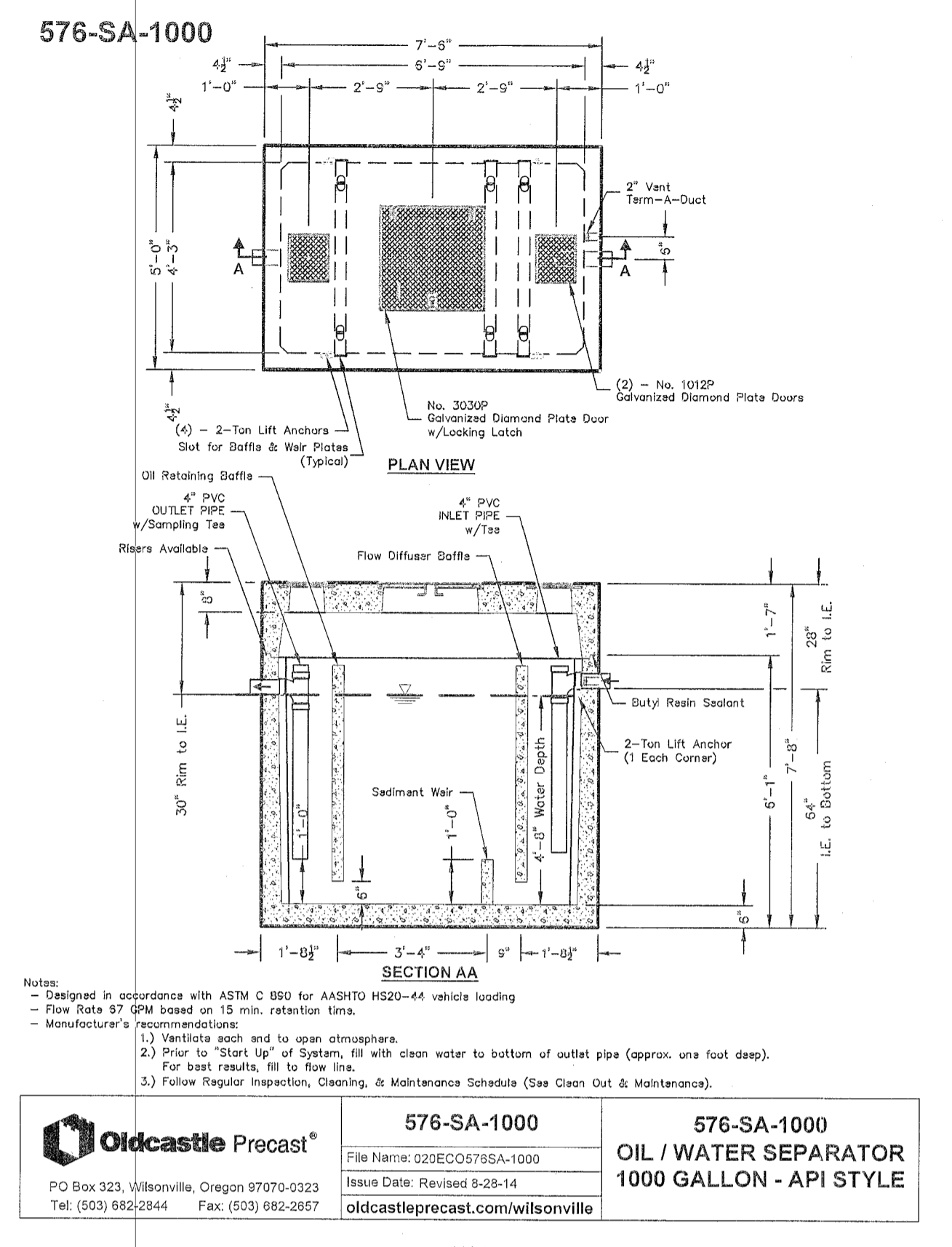
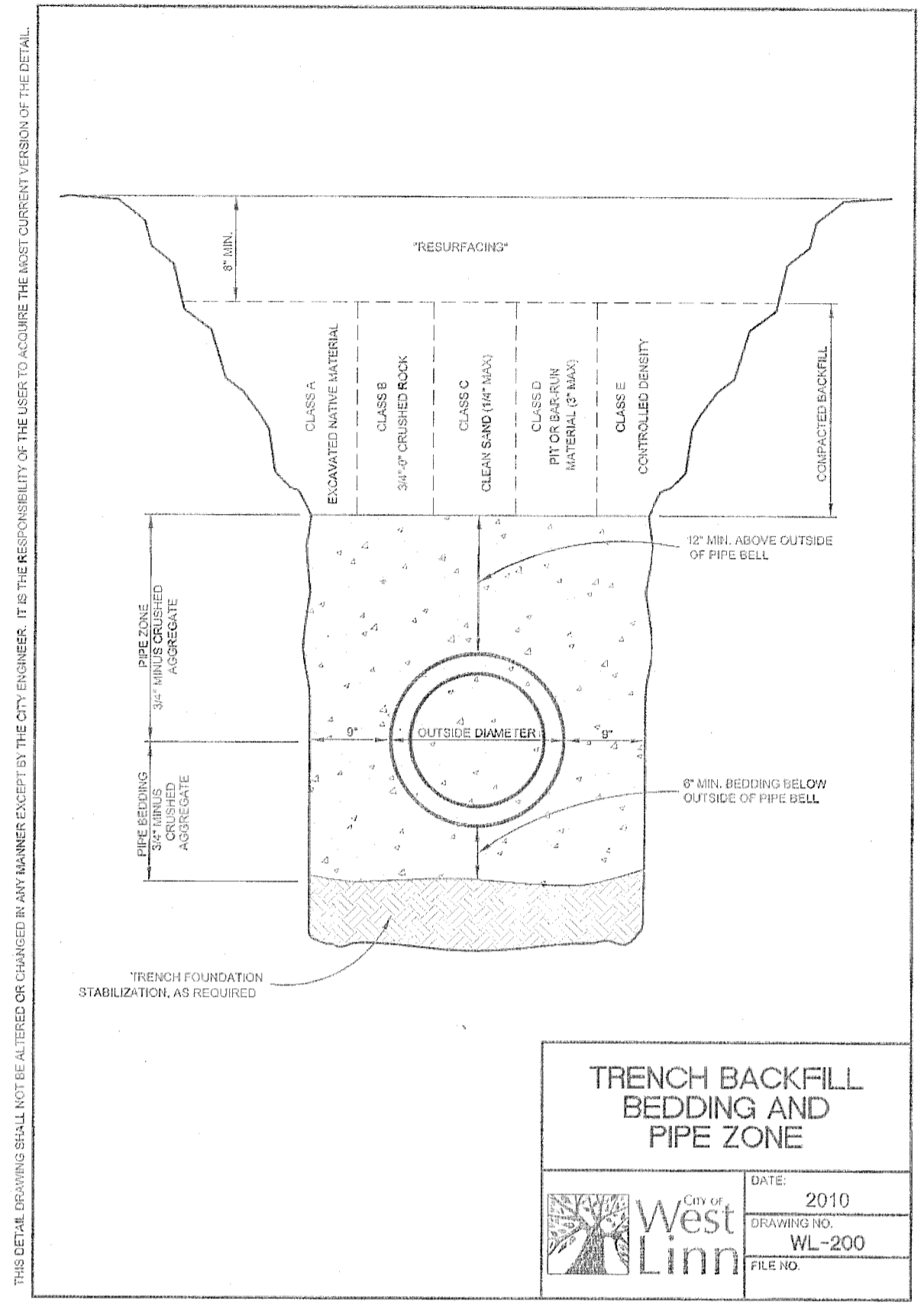
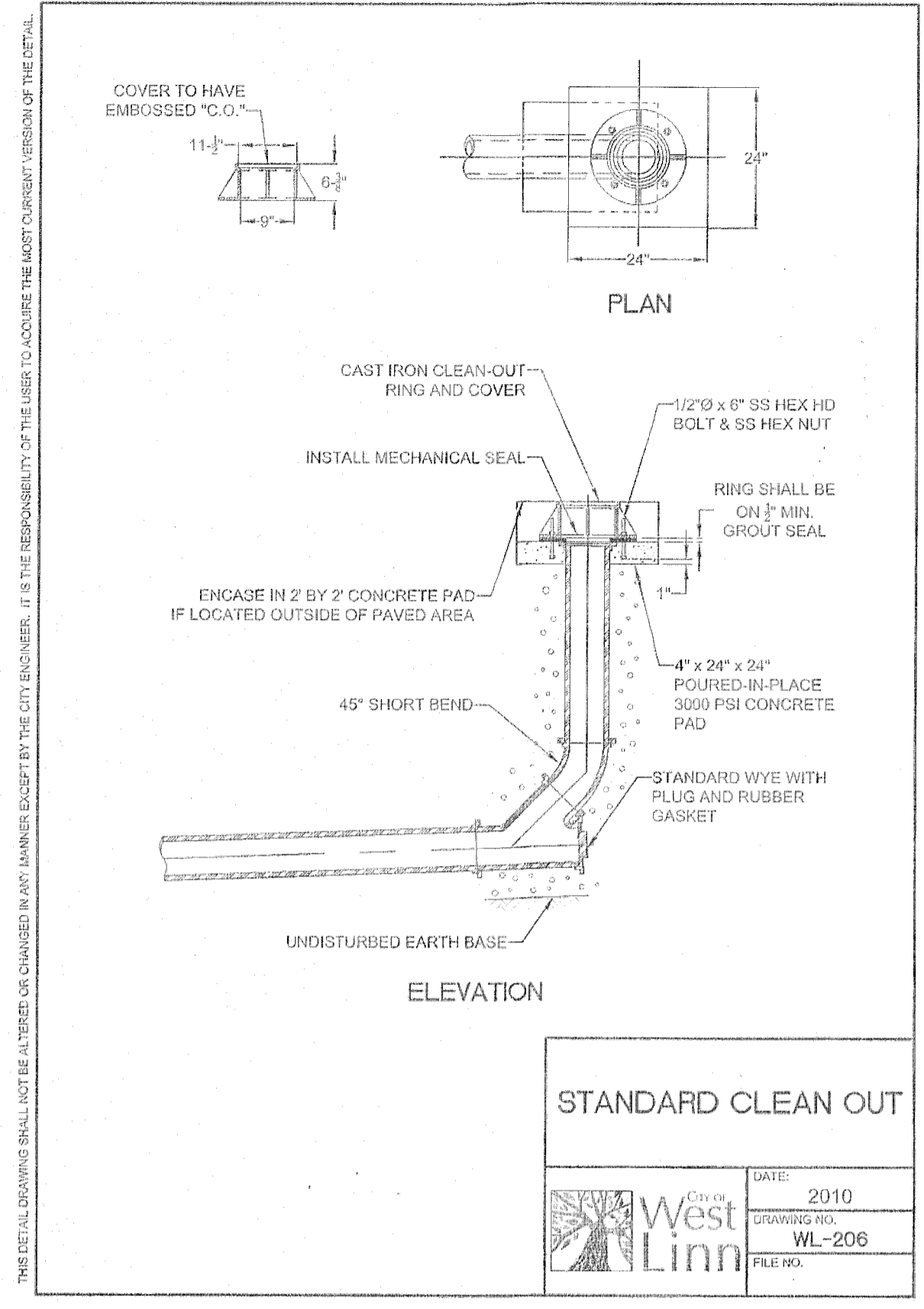
DESIGNED BY: BRB/AZV
DRAWN BY: AZV
CHECKED BY: AHH
SCALE: AS NOTED
DATE: 5/15/2017

**REGISTERED PROFESSIONAL
ENGINEER
58539PE
ALEXANDER H. HUBLEY
RENEWAL DATE: 6/30/17**

REVISIONS

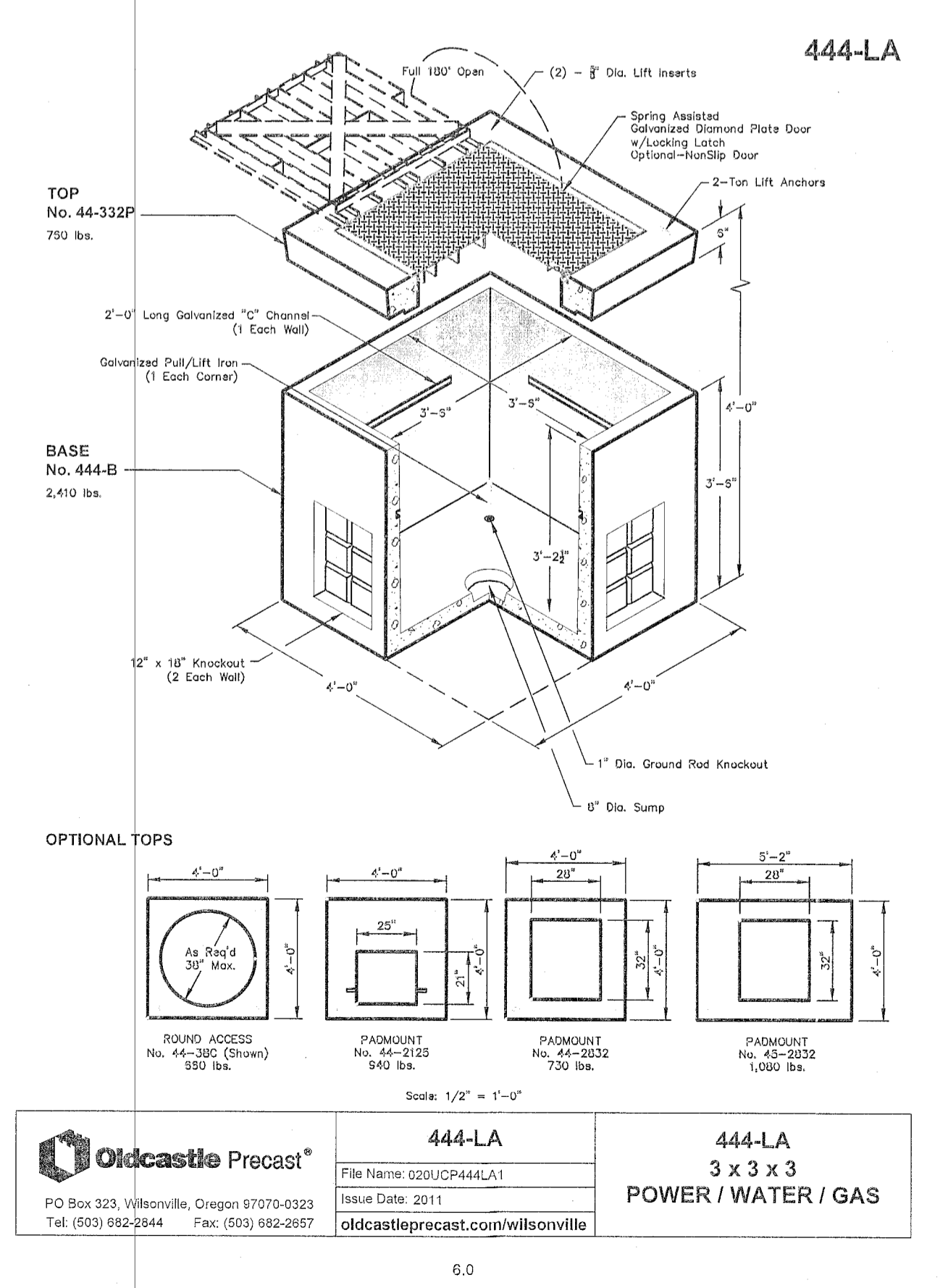
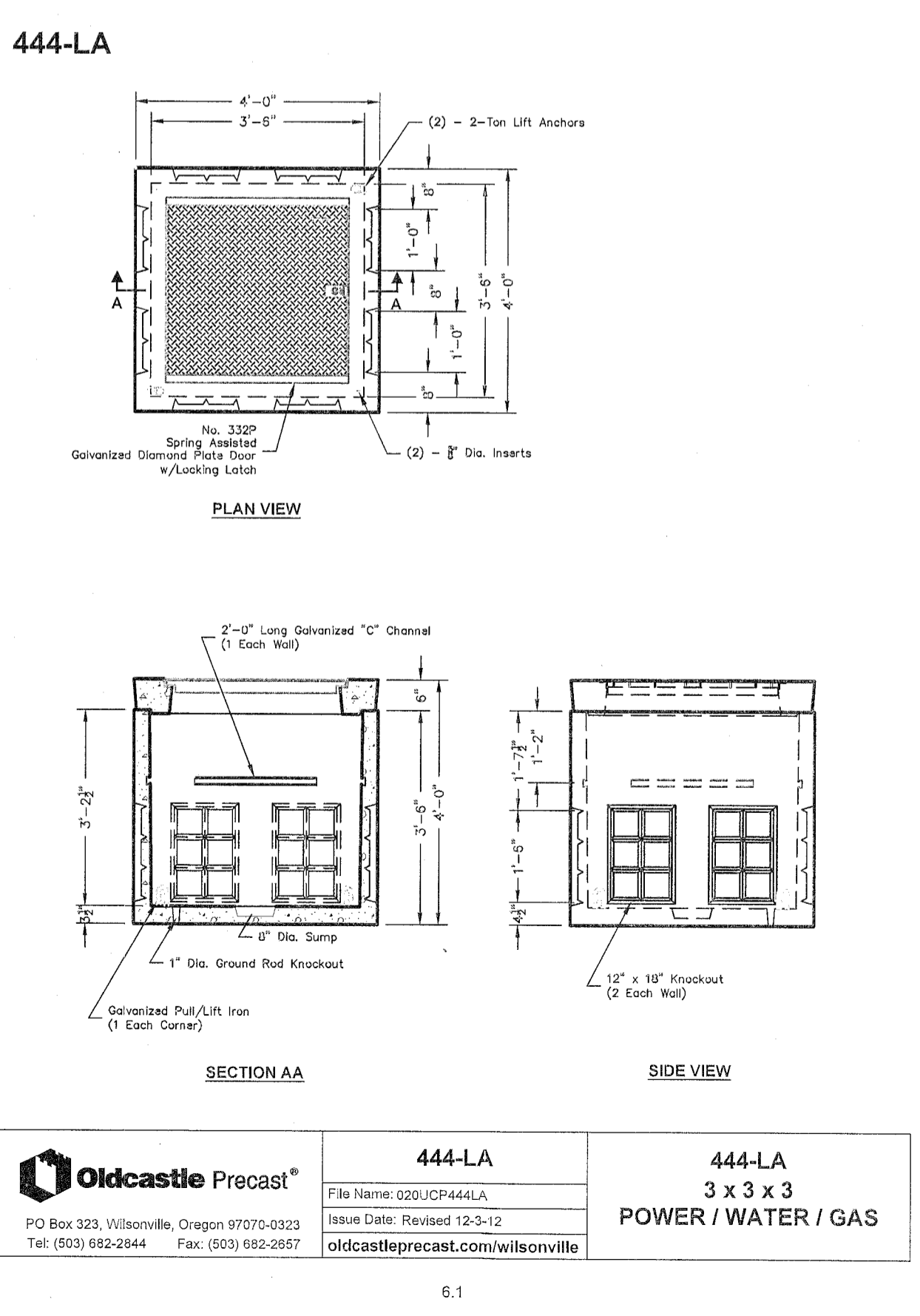
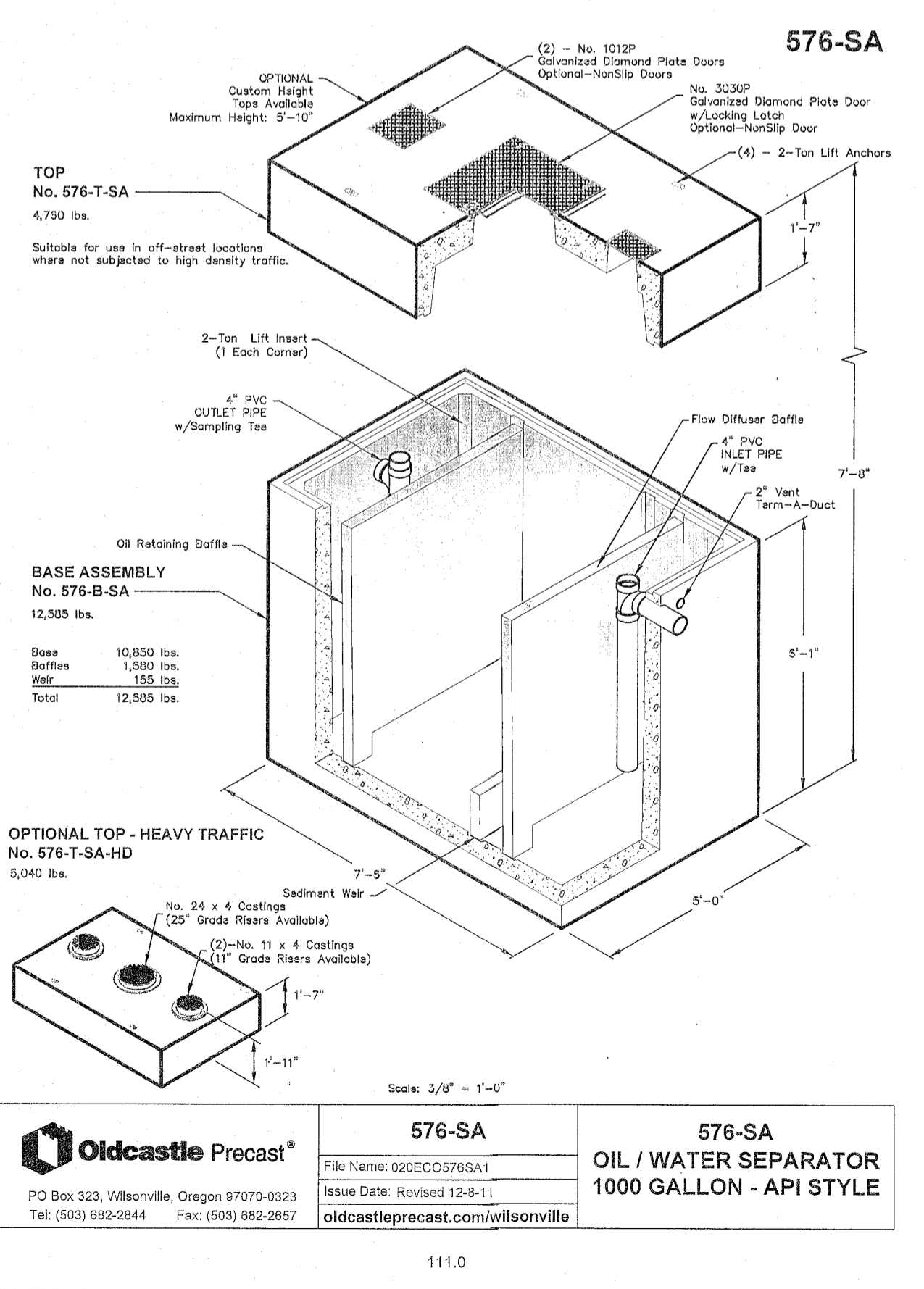
JOB NUMBER
4757

SHEET
C5.4



SANITARY SEWER CONSTRUCTION NOTES

- ALL CONSTRUCTION AND MATERIALS SHALL COMPLY WITH THESE PLANS AND THE APPLICABLE REQUIREMENTS OF THE CITY OF WEST LINN.
- THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER 48 HOURS PRIOR TO THE START OF SANITARY SEWER CONSTRUCTION AND ANY STAGED INSPECTION.
- POLYVINYL CHLORIDE (PVC) PIPE SHALL CONFORM TO THE REQUIREMENTS OF ASTM D-3034, SDR 35 (4"-15"), ASTM F-578 SDR 35 (18"-24"), ASTM C-900 D-174DR18 (4"-12"), ASTM C905 D-174DR18 (18"-24"). GASKETS SHALL CONFORM TO THE REQUIREMENTS OF ASTM C-477 AND ASTM D-3212.
- MANHOLES SHALL BE PRECAST CONCRETE SECTIONS WITH MINIMUM INSIDE DIAMETER OF 48 INCHES, CONFORMING TO THE REQUIREMENTS OF ASTM C-478, EXCEPT AS NOTED ON THE PLANS. PRECAST MANHOLE RISERS, TOPS, AND BASE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI. TOPS BE ECCENTRIC CONES EXCEPT WHERE FLAT TOPS ARE REQUIRED PER STANDARD DETAILS. POURED IN PLACE MANHOLES WITH A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI MAY BE SUBSTITUTED.
- PVC PIPE 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. THE CONNECTIONS SHALL BE FINISHED PORTLAND CEMENT GROUT.
- AFTER THE CONTRACTOR HAS BACKFILLED THE PIPE ZONE OF THE TRENCH AS REQUIRED, THE CONTRACTOR SHALL THEN BACKFILL THE BALANCE OF THE TRENCH, WITH CLASS "B" CRUSHED ROCK, IN ONE FOOT (1') LAYERS, MECHANICALLY COMPACTING EACH LAYER TO 95% IN PUBLIC RIGHT-OF-WAYS AND 95% IN OTHER AREAS PER AASHTO T-99. PIPE ZONE MATERIAL AND PIPE BASE SHALL BE 3/4" CRUSHED GRAVEL. TRENCH BACKFILL SHALL BE 3/4" CRUSHED ROCK WITHIN STREETS AND NATIVE MATERIAL IN OTHER AREAS. ANY SUBSEQUENT SETTLEMENT OF THE TRENCH OR DITCH DURING THE GUARANTEE PERIOD SHALL BE CONSIDERED TO BE THE RESULT OF IMPROPER COMPACTION AND SHALL BE PROMPTLY CORRECTED BY THE CONTRACTOR AT NO EXPENSE TO THE DISTRICT OR THE OWNER.
- SANITARY SEWER PIPE AND APPURTENANCES SHALL BE TESTED FOR LEAKAGE IN ACCORDANCE WITH THE CITY OF WEST LINN. LEAKAGE TESTS INCLUDE AN AIR TEST OF THE SEWER MAINS AND SERVICE CONNECTIONS AND A WATER EXFILTRATION TEST OR VACUUM TEST OF THE MANHOLES. ANY PORTION OF THE SEWER WHICH FAILS TO PASS THESE TESTS SHALL BE EXCAVATED, REPAIRED OR REALIGNED, AND RETESTED. IN ADDITION TO HYDROSTATIC OR AIR TESTING, SANITARY SEWERS CONSTRUCTED OF PVC SEWER PIPE SHALL BE DEFLECTION TESTED AFTER THE TRENCH BACKFILL AND COMPACTION HAS BEEN COMPLETED. THE TEST SHALL BE CONDUCTED BY PULLING AN APPROVED SOLID POINTED MANDREL 85% OF THE INSIDE DIAMETER THROUGH THE PIPELINE ON A MANHOLE TO MANHOLE BASIS.
- UNLESS OTHERWISE SPECIFIED ON THE PLANS OR DIRECTED BY THE ENGINEER, EACH SERVICE CONNECTION SHALL BE LAID IN A SEPARATE TRENCH ON A STRAIGHT LINE AND GRADIENT FROM THE TEE TO THE END OF THE SERVICE CONNECTION. THE SERVICE CONNECTION SHALL BE INSTALLED WITH THE SAME ACCURACY AS THE MAIN SEWER.
- EACH SERVICE CONNECTION SHALL BE PLUGGED WITH A RUBBER RING PLUG. A 2"x4" MARKER PAINTED GREEN SHALL BE PLACED AT THE END OF THE PIPE TO A POINT ONE FOOT (1') ABOVE THE SURFACE OF THE GROUND. A DETECTABLE WHITE MAGNETIC TAPE ("THORURATEC WHITE SANITARY SEWER RIBBON OR EQUAL") WITH THE WORD "SEWER" AT REGULAR INTERVALS SHALL BE PLACED ALONG THE SERVICE CONNECTION FROM THE MAINLINE TEE TO THE GROUND SURFACE. THE DEPTH AT THE END OF THE LATERAL SHALL BE WRITTEN ON THE 2"x4".
- IN EASEMENT AREAS, ALL MANHOLES SHALL HAVE TAMPER-PROOF LIDS PER THE CITY OF WEST LINN SPECIFICATIONS, OR APPROVED EQUAL. THE RIM SHALL BE SIX INCHES (6") ABOVE FINISH GRADE.
- THE CONTRACTOR SHALL AT ALL TIMES PROVIDE AND MAINTAIN AMPLE MEANS AND DEVICES TO REMOVE AND DISPOSE OF ALL WATER ENTERING THE TRENCH EXCAVATION DURING THE PROCESS OF LAYING THE PIPE. WATER AND DEBRIS SHALL NOT ENTER INTO THE DISTRICT'S SEWER SYSTEM. WATER AND DEBRIS SHALL BE DISPOSED OF IN AN APPROVED MANNER.
- THE CONTRACTOR SHALL AT ALL TIMES ABIDE BY APPLICABLE SAFETY RULES OF O.S.H.A. AND IN PARTICULAR, THOSE PERTAINING TO ADEQUATE SHORING AND TRENCH PROTECTION.
- THE CONTRACTOR SHALL KEEP RECORDS OF ALL CONSTRUCTION THAT DIFFERS FROM THE APPROVED PLANS AND SHALL MAINTAIN "RECORD DRAWINGS" DURING THE CONSTRUCTION PERIOD. "RECORD DRAWINGS" SHALL BE SUBMITTED TO THE ENGINEER AT THE END OF THE PROJECT.
- ALL SANITARY SEWER PIPE WITH A MINIMUM OF FOUR FEET OF COVER FROM FINISHED GRADE SHALL BE PVC, SEAMLESS, CONFORMING TO ASTM 3034 SDR 35 OR APPROVED EQUAL.
- ALL SANITARY SEWER PIPE WITH A MINIMUM OF TWO FEET OF COVER FROM FINISHED GRADE SHALL BE DUCTILE IRON (DI) CLASS 50 WALL THICKNESS OR APPROVED EQUAL.
- ALL SANITARY SEWER PIPE WITH A MINIMUM OF 10-INCHES OF COVER FROM FINISHED GRADE SHALL BE DUCTILE IRON (DI) CLASS 50 WALL THICKNESS OR APPROVED EQUAL.
- ALL NEW CURBS SHALL BE STAMPED TO INDICATE WHERE EACH SANITARY SEWER LATERAL CROSSES BENEATH THE CURB LINE. THE STAMP IMPRESSION FOR SANITARY LATERALS SHALL BE LETTER "S". IMPRESSIONS SHALL BE 2 INCHES HIGH, ON TOP OF THE CURB AND SHOULD ACCURATELY LOCATE THE SERVICE BELOW THE STAMP.



AKS
AKS ENGINEERING & FORESTRY, LLC
12855 SW HERMAN RD STE 100
TUALATIN, OR 97062
P: 503.563.6151
F: 503.563.6152
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ENGINEERING - SURVEYING - NATURAL RESOURCES FORESTRY - PLANNING - LANDSCAPE ARCHITECTURE

WEST LINN
CLACKAMAS COUNTY TAX MAP 2 IE 230D
TAX LOT 12501

TVFR STATION 55

CITY OF WEST LINN
ENGINEERING APPROVED
DATE 1/21/11 BY [Signature]

SANITARY SEWER NOTES AND DETAILS

DESIGNED BY: BRB/AZV
DRAWN BY: AZV
CHECKED BY: AHH
SCALE: AS NOTED
DATE: 5/15/2017

PROFESSIONAL ENGINEER
58539PE
M. LAUNDER H. HUBERT
RENEWAL DATE: 6/30/17

REVISIONS:

JOB NUMBER: 4757
SHEET: C5.5

AKS DRAWING FILE: 4757 C5.5 SAN NOTES & DETAILS.DWG [LAYOUT: C5.5]



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TVFR STATION 55
 OREGON
 CLACKAMAS COUNTY TAX MAP 2, IE 230D

WEST LINN
 TAX LOT 12301

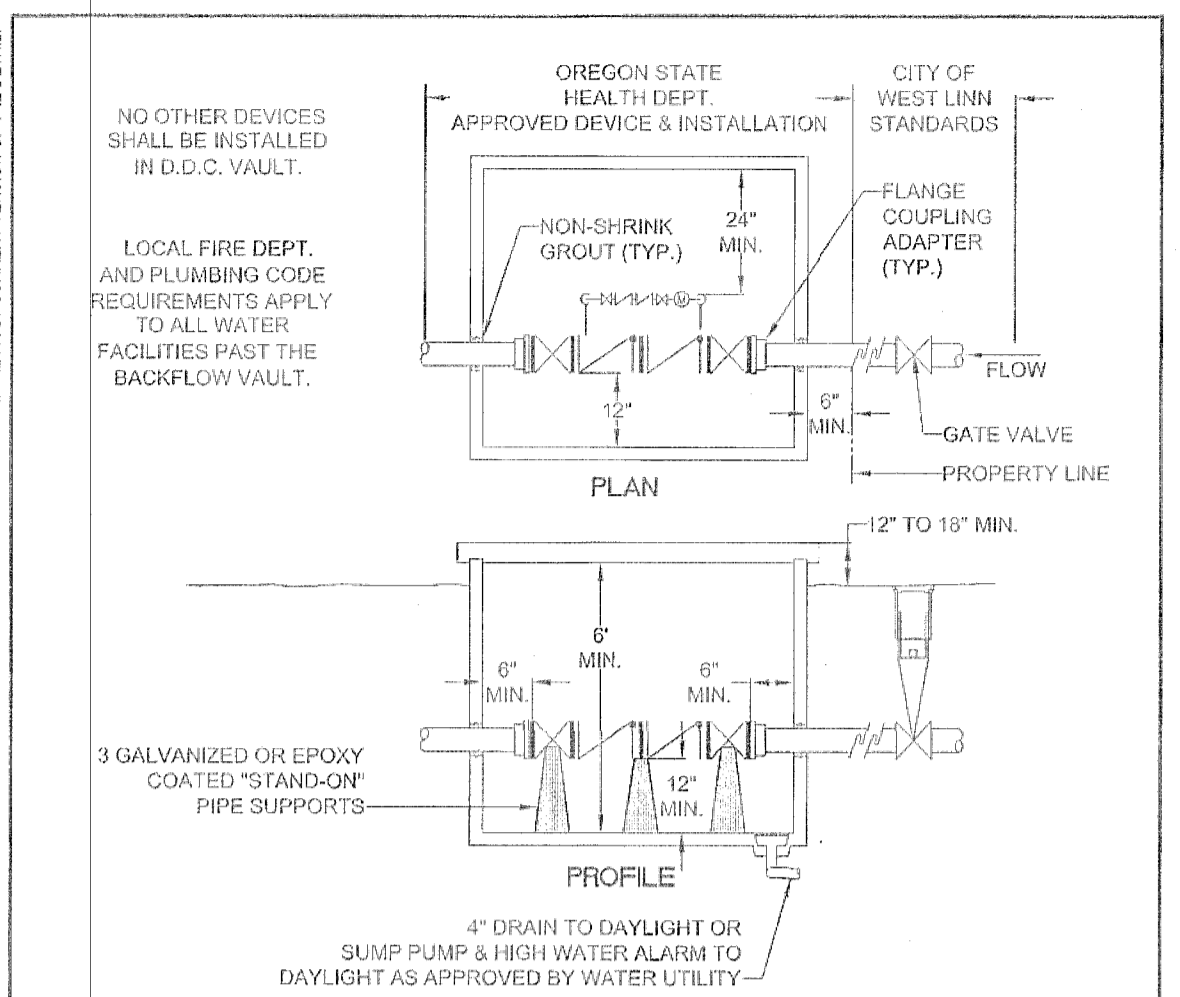
WATER NOTES AND DETAILS

DESIGNED BY: BRB/AZV
 DRAWN BY: AZV
 CHECKED BY: AHH
 SCALE: AS NOTED
 DATE: 5/15/2017
 REGISTERED PROFESSIONAL ENGINEER
 50539PE
 ALEXANDER H. HENLEY
 OREGON
 EXPIRES 12/31/2020
 RENEWAL DATE: 6/30/17

JOB NUMBER
4757
 SHEET
C5.6

PRIVATE WATER SYSTEM GENERAL CONSTRUCTION NOTES:

- ALL MATERIAL SHALL BE OF NEW MANUFACTURE. NO REBUILT OR USED MATERIALS WILL BE ALLOWED.
- PRIVATE WATER LINES (BUILDING SIDE OF METER) SHALL BE INSTALLED IN ACCORDANCE WITH INTERNATIONAL BUILDING CODE (IBC)/UNIFORM PLUMBING CODE (UPC) REQUIREMENTS. OBTAIN REQUIRED BUILDING/PLUMBING PERMITS PRIOR TO CONSTRUCTION. PRIVATE IMPROVEMENTS INCLUDE ALL IMPROVEMENTS AFTER THE FIRE SERVICE VAULT AND DOMESTIC WATER METER.
- WATER PIPES SHALL HAVE TRACER WIRE (12 GAUGE) INSTALLED BESIDE PIPE.
- ALL WORK AND MATERIALS SHALL COMPLY WITH ALL APPLICABLE CITY CODES AND STANDARDS, THE OREGON STATE HEALTH DIVISION ADMINISTRATION RULES, A.W.W.A. STANDARDS, A.P.W.A. STANDARDS, CITY OF WEST LINN STANDARDS, UPC AND IBC REQUIREMENTS.
- ALL PIPE SHALL HAVE MINIMUM COVER OF THREE-FOOT BELOW FINISH GRADES.
- ALL TEES, ELBOWS, BENDS, AND BLOW-OFF LOCATIONS SHALL, UNLESS OTHERWISE NOTED, HAVE MECHANICAL RESTRAINT.
- ALL SANITARY SEWER LINES WITHIN 10 FEET LATERALLY OR 18 INCHES VERTICALLY OF A WATER MAIN SHALL BE ENCASED IN CONCRETE, OR CONSTRUCTED OF DUCTILE IRON PIPE WITH WATERTIGHT JOINTS. ANY CROSSING OF WATER MAIN BY SANITARY SEWER SHALL BE MADE AT APPROXIMATELY 90 DEGREES AND HAVE 18 INCHES OF VERTICAL CLEARANCE OR SANITARY SEWER SHALL BE CONSTRUCTED OF DUCTILE IRON WATER PIPE WITH WATERTIGHT JOINTS FOR A DISTANCE OF 9 FEET FROM BOTH SIDES OF THE WATER LINE AND ENCASED IN CONCRETE.
- HYDROSTATIC TESTS SHALL CONFORM WITH ALL APPLICABLE CODES AND BE MONITORED BY THE CITY OF WEST LINN INSPECTOR.
- DISINFECTION: POTABLE WATER PIPELINES SHALL BE FLUSHED AND DISINFECTED BEFORE PLACING INTO SERVICE, AFTER PERFORMING HYDROSTATIC TESTING. DISINFECTION SHALL CONFORM WITH ALL APPLICABLE CODES. HIGHLY CHLORINATED WATER USED FOR DISINFECTION SHALL NOT BE DISCHARGED INTO SURFACE WATERS. APPLICABLE FEDERAL, STATE, AND LOCAL REGULATIONS CONCERNING DISCHARGE SHALL BE FOLLOWED. TESTING AND INSPECTION SHALL BE IN ACCORDANCE WITH ALL APPLICABLE CODES.
- BACKFILL WITHIN ALL TRAFFIC AREAS SHALL BE 3/4"-0 CRUSHED ROCK, COMPACTED TO 95% PER ASTM D-598.
- INSTALLATION OF THE UNDERGROUND FIRE LINE TO BE INSTALLED PER PROJECT'S FIRE PROTECTION ENGINEER AND NFPA 24.
- WHEN FIRE PROTECTION, INCLUDING FIRE APPARATUS ACCESS ROADS AND WATER SUPPLIES FOR FIRE PROTECTION, IS REQUIRED TO BE INSTALLED, SUCH PROTECTION SHALL BE INSTALLED AND MADE SERVICEABLE PRIOR TO AND MAINTAINED THROUGHOUT THE TIME OF CONSTRUCTION. THIS INCLUDES FIELD INSPECTIONS, FLUSHING AND TESTING, AND FULL APPROVAL OF ALL FIRE LINES AND FIRE HYDRANTS.
- A FIRE FLOW TEST SHALL BE MADE AT A NEW FIRE HYDRANT TO VERIFY WATER SUPPLY OF 1500 GPM AT 20 PSI AS A MINIMUM AND MINIMUM PER FLOW WORKSHEETS.
- A "CONTRACTOR'S MATERIALS AND TESTING" - "CERTIFICATE OF COMPLIANCE" WILL BE REQUIRED FOR BOTH THE ABOVE GROUND AND UNDERGROUND PIPING OF THE FIRE SPRINKLER PROTECTION SYSTEMS.
- ALL PRIVATE DOMESTIC AND FIRE WATER SERVICE LINES OUTSIDE OF THE BUILDING SHALL BE SCHEDULED 40 PVC OR C900 PVC CLASS 150, (IN ACCORDANCE WITH UPC REQUIREMENTS) UNLESS OTHERWISE NOTED. WHEN SPECIFIED, DUCTILE IRON PIPE SHALL BE CLASS 52 TYTON-JOINT DUCTILE IRON PIPE CONFORMING TO AWWA C10.
- CONTRACTORS SHALL CONTACT THE CITY OF WEST LINN AT LEAST 2 BUSINESS DAYS, BUT NOT MORE THAN 10 BUSINESS DAYS, BEFORE COMMENCING ANY EXCAVATION.
- PRIOR TO CONSTRUCTION, ALL ON-SITE FIRE WATER SYSTEM LINE SIZES, METER SIZES, DOUBLE CHECK DETECTOR ASSEMBLY (DCDA) SIZES, AND OTHER APPURTENANCES SHOWN ON THE UTILITY PLAN SHALL BE VERIFIED BY THE FIRE PROTECTION ENGINEER FOR THE PROJECT. ANALYSIS OF THE SYSTEM SHALL BE FROM THE NEW FACILITY SERVICE TO THE POINT OF CONNECTION WITH THE PUBLIC WATER SYSTEM. THE MAKES AND MODELS OF ALL SYSTEM COMPONENTS SHALL BE ACCEPTABLE PER WATER DISTRICT LIST OF APPROVED COMPONENTS.
- THE CONTRACTOR SHALL HAVE THE BACKFLOW PREVENTION ASSEMBLY TESTED BY A CERTIFIED BACKFLOW ASSEMBLY TESTER AT THE TIME OF INSTALLATION. PROVIDE PROJECT ENGINEER WITH A COPY OF THE TEST REPORT.
- ANY WATER SYSTEM SHUTDOWNS MUST BE SCHEDULED WITH AND APPROVED BY THE OWNER.
- CONTRACTOR SHALL COORDINATE CONSTRUCTION TO PREVENT ELEVATION CONFLICTS.
- THE RESPONSIBILITY FOR CONSTRUCTION OF SITE UTILITIES SHALL BEGIN AT A POINT 5 FEET OUTSIDE THE BUILDING SLAB.
- FIRE HYDRANT PRESSURE AND FLOW TESTS SHALL BE COORDINATED AND APPROVED BY THE PROJECT'S FIRE PROTECTION ENGINEER.
- UTILITIES SHOWN ARE DRAWN SCHEMATICALLY. UTILITY PLANS MAY NOT REFLECT THE ACTUAL SPACING AND HORIZONTAL / VERTICAL LOCATION OF NEW OR EXISTING UTILITIES. PLANS DO NOT SHOW ALL BENDS, REDUCERS, WYES, GASKETS, CLEANOUTS, FITTINGS, AND STRUCTURES. CONTRACTOR IS RESPONSIBLE FOR MATERIALS AND LABOR NECESSARY TO CONSTRUCT UTILITIES SHOWN AS INTENDED IN ACCORDANCE WITH APPLICABLE MANUFACTURER, LOCAL, STATE, AND FEDERAL REQUIREMENTS.
- LICENSED PLUMBERS WORKING FOR A LICENSED PLUMBING CONTRACTOR SHALL INSTALL ALL ON-SITE DOMESTIC WATER SERVICE. ORS 693.025
- A CERTIFIED BACKFLOW PREVENTION DEVICE TESTER SHALL TEST EACH APPROVED BACKFLOW PREVENTION DEVICE AND A COPY OF THE TESTER'S REPORT BE MADE AVAILABLE FOR THE PLUMBING INSPECTOR TO EXAMINE DURING FINAL PLUMBING INSPECTION. OPSC 603.3.3
- CONTRACTOR SHALL PROVIDE PROJECT ENGINEER WITH A COPY OF ALL SUBMITTAL DOCUMENTS FOR APPROVAL PRIOR TO INSTALLATION.



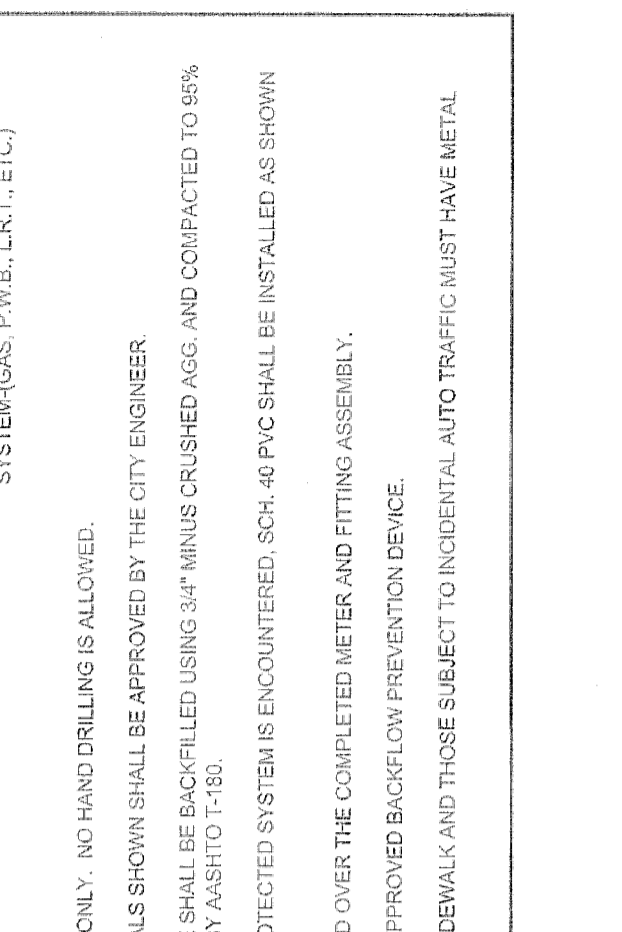
D.D.C. SIZE	UTILITY VAULT for DOUBLE DETECTOR CHECK DEVICE VAULT	LID
3"	577-LA	LID 577-TL2-332P
4"	577-LA	LID 577-TL2-332P
6"	676-LA	LID 676-TL2-332P
8"	697-LA	LID 697-TL2-332P
10"	5108-LA	LID 5108-TL3-332P

DOUBLE DETECTOR CHECK VAULT

DATE: 2010
 DRAWING NO: WL-414A
 FILE NO.

PUBLIC WATER SYSTEM GENERAL CONSTRUCTION NOTES:

- PUBLIC WATER IMPROVEMENTS INCLUDE ALL IMPROVEMENTS FROM THE PUBLIC MAIN TO THE FIRE SERVICE VAULT. PRIVATE IMPROVEMENTS INCLUDE THE FIRE SERVICE VAULT AND ALL IMPROVEMENTS AFTER THE FIRE SERVICE VAULT.
- PUBLIC WATER IMPROVEMENTS SHALL BE INSTALLED PER CITY OF WEST LINN STANDARDS AND IN THE PRESENCE OF THE CITY OF WEST LINN'S INSPECTOR. THE INSPECTOR SHALL HAVE ACCESS TO THE CONSTRUCTION SITE AT ALL TIMES. NOTIFY CITY OF WEST LINN 72-HOURS PRIOR TO COMMENCING WORK.
- ALL WORK AND MATERIALS SHALL COMPLY WITH ALL APPLICABLE COUNTY CODES AND STANDARDS, THE OREGON STATE HEALTH DIVISION ADMINISTRATION RULES, A.W.W.A. STANDARDS, A.P.W.A. STANDARDS, AND CITY OF WEST LINN STANDARDS.
- WATER MAINS SHALL BE PUSH-ON DUCTILE IRON PIPE THAT IS CEMENT-MORTAR LINED, SHALL CONFORM WITH ANSI A21.5 AND ANSI A21.11, AND SHALL BE U.S. TYTON JOINT PIPE, AS MANUFACTURED BY UNITED STATES PIPE AND FOUNDRY COMPANY AND PACIFIC STATES CAST IRON COMPANY, OR AS APPROVED. THE TYPE AND THICKNESS CLASS SHALL BE PIPE CLASS 52 FOR PIPE DIAMETERS OF 10" AND SMALLER, PIPE CLASS 51 FOR PIPE DIAMETERS BETWEEN 12" AND 15", AND PIPE CLASS 50 FOR DIAMETERS OF 18" AND LARGER. THE RUBBER RING GASKETS SHALL CONFORM TO ANSI A21.11, AND SHALL BE FURNISHED WITH THE PIPE. A NON-TOXIC VEGETABLE SOAP LUBRICANT SHALL BE SUPPLIED FROM THE PIPE MANUFACTURER IN SUFFICIENT QUANTITIES FOR INSTALLING THE PIPE FURNISHED. ALL NEW DUCTILE IRON PIPE AND APPURTENANCES SHALL BE ENCASED IN 8-MIL POLYETHYLENE WRAP CONFORMING TO THE REQUIREMENTS OF ANSI/AWWA C105/A21.5 AND COWL STANDARDS.
- ALL PIPE SHALL HAVE MINIMUM COVER OF THREE-FOOT BELOW THE FUTURE FINISH GRADES IN EASEMENTS AND STREET RIGHT-OF-WAYS.
- ALL VALVES SHALL BE PER CITY OF WEST LINN WATER SYSTEM STANDARDS AND COUNTY CODES, STANDARD DETAILS, AND DRAWINGS.
- ALL WATER METERS ARE TO BE SET BY THE CITY OF WEST LINN.
- ALL FIRE HYDRANTS SHALL BE PER CITY OF WEST LINN STANDARDS.
- ALL PIPE, TEES, ELBOWS, AND BENDS SHALL BE MECHANICALLY RESTRAINED, UNLESS OTHERWISE SHOWN IN CITY OF WEST LINN STANDARDS.
- ALL SANITARY SEWER LINES WITHIN 10 FEET LATERALLY OR 18 INCHES VERTICALLY OF A WATER MAIN SHALL BE ENCASED IN CONCRETE, OR CONSTRUCTED OF DUCTILE IRON PIPE WITH WATERTIGHT JOINTS.
- ANY CROSSING OF WATER MAIN BY SANITARY SEWER SHALL BE MADE AT APPROXIMATELY 90 DEGREES AND HAVE 18 INCHES OF VERTICAL CLEARANCE OR SANITARY SEWER SHALL BE CONSTRUCTED OF DUCTILE IRON WATER PIPE WITH WATERTIGHT JOINTS FOR A DISTANCE OF 9 FEET FROM BOTH SIDES OF THE WATER LINE AND ENCASED IN CONCRETE.
- JOINT DEFLECTION ALLOWED ONLY WITH THE APPROVAL OF THE PROJECT ENGINEER AND INSPECTOR AND BE PER CITY OF WEST LINN STANDARDS.
- IF REQUIRED, OREGON STATE HEALTH DIVISION BACTERIOLOGICAL TESTS SHALL BE TAKEN BY THE CITY OF WEST LINN.
- HYDROSTATIC TESTS SHALL CONFORM WITH ALL APPLICABLE CODES AND BE MONITORED BY THE INSPECTOR OR PROJECT ENGINEER.
- DISINFECTION: PIPELINES SHALL BE FLUSHED AND DISINFECTED BEFORE PLACING INTO SERVICE, AFTER PERFORMING HYDROSTATIC TESTING. DISINFECTION SHALL CONFORM WITH ALL APPLICABLE CODES. DISCHARGING OF THE HIGHLY CHLORINATED WATER USED FOR DISINFECTION SHALL NOT BE DISCHARGED INTO SURFACE WATERS. APPLICABLE FEDERAL, STATE, AND LOCAL REGULATIONS CONCERNING DISCHARGE SHALL BE FOLLOWED. TESTING AND INSPECTION SHALL BE IN ACCORDANCE WITH ALL APPLICABLE CODES.
- PRIOR TO TAPPING INTO EXISTING WATER MAINS, THE CONTRACTOR WILL CONTACT THE CITY OF WEST LINN INSPECTOR.

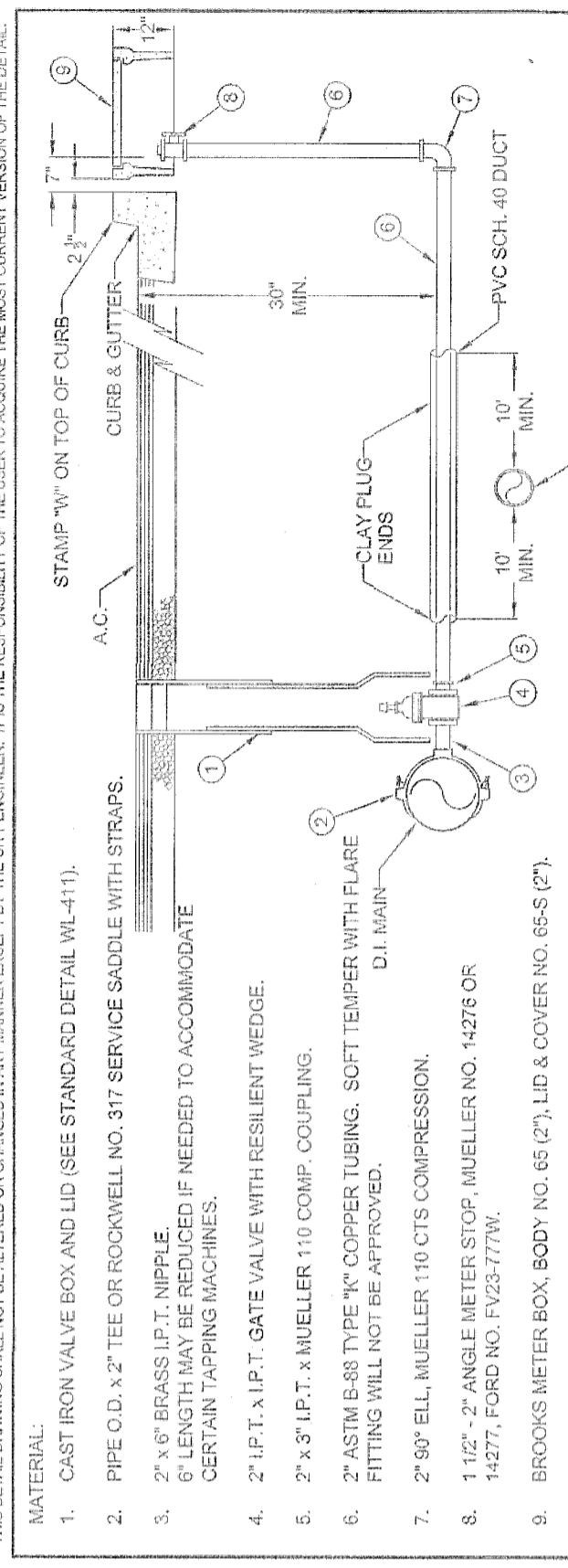


STANDARD 1 1/2" - 2" WATER SERVICE

DATE: 2010
 DRAWING NO: WL-403
 FILE NO.

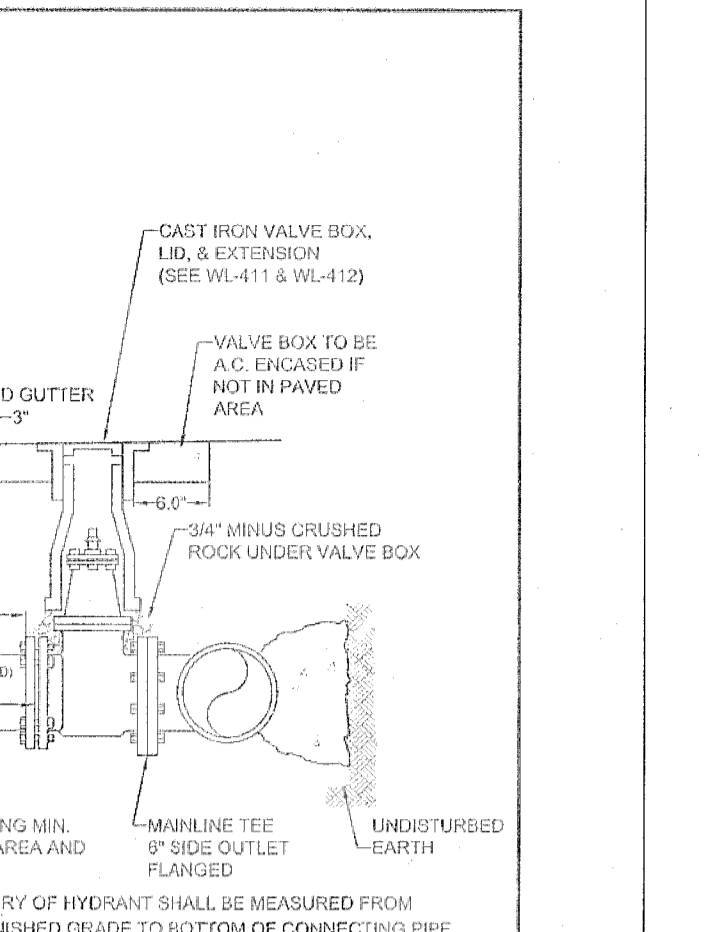
STANDARD 1 1/2" - 2" WATER SERVICE

DATE: 2010
 DRAWING NO: WL-403
 FILE NO.



STANDARD 1 1/2" - 2" WATER SERVICE

DATE: 2010
 DRAWING NO: WL-403
 FILE NO.



STANDARD FIRE HYDRANT ASSEMBLY

DATE: 2010
 DRAWING NO: WL-401
 FILE NO.

STANDARD FIRE HYDRANT ASSEMBLY

DATE: 2010
 DRAWING NO: WL-401
 FILE NO.

CITY OF WEST LINN REQUIREMENTS FOR BACKFLOW PREVENTION DEVICE ASSEMBLY INSTALLATIONS ON 1 1/2" AND LARGER DOMESTIC SERVICES, IRRIGATION SERVICES AND FIRELINE SERVICES

An approved backflow prevention device assembly is required on all 1 1/2" and larger domestic meter size services, all irrigation and most fireline systems. A device assembly will be approved by the City of West Linn only if the State of Oregon Health Division has approved its use as a backflow device assembly. The device shall be installed at the property line. When it is not possible to locate the device at the property line, the proposed location must be approved by the Water Division Engineer. A water service shall not be turned on until all required backflow prevention devices are installed, inspected, tested and registered with the City of West Linn. Costs of all installations, including all costs of initial inspection and testing fees, shall be the responsibility of the customer. The customer will be responsible for all maintenance and testing of the device and vault when used.

CONSTRUCTION AND DESIGN STANDARDS FOR WATER FACILITIES

- All pipe shall be installed to the City of West Linn's Public Works Standards.
- The City of West Linn will be furnished with three sets of plans and specifications. The plans shall be drawn at a scale of 1"=20' for plan check. One set of revised plans shall be returned to the engineer for revisions.
- The contractor shall keep one set of approved plans at the construction site.
- The engineer shall furnish the City of West Linn 48-hours notice prior to construction.
- Water facilities shall be installed in the presence of the City of West Linn's inspector. The inspector shall have access to the construction site at all times.
- New mains shall be pressure tested and disinfected by the contractor and proven to be bacteriologically safe prior to placing new mains in service and prior to connection to City facilities.
- Upon completion of the water facility, the engineer shall notify the City of West Linn 48 hours in advance of desired, final inspection.

BACKFLOW PREVENTION DEVICES

DATE: 2010
 DRAWING NO: WL-414B
 FILE NO.

CITY OF WEST LINN REQUIREMENTS FOR BACKFLOW PREVENTION DEVICE ASSEMBLY INSTALLATIONS ON 1 1/2" AND LARGER DOMESTIC SERVICES, IRRIGATION SERVICES AND FIRELINE SERVICES

To ensure proper operation and accessibility of all backflow prevention device assemblies, the following requirements shall apply to installation of these devices, unless specifically approved by the Water Division Engineer.

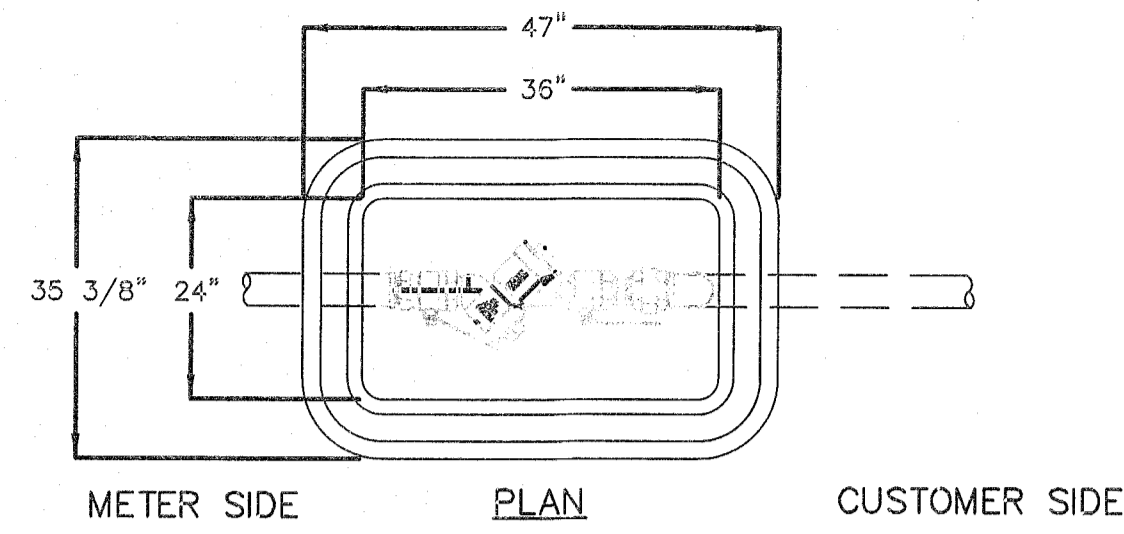
- No part of the backflow prevention device shall be submerged in water or installed in a location subject to flooding. If installed in a vault or chamber, adequate drainage shall be provided by either drainage to daylight or by sump pump with high water alarm system. Test cocks shall be plugged. The plugs shall not be of dissimilar metals.
- The device assembly must be protected from freezing and other severe weather conditions.
- Only devices approved for vertical installation may be installed vertically.
- The device assembly shall be readily accessible with adequate room for maintenance and testing. Devices 2 inches and smaller shall have at least a 12-inch clearance below and on both sides of the device assembly, and if located in a vault, the top of the device assembly shall be between 12 and 24 inches below grade.
- All device assemblies larger than 2 inches shall have a 12-inch clearance on the backside, a 24-inch clearance on the test-cock side, and 12 inches below the device assemblies. Adequate clearance (3 inches minimum) must be maintained above O.S. & Y. gate-valve stem. Headroom of 6' 0" is required in vaults. Access to the device end to any vault or chamber shall remain clear at all times. An OHS/SHA approved chamber/ladder that extends 3 ft. above surface of vault shall be installed.
- No indicating valves are allowed on Double Check Device assemblies.
- Only approved Double Check Detector Check Valve Assemblies are to be used for system containment on fire line services in the City of West Linn. The meter on bypass assembly shall read in cubic feet.
- If a Fire Line Flow, or Tamper Switch is installed, it must be connected to a monitored Fire Detection System approved by the Fire Marshal. No installation will modify the backflow device assembly or interfere with its operation or maintenance.
- All backflow devices shall be installed at the service connection to the premises per Oregon Administrative Rules 333-08-1070, Cross Connection Control Requirements, unless specifically approved by the Water Division Engineer. (service connection - a location where the public water facilities end at or near the property line)
- All pipe between main and device shall be restrained. Use Mega-Lug retainer glands on all fittings and Field-Lok gaskets on ball joints. Uni-Flange adaptors may be used in vaults.

CONSTRUCTION AND DESIGN STANDARDS FOR WATER FACILITIES

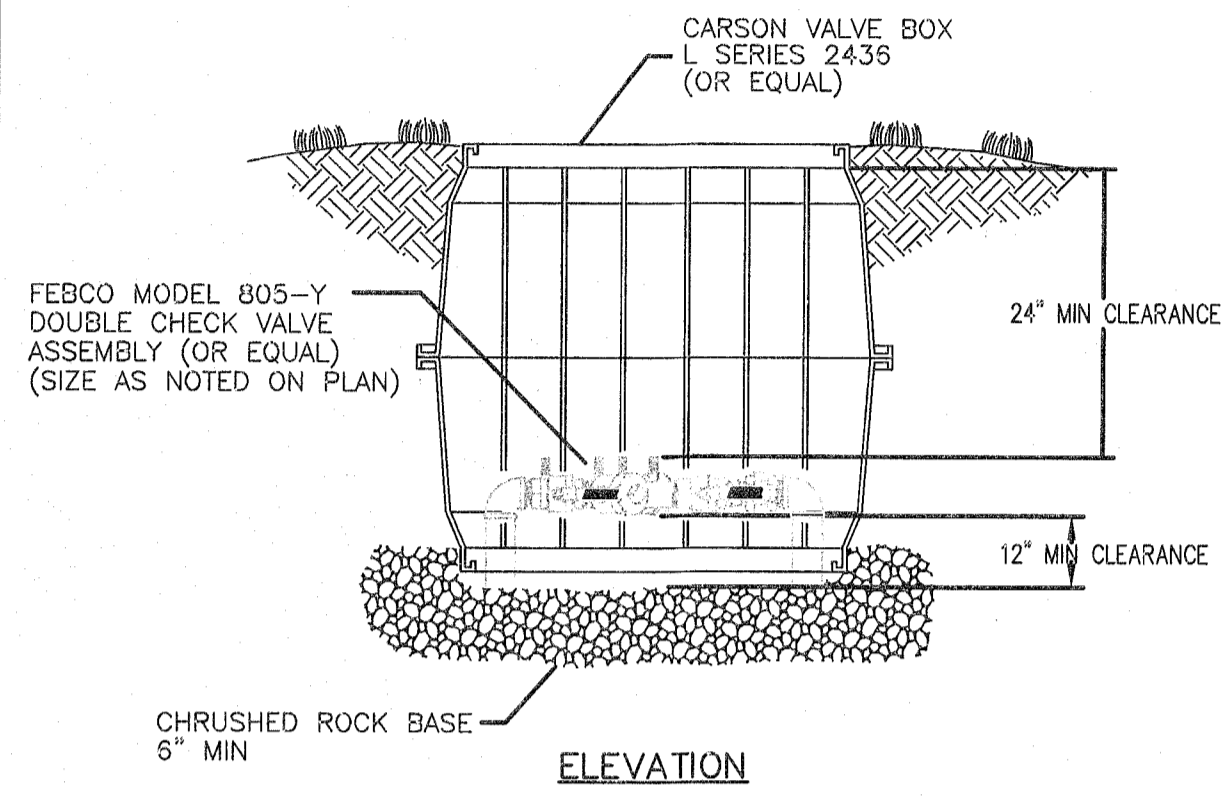
- All pipe shall be installed to the City of West Linn's Public Works Standards.
- The City of West Linn will be furnished with three sets of plans and specifications. The plans shall be drawn at a scale of 1"=20' for plan check. One set of revised plans shall be returned to the engineer for revisions.
- The contractor shall keep one set of approved plans at the construction site.
- The engineer shall furnish the City of West Linn 48-hours notice prior to construction.
- Water facilities shall be installed in the presence of the City of West Linn's inspector. The inspector shall have access to the construction site at all times.
- New mains shall be pressure tested and disinfected by the contractor and proven to be bacteriologically safe prior to placing new mains in service and prior to connection to City facilities.
- Upon completion of the water facility, the engineer shall notify the City of West Linn 48 hours in advance of desired, final inspection.

BACKFLOW PREVENTION DEVICES

DATE: 2010
 DRAWING NO: WL-414C
 FILE NO.



METER SIDE PLAN CUSTOMER SIDE



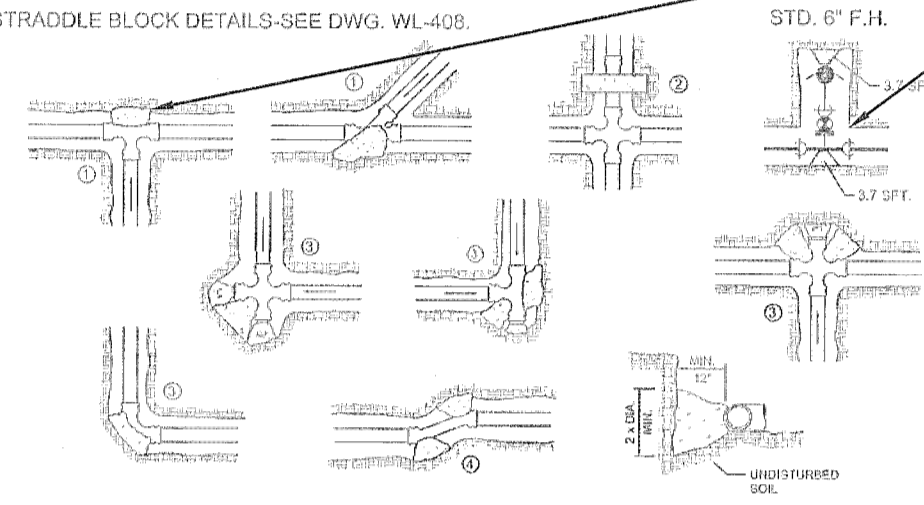
NOTE:
INSTALLATION SHOWN IS ONLY A SUGGESTION. THE DISTANCE FROM BOTTOM OF DEVICE TO FINISH GRADE, FREEZE PROTECTION, AND CLEARANCE FOR TESTING & REPAIR ARE THE MAJOR CONSIDERATIONS FOR INSTALLATION. PLUGS TO BE INSTALLED IN TEST COCKS OF BELOW GROUND INSTALLATIONS (NO DISSIMILAR METALS). IF FREEZE PROTECTION IS PROVIDED, THE 24" MIN CLEARANCE MAY BE REDUCED.

1-1/4" & 2" DOUBLE CHECK INSTALLATION

FITTING SIZE (Inches)	TEE, WYE & T HYDRANTS	STRADDLE BLOCK	90° BEND PLUGGED CROSS TEE PLUGGED-RUNS	45° BEND	22 1/2° BEND	11 1/2° BEND
2	-	-	-	-	-	-
4	1.7	2.1	2.4	1.3	-	-
6	3.7	4.3	5.3	2.9	1.5	-
8	6.7	8.7	9.5	5.1	2.7	1.3
10	10.5	13.5	14.8	8	4.1	2
12	15.1	19.8	21.3	11.6	5.8	2.9
14	-	-	-	-	-	-
18	25.8	32.8	37.9	20.5	10.4	5.2
19	33.9	44	47.8	28.9	12.8	6.7
LARGER	-	-	-	-	-	-

BEARING AREA OF THRUST BLOCKS (sq. ft.)

- ALL VALUES ARE BASED ON THE FOLLOWING ASSUMPTIONS:
AVG. PRESSURE = 100 PSI X 2 (safety factor); 1500 PGF SOIL BEARING CAPACITY; NORMAL DISTRIBUTION DESIGN VELOCITY NOT TO EXCEED 5 F/3.
- ALL FITTINGS SHALL BE WRAPPED IN 8 MIL PLASTIC PRIOR TO PLACEMENT OF CONCRETE.
- BEARING SURFACE OF THRUST BLOCKING SHALL BE AGAINST UNDISTURBED SOIL.
- ALL CONCRETE MIX SHALL HAVE A MIN. 28 DAY STRENGTH OF 3000 PSI.
- ALL PIPE ZONES SHALL BE GRAVEL FILLED AND COMPACTED.
- THRUST BLOCKS FOR PLUGGED CROSS AND PLUGGED TEE SHALL HAVE #4 REBAR LIFTING LOOPS INSTALLED AS SHOWN.
- VERTICAL THRUST DETAIL-SEE DWG. WL-407.
- STRADDLE BLOCK DETAILS-SEE DWG. WL-408.



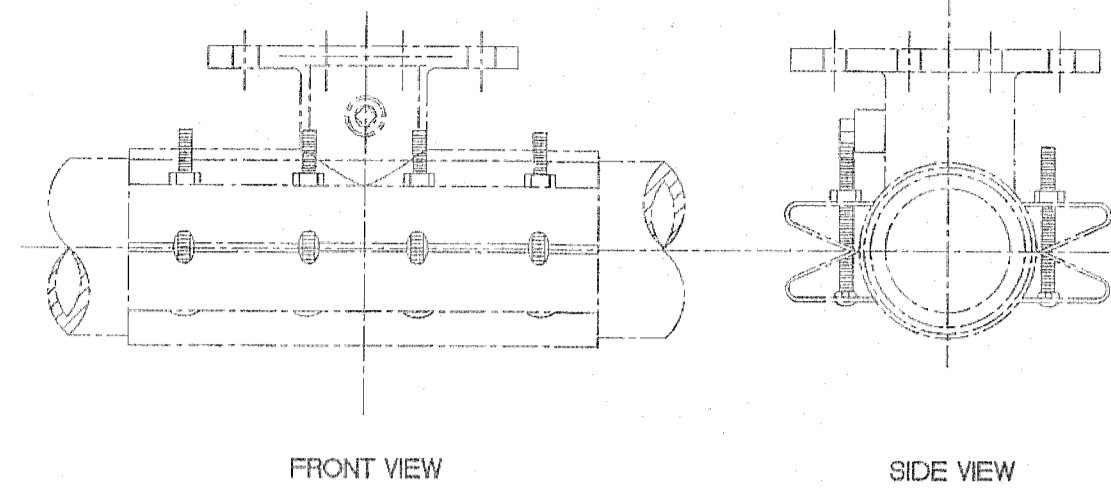
HORIZONTAL THRUST BLOCKING

DATE: 2010
DRAWING NO: WL-406
FILE NO:

- * BLOCK TO UNDISTURBED TRENCH WALLS.
- ** THRUST BLOCKS FOR PIPES LARGER THAN 18" WILL BE INDIVIDUALLY DESIGNED BY THE ENGINEER.

THRUST BLOCKS FOR HYDRANT AND WET TAP ONLY.
ALL OTHER WATER LINES TO BE FULLY RESTRAINED.

CITY OF WEST LINN ENGINEERING APPROVED
DATE 7/21/17 BY RL

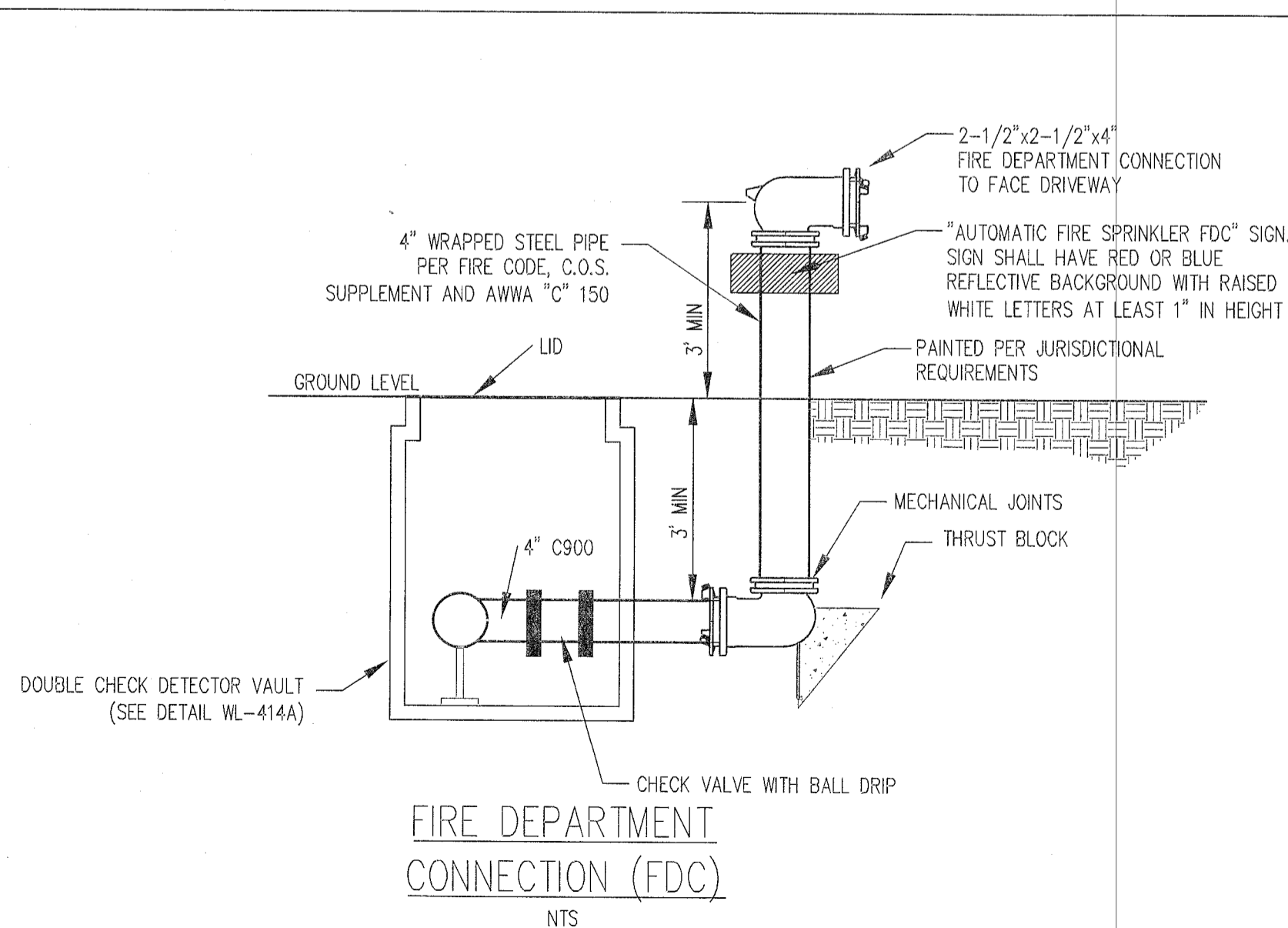


FRONT VIEW SIDE VIEW

- NOTE:**
- WATER MAIN SHALL BE CLEANED BEFORE ATTACHING SLEEVE.
 - SLEEVE AND VALVE SHALL BE PRESSURE TESTED BEFORE MAKING TAP.
 - PRESSURE TEST AND TAP SHALL BE MADE IN THE PRESENCE OF AN AUTHORIZED CITY REPRESENTATIVE.
 - PROPER TAPPING MACHINE SHALL BE USED TO MAKE TAP.
 - THRUST BLOCKING REQUIREMENTS SHALL BE DETERMINED BY THE ENGINEER OR PER DWG. WL-406.
 - TAP SHALL BE MADE NO CLOSER THAN 18 INCHES FROM THE NEAREST JOINT OR TAP.
 - SLEEVE AND VALVE SHALL BE WRAPPED WITH 8 MIL PLASTIC.
 - SLEEVES TO BE USED ARE JCM OR MUELLER STAINLESS STEEL TAPPING SLEEVES. ALL NUTS AND BOLTS SHALL BE STAINLESS STEEL.
 - SLEEVE SHALL BE AS LEVEL AS POSSIBLE.
 - ALL BOLTS SHALL HAVE NEVER SIEZE ON THREADS.

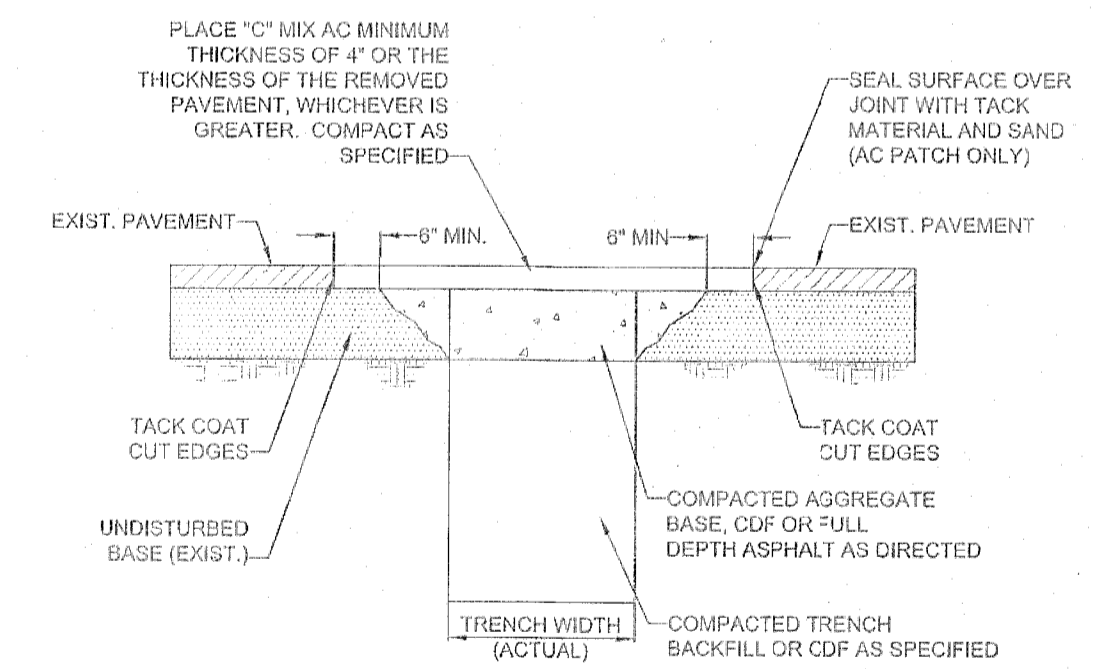
STANDARD WET TAP

DATE: 2010
DRAWING NO: WL-410
FILE NO:



FIRE DEPARTMENT CONNECTION (FDC)

- NOTES:**
- FIRE PROTECTION ENGINEER TO VERIFY NUMBER AND CONFIGURATION OF PORTS.



- NOTE:**
- ALL EXISTING AC OR PCC PAVEMENT SHALL BE SAWCUT TO NEAT, STRAIGHT LINES PRIOR TO REPAVING.
 - CONCRETE PAVEMENT SHALL BE REPLACED WITH CONCRETE TO A MINIMUM THICKNESS OF REMOVED PAVEMENT, WHICHEVER IS GREATER.
 - IF EXISTING BASE MATERIAL IS CTB OR ATB, THEN REPLACEMENT BASE MATERIAL SHALL MATCH EXISTING.
 - ALL UTILITIES SHALL HAVE A MINIMUM COVER OF 36".
 - ALL TRENCH BACKFILL SHALL BE COMPACTED TO 95% OF MAXIMUM DENSITY PER AASHTO T-180 OR AS SPECIFIED IN THE CONTRACT DOCUMENTS.
 - ALL TRENCH BACKFILL AND PATCHING SHALL CONFORM TO THE STANDARDS AND SPECIFICATIONS OF THE CITY OF WEST LINN.
 - APPROVED CDF SHALL BE USED OR 3/4 - 0" GRAVEL BACKFILL SHALL BE PLACED AND COMPACTED IN 12" MAXIMUM LIFTS. IF 3/4 - 0" GRAVEL BACKFILL IS USED, COMPACTION TESTING BY A CERTIFIED TESTING COMPANY IS REQUIRED AT DEPTH INTERVALS AS SPECIFIED BY THE CITY ENGINEER.
 - T-CUT MAY BE ENLARGED AT THE DISCRETION OF THE CITY ENGINEER OR CITY INSPECTOR DUE TO SITE CONDITIONS OR PROJECT REQUIREMENTS.
 - ALL CUT EDGES SHALL BE SAND SEALED.
 - COMPACTED BACKFILL OR CDF MUST EXTEND 2 FEET OUTSIDE OF PAVEMENT SURFACE.

STREET T-CUT

DATE: 2010
DRAWING NO: WL-203
FILE NO:

AKS
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TVFR STATION 55
WEST LINN OREGON
ENGINEERING · SURVEYING · NATURAL RESOURCES
FORESTRY · PLANNING · LANDSCAPE ARCHITECTURE
CLACKAMAS COUNTY TAX MAP 2 LE 230D
TAX LOT 12301

WATER DETAILS

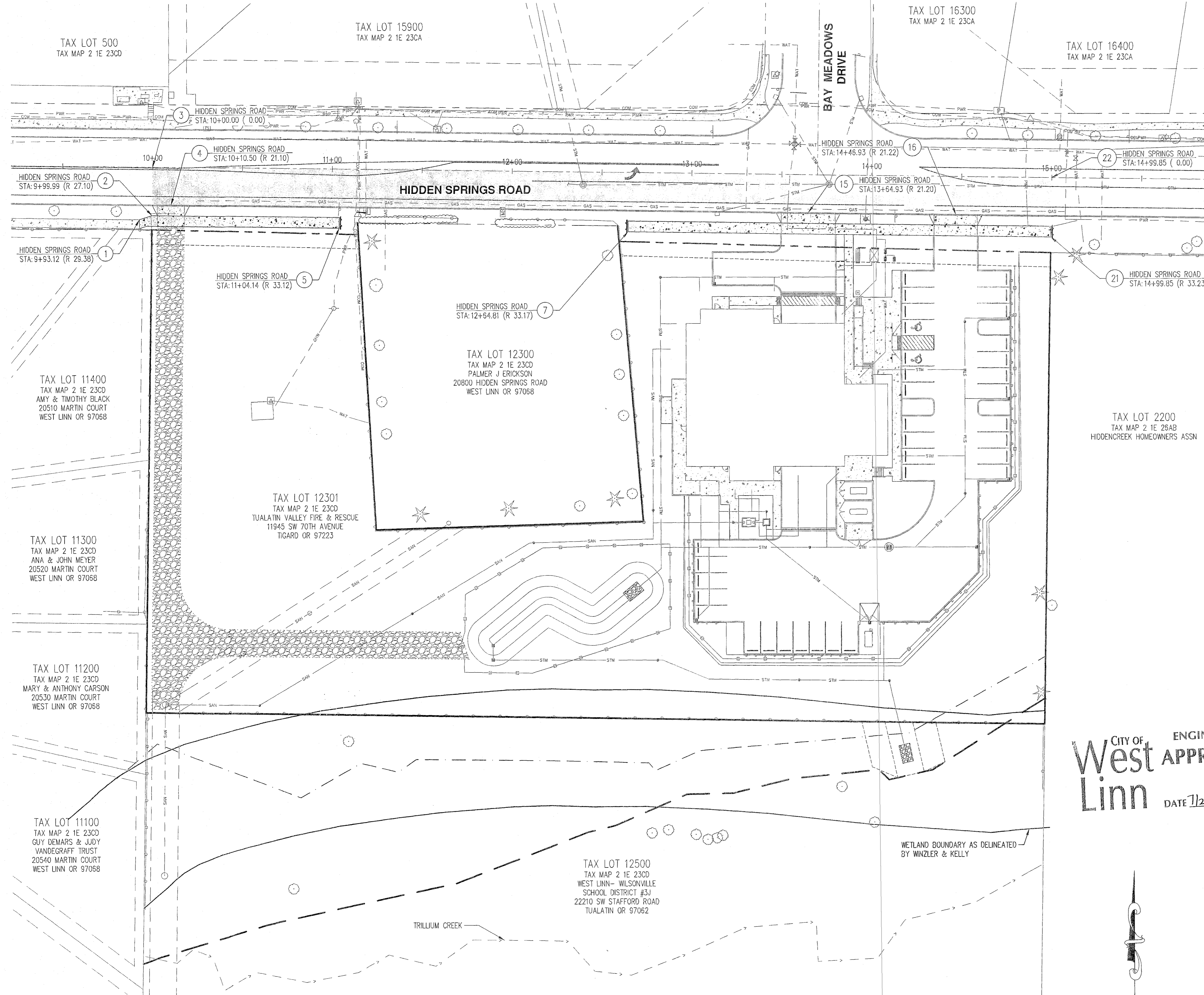
DESIGNED BY: BRB/AZY
DRAWN BY: AZY
CHECKED BY: AHH
SCALE: AS NOTED
DATE: 5/15/2017

REVISIONS

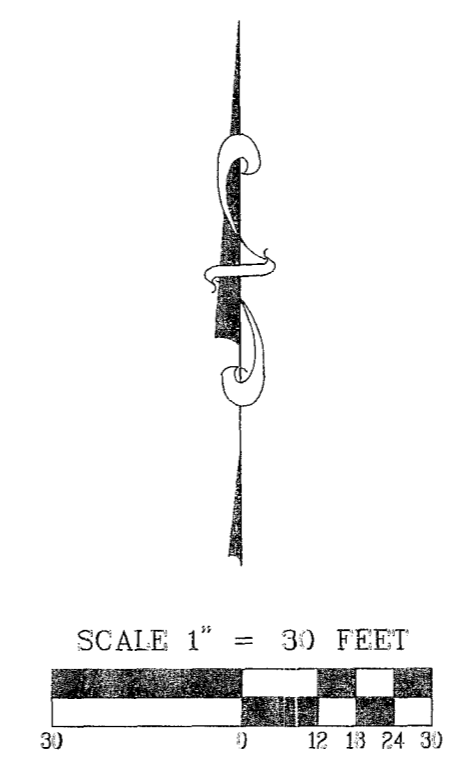
RENEWAL DATE: 6/30/17

JOB NUMBER: 4757
SHEET: C5.7

AKS DRAWING FILE: 4757_C6.1 STREET PLANNING | LAYOUT: C6.1



CITY OF **West Linn** ENGINEERING APPROVED
 DATE 7/21/17 BY: *AV*



KEYED STREET NOTES

- ① BEGIN FRONTAGE IMPROVEMENTS
MATCH EXISTING SIDEWALK
BEGIN TRANSITION FROM ADJACENT FRONTAGE IMPROVEMENTS TO TYPICAL SITE FRONTAGE IMPROVEMENTS
- ② END TRANSITION
BEGIN TYPICAL SITE FRONTAGE IMPROVEMENTS
5.5' PLANTER STRIP AND 6.0' SIDEWALK ADJACENT TO EXISTING CURB
PER DETAIL WL-50B (SHEET C6.2)
- ③ BEGIN HALF STREET 2" AC PAVEMENT GRIND AND INLAY
- ④ CONSTRUCT 15' COMMERCIAL DRIVEWAY APPROACH PER DETAIL WL-504A (SHEET C6.2)
- ⑤ END TYPICAL SITE FRONTAGE IMPROVEMENTS
INSTALL SIGN AT END OF SIDEWALK PER DETAIL WL-516B (SHEET C6.2)
- ⑥ NOT USED
- ⑦ BEGIN TYPICAL SITE FRONTAGE IMPROVEMENTS
5.5' PLANTER STRIP AND 6.0' SIDEWALK ADJACENT TO EXISTING CURB PER DETAIL WL-50B (SHEET C6.2)
INSTALL SIGN AT END OF SIDEWALK PER DETAIL WL-516B (SHEET C6.2)
- ⑧ NOT USED
- ⑨ NOT USED
- ⑩ NOT USED
- ⑪ NOT USED
- ⑫ NOT USED
- ⑬ NOT USED
- ⑭ NOT USED
- ⑮ CONSTRUCT 30' COMMERCIAL DRIVEWAY APPROACH PER DETAIL WL-504A (SHEET C6.2) WITH 8" THICK CONCRETE SECTION
- ⑯ CONSTRUCT 24' COMMERCIAL DRIVEWAY APPROACH PER DETAIL WL-504A (SHEET C6.2) WITH 8" THICK CONCRETE SECTION
- ⑰ NOT USED
- ⑱ NOT USED
- ⑲ NOT USED
- ⑳ NOT USED
- ㉑ END FRONTAGE IMPROVEMENTS
INSTALL SIGN AT END OF SIDEWALK PER DETAIL WL-516B (SHEET C6.2)
- ㉒ END HALF STREET GRIND AND INLAY

GENERAL NOTES:

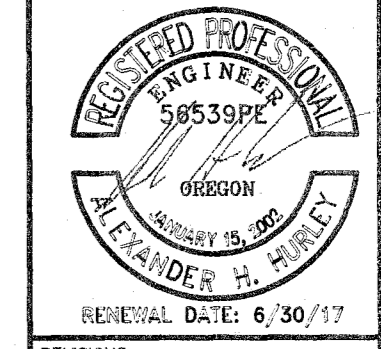
- 1. STREET LIGHTING TO BE PER ELECTRICAL PLANS.
- 2. ALL DISTURBED PAVEMENT STRIPING AND MARKINGS TO BE REPLACED FOLLOWING AC GRIND AND INLAY PER CITY REQUIREMENTS.
- 3. AC PAVEMENT SHALL BE 1/2" DENSE LEVEL 3 HMAC PER ODOT SPECIFICATIONS. CONTRACTOR TO PROVIDE JOB MIX FORMULA TO CITY FOR REVIEW AND APPROVAL PRIOR TO PAVING.
- 4. COLD PLANE PAVEMENT REMOVAL AND AC PAVING SHALL BE CONDUCTED IN CONFORMANCE WITH CITY OF WEST LINN PUBLIC WORKS STANDARD CONSTRUCTION SPECIFICATIONS.

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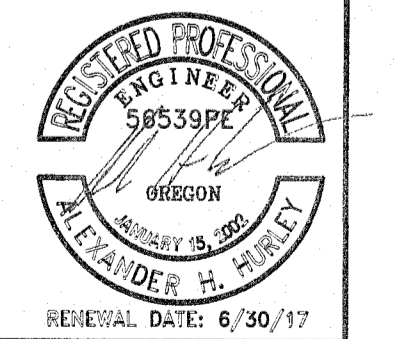
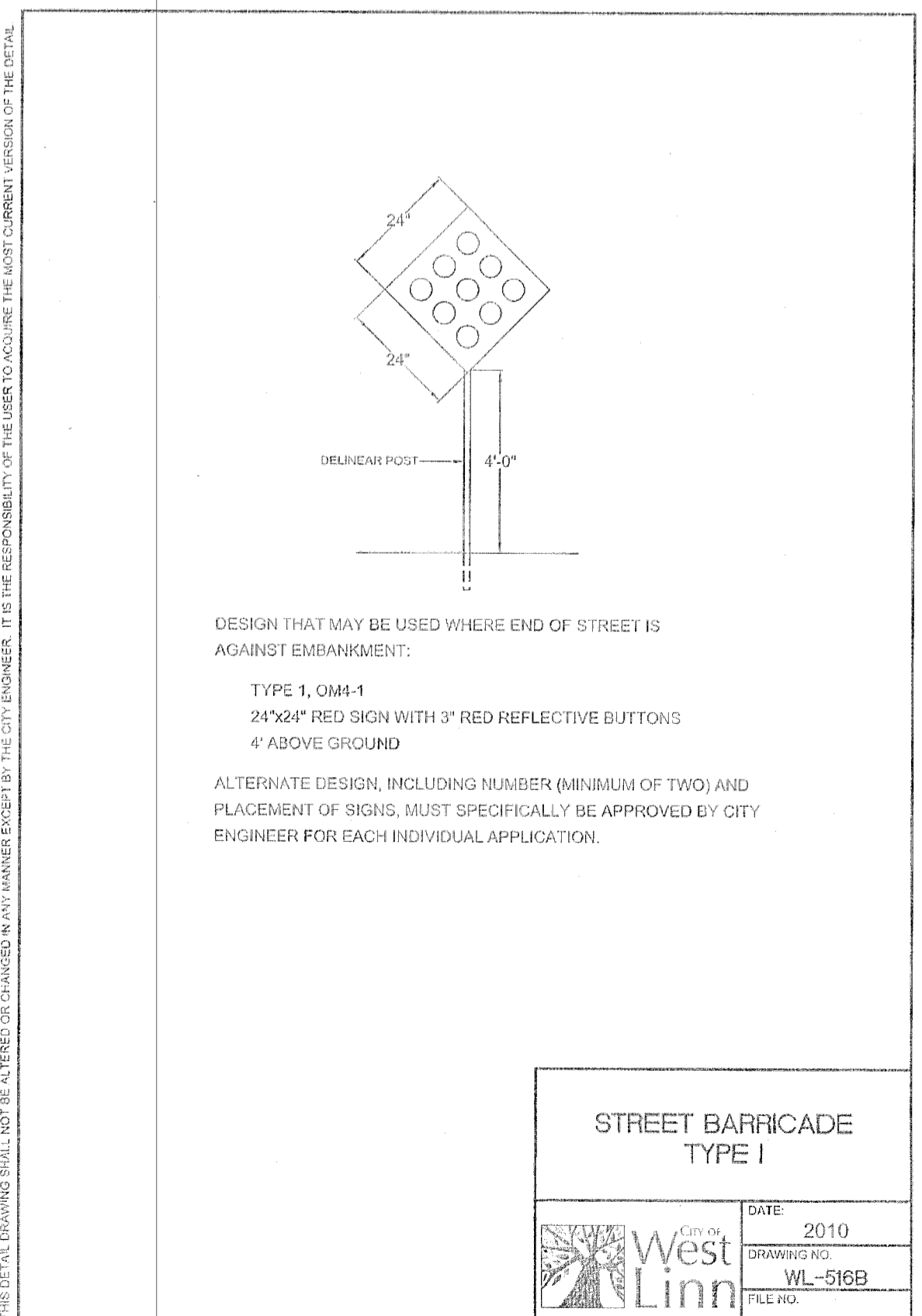
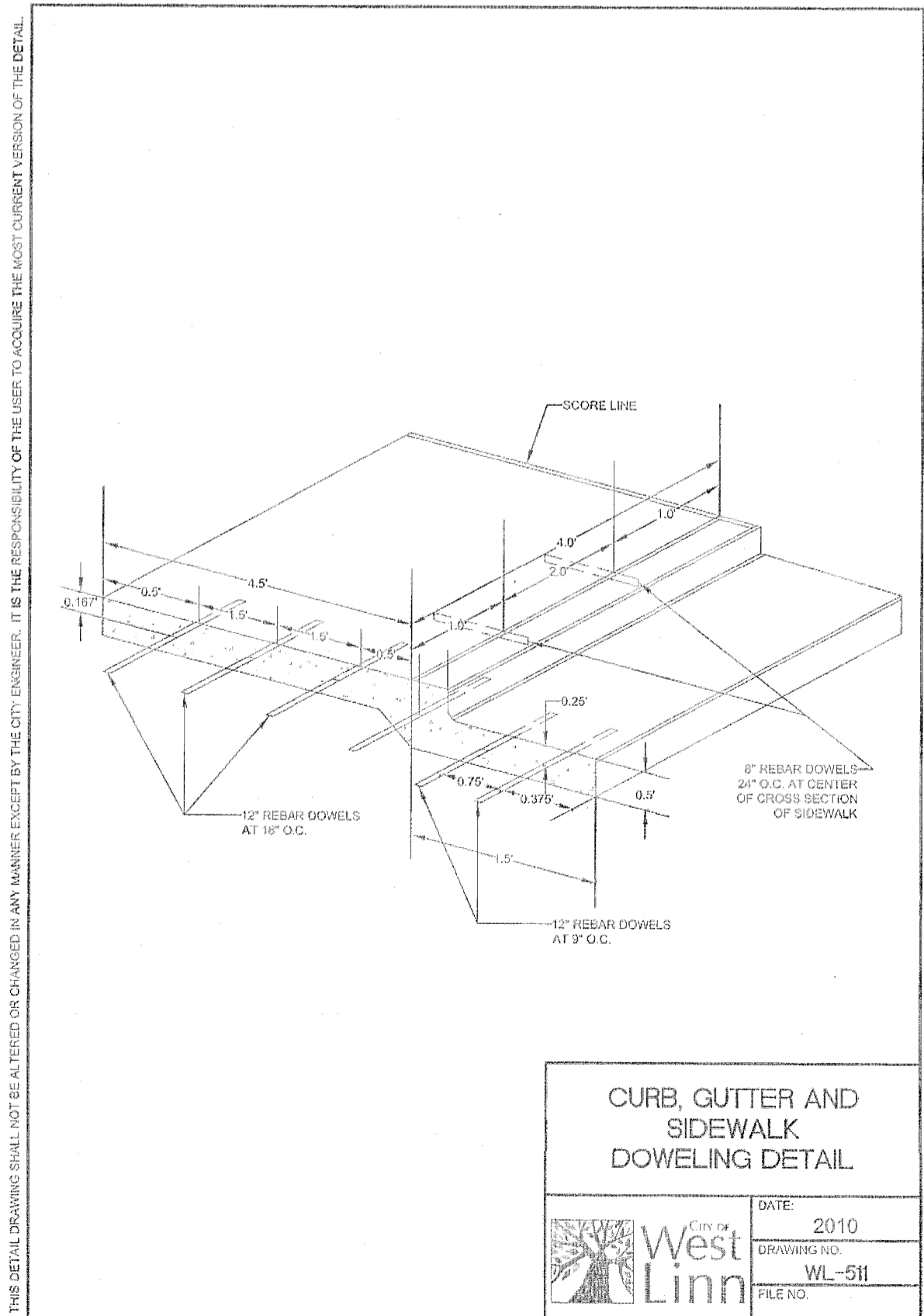
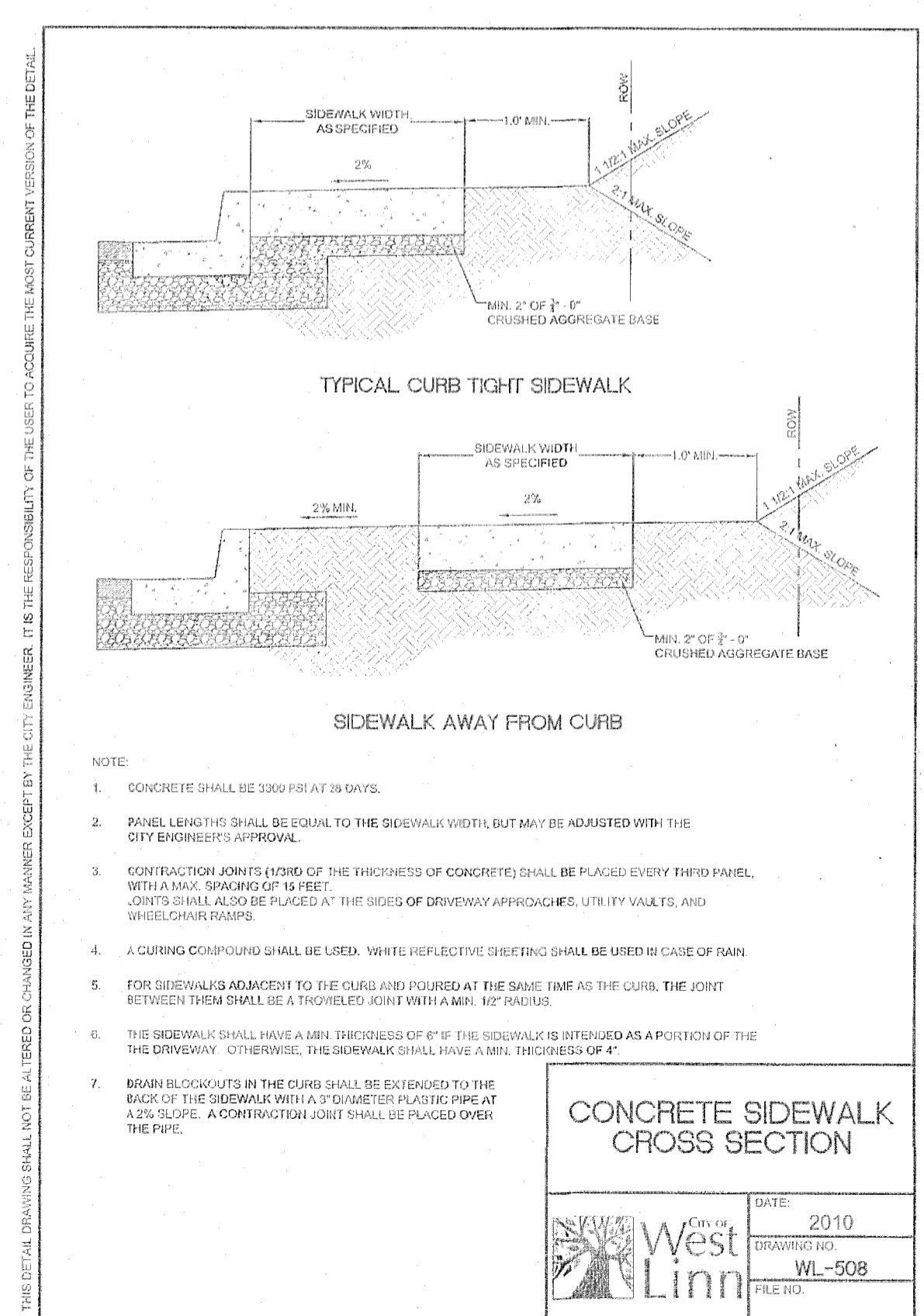
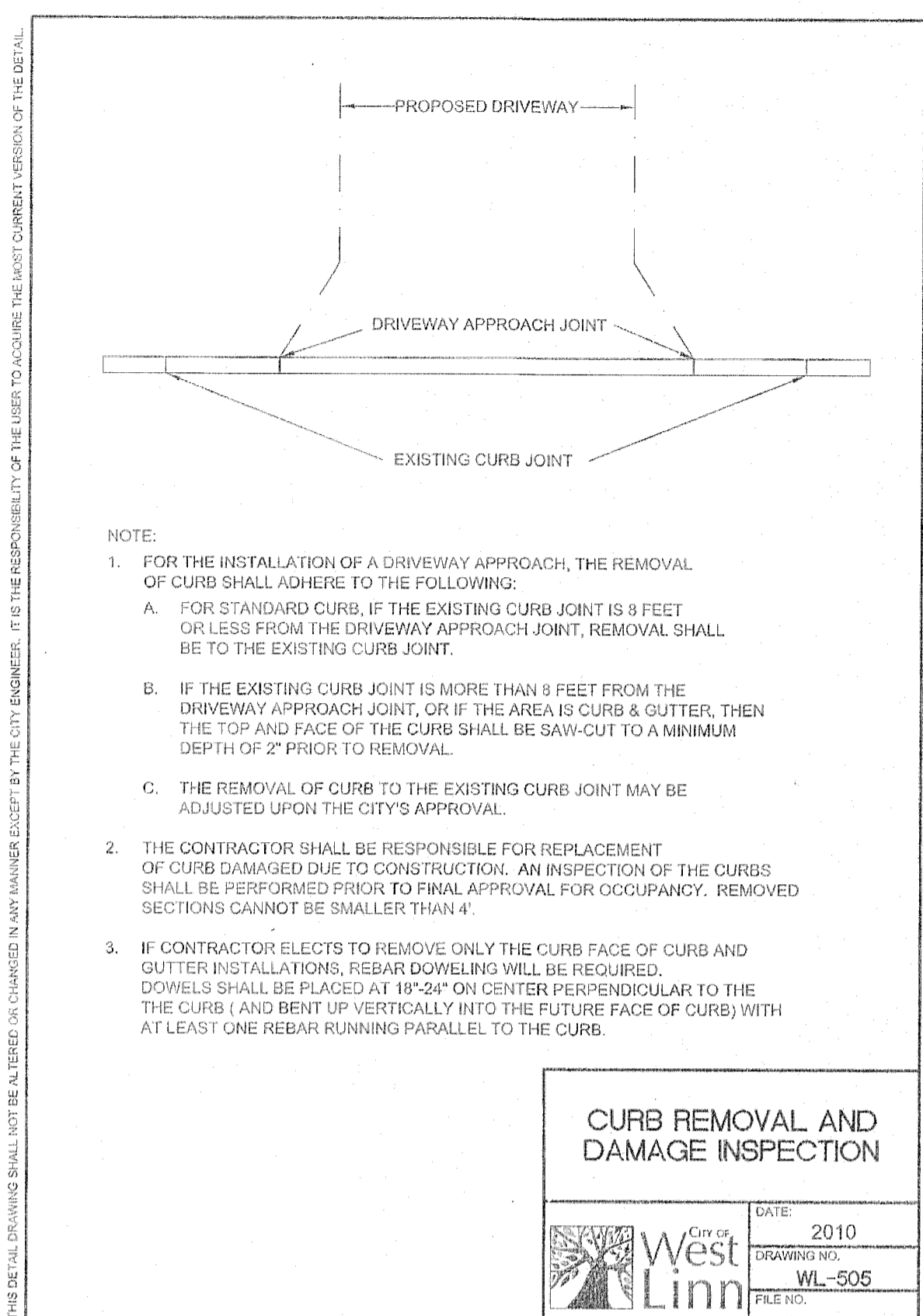
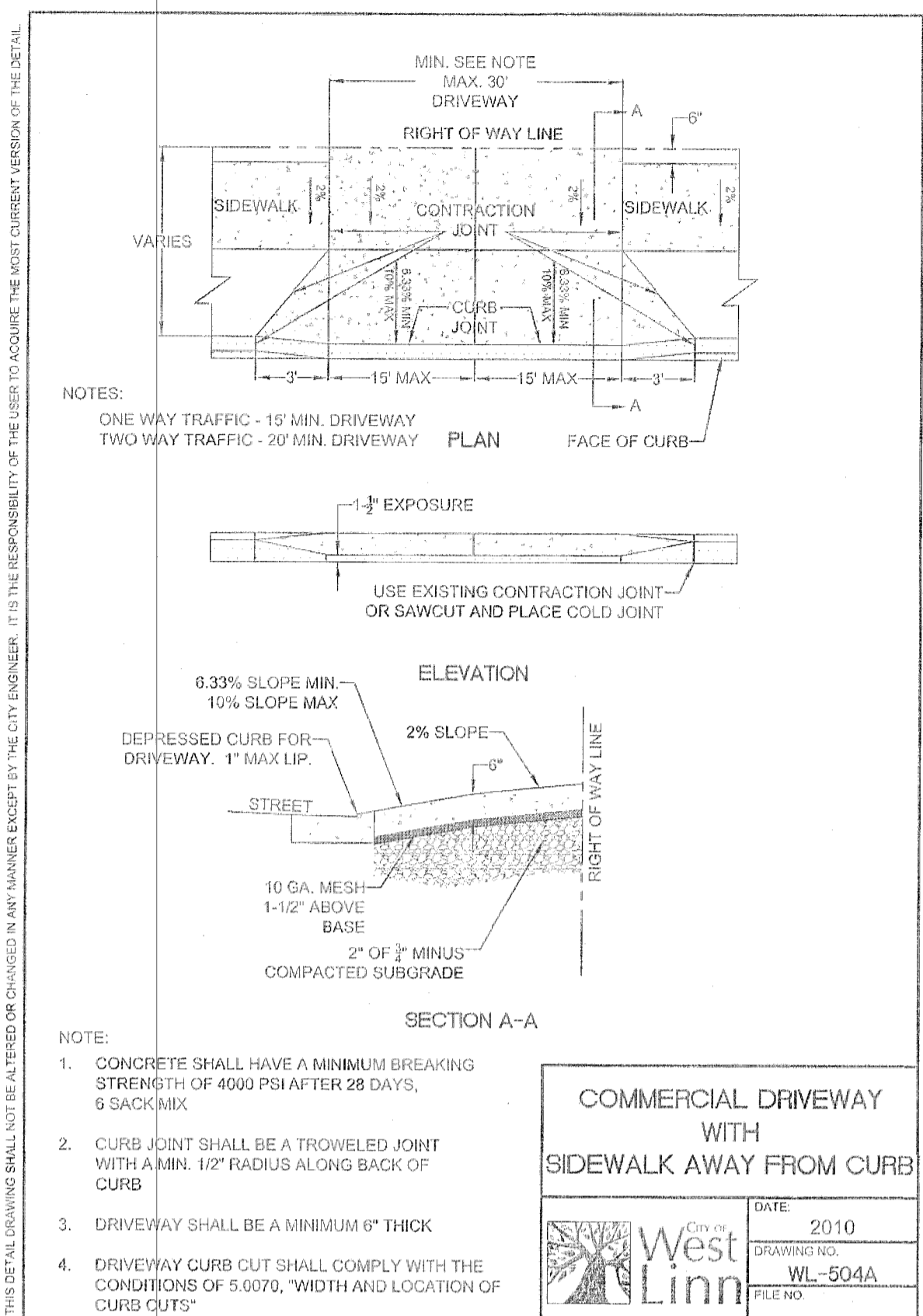
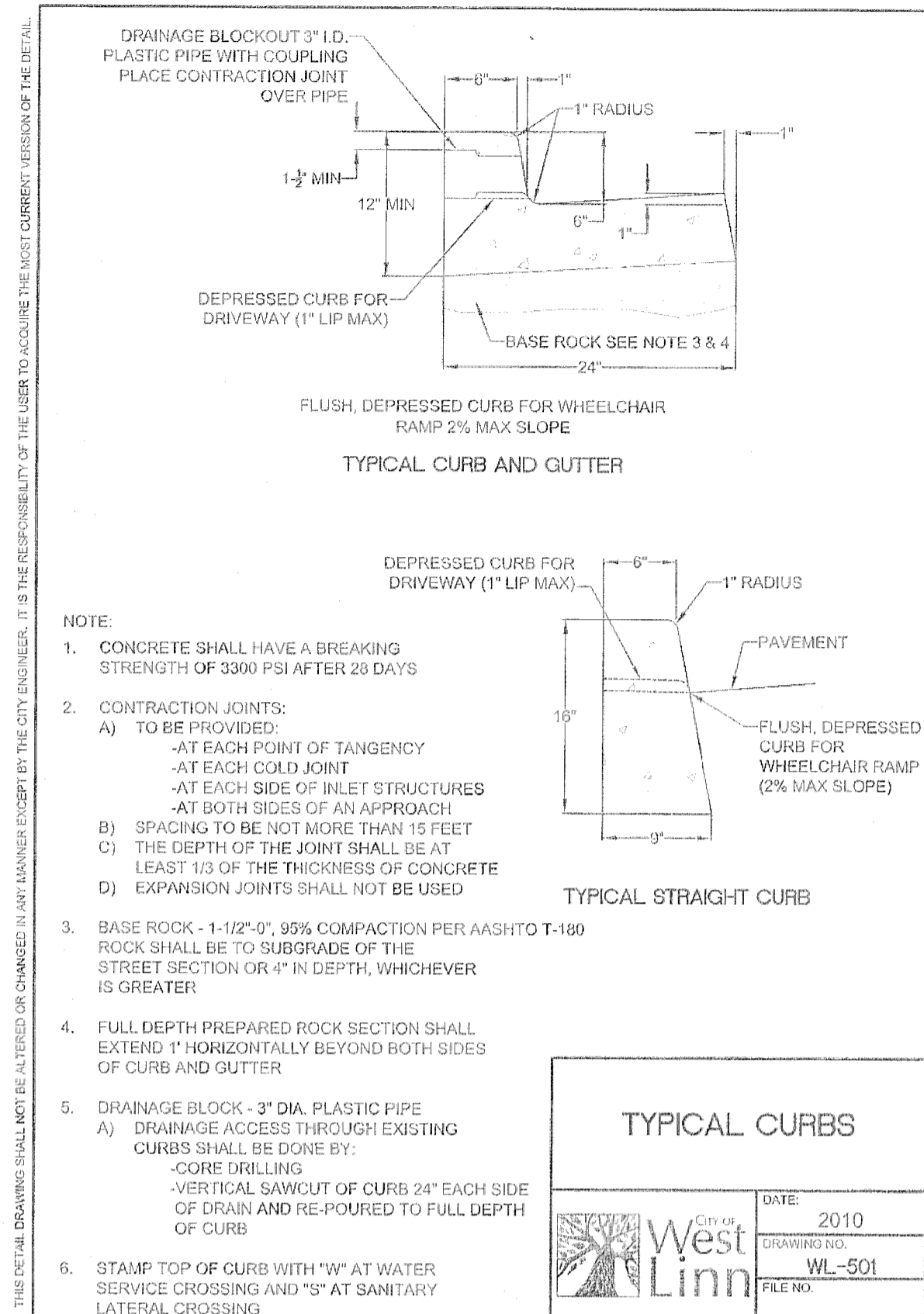
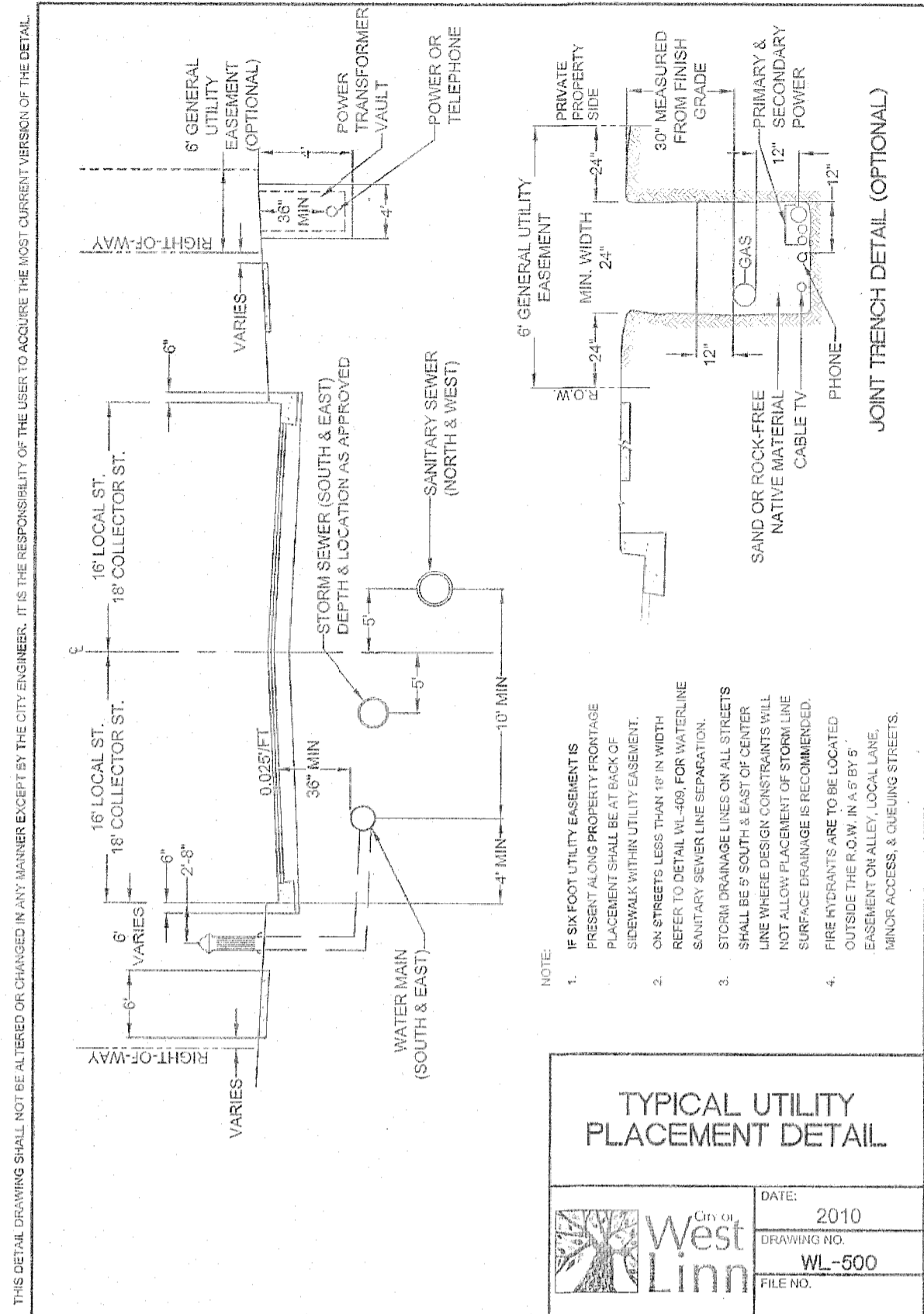
TVFR STATION 55
WEST LINN
 CLATSOP COUNTY TAX MAP 2 1E 23CD
 TAX LOT 12301

**HIDDEN SPRINGS ROAD
 IMPROVEMENT PLAN**

DESIGNED BY: BRB/AZV
 DRAWN BY: AZV
 CHECKED BY: AHH
 SCALE: AS NOTED
 DATE: 5/15/2017



REVISIONS:
 JOB NUMBER: 4757
 SHEET: C6.1



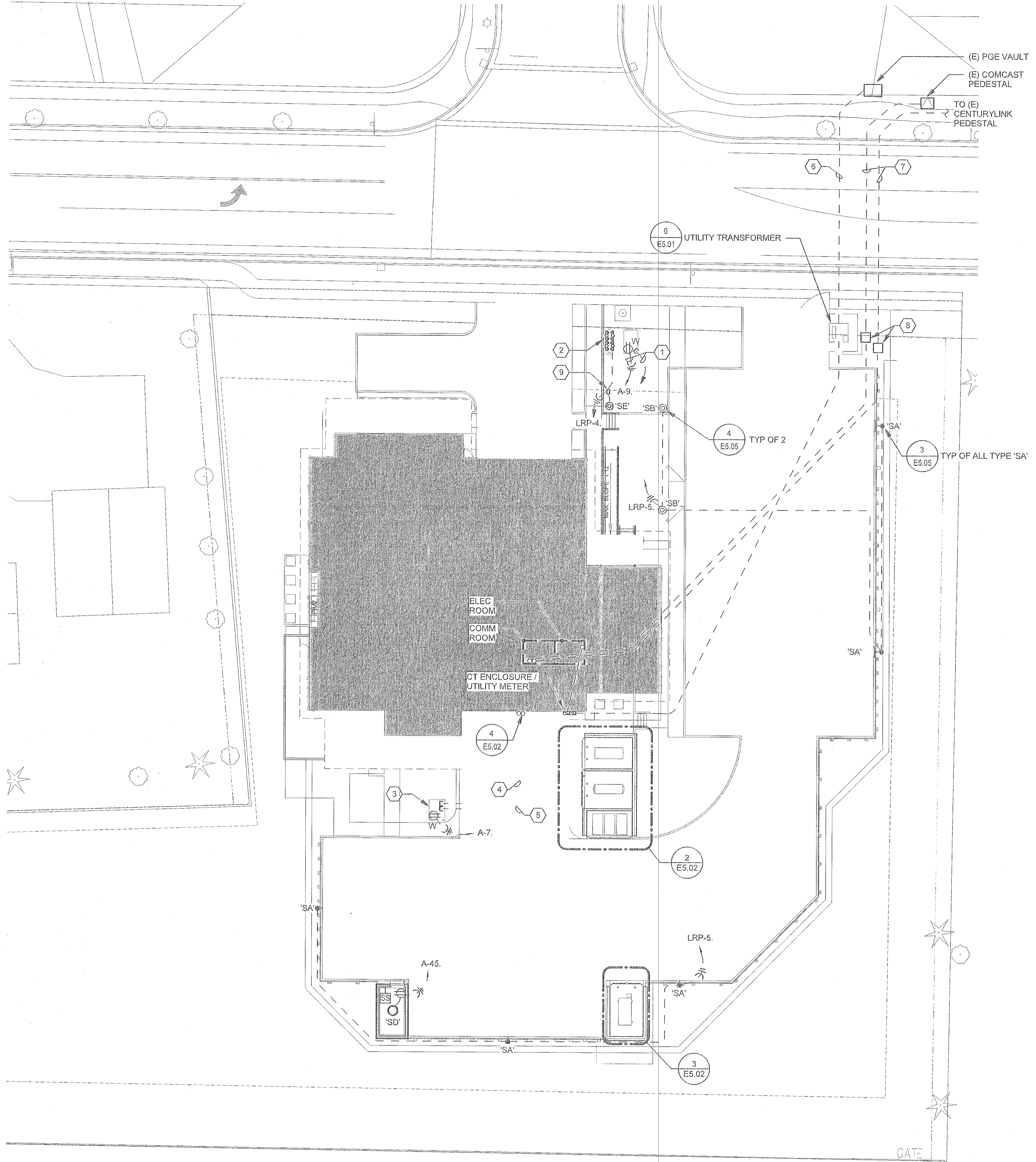
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**Incoming Electrical Service
Division of Responsibility**

Contractor	Utility	Contacts:
Primary Conduit	X	Power Utility: Jeremy Sampson Portland General Electric Phone: (503) 672-6530 Work Order: M2217836
Primary Conductors	X	
Trenching and Backfill	X	Street Lighting: Jeff Wiese Portland General Electric Phone: (503) 742-8363 Email: Jeff.Wiese@pge.com Work Order: M2217945
Transformer	X	
Transformer Pad / Vault	X	
Bollards	X	
Transformer Connections	X	Telephone Utility: Ken Scullin CenturyLink Phone: (503) 242-0304 Email: Kenneth.Scullin@CenturyLink.com
Secondary Conduit	X	
Secondary Conductors	X	Cable T.V. Utility: Scott Sarber Comcast Phone: (503) 596-3767 Email: Scott_Sarber@cable.comcast.com
C/T Enclosure	X	
C/Ts	X	
Meter Base	X	
Meter	X	
Electric Room Door Lock Box (obtain from power company)	X	
Reported Fault Current at Transformer:		

- Notes:**
- Contact and coordinate all requirements and responsibilities with serving utility companies prior to submitting bid.
 - All service installation work shall be in strict compliance with the requirements of the serving utilities.

Disclaimer: Interface Engineering, Inc. has contacted the utilities but has not received in writing the final requirements from the power utility or telephone utility. These drawings indicate our best estimation of their requirements. Prior to bid, contact the utilities and obtain in writing their requirements.



SHEET KEYNOTES

- PROVIDE 120V CONNECTION TO FDC VAULT FOR SUMP PUMP. PROVIDE (1) 1" C. FROM FACP IN ELECTRICAL ROOM TO FDC VAULT FOR LOW VOLTAGE WIRING TO TAMPER SWITCHES.
- TYPE 'SF' LUMINAIRES TO MOUNT TO PODIUM SIGNAGE. SEE ARCHITECTURAL ELEVATION FOR ADDITIONAL INFORMATION.
- PROVIDE 120V CONNECTION TO DIVERTER VALVE VAULT FOR SUMP PUMP. PROVIDE A FLOAT SWITCH IN VAULT TO ACTIVATE BEACON LIGHT AT BUILDING FACADE UPON VAULT FLOOD CONDITION. COORDINATE WITH OWNER FOR FLOAT LEVEL SWITCH SETTINGS.
- PROVIDE (1) 1" C. WITH PULLSTRING FROM DIVERTER VALVE CONTROL PANEL TO DIVERTER VAULT FOR ROUTING OF COMPRESSED AIR LINE.
- PROVIDE (1) 1" C. FROM DIVERTER VAULT TO INDICATOR BEACON LIGHT.
- PROVIDE (1) 4" C. FROM EXISTING PGE VAULT ON NORTH SIDE OF HIDDEN SPRINGS ROAD. BORE UNDERNEATH ROAD TO NEW PAD-MOUNT TRANSFORMER LOCATION. PATCH AND REPAIR (SIDEWALK, LANDSCAPE, ETC.) AS REQUIRED TO RESTORE TO PRECONSTRUCTION CONDITIONS. VERIFY CONDUIT LENGTH PRIOR TO BID.
- PROVIDE (1) 4" C. WITH PULLSTRING FROM EXISTING COMCAST PEDESTAL TO COMM ROOM. PROVIDE (1) 4" C. WITH PULLSTRING FROM EXISTING CENTURYLINK PEDESTAL ON NORTH SIDE OF HIDDEN SPRINGS ROAD TO COMM ROOM. BORE ACROSS ROADWAY. PATCH AND REPAIR (SIDEWALK, LANDSCAPE, ETC.) AS REQUIRED TO RESTORE TO PRECONSTRUCTION CONDITIONS. VERIFY CONDUIT LENGTH PRIOR TO BID.
- PROVIDE TELECOM VAULT, OLDCASTLE PRECAST 3030-LA.
- PROVIDE ELECTRICAL PULLBOX, OLDCASTLE CHRISTY 10"x17" ENCLOSURE OR APPROVED.



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SEATTLE, WA 98101

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TVFR STATION 55 - ROSEMONT
West Linn, OR

Tualitan Valley Fire & Rescue

REVISION	DATE	REASON FOR ISSUE

CITY OF **West Linn** ENGINEERING
APPROVED
DATE 7/21/17 BY Ar



**SITE PLAN -
ELECTRICAL**

GMP / PERMIT SET

1 SITE PLAN - ELECTRICAL
0' 20' 40'
1" = 20'-0"

PROJECT 2016-0204
CONTACT Jeffrey Glanville

INTERFACE ENGINEERING

100 SW Main St.
Suite 1800
Portland, OR 97204
TEL 503.382.2266
FAX 503.382.2262
www.interfaceengineering.com

DATE	REVISION
02/20/17	
PROJECT NUMBER 160420	SHEET NUMBER E1.01
SCALE As indicated	

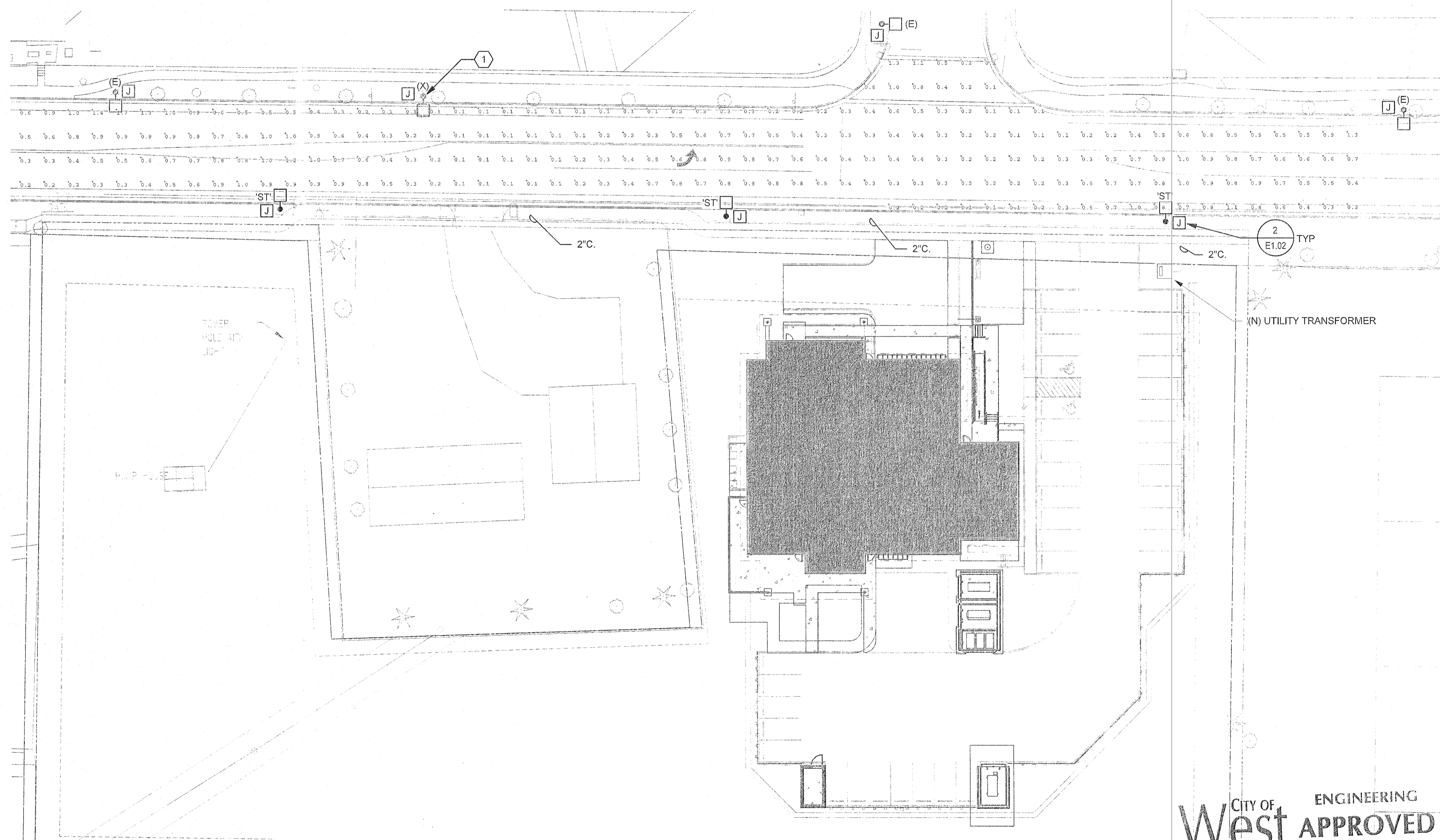
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CALCULATION SUMMARY						
AREA	UNITS	AVG	MAX	MIN	AVG/MIN	MAX/MIN
HIDDEN SPRINGS ROAD	FC	0.48	1.7	0.1	4.8	17

STREET LIGHTING LUMINAIRE SCHEDULE

TYPE	DESCRIPTION	HOUSING	DISTRIBUTION	MOUNTING	FINISH	UL/IP	BALLAST	LAMP(S)	INPUT WATTS	MFG/CATALOG #	NOTES
ST	POLE MOUNTED LED STREET LIGHT	ALUMINUM	TYPE II MEDIUM	POLE MOUNTED WITH HORIZONTAL TENON	Bronze	WET	INTEGRAL ELECTRONIC DRIVER	4550 LUMENS, 3x10 LED, 525mA, 4000K	53	CREE LEEDWAY	PROVIDE WITH 30'-FOOT HIGH POLE (FIXTURE AT 25'-FEET) AND 6'-FOOT MAST. PROVIDE WITH NEMA PHOTOCELL RECEPTACLE AND UTILITY OPTION.

NOTES:
 1 THIS LUMINAIRE SCHEDULE IS NOT COMPLETE WITHOUT A COPY OF THE PROJECT MANUAL CONTAINING THE ELECTRICAL SPECIFICATIONS.
 2 PROVIDE POLE AND MAST ARM TO PGE REQUIREMENTS, FINISH TO BE BRONZE.



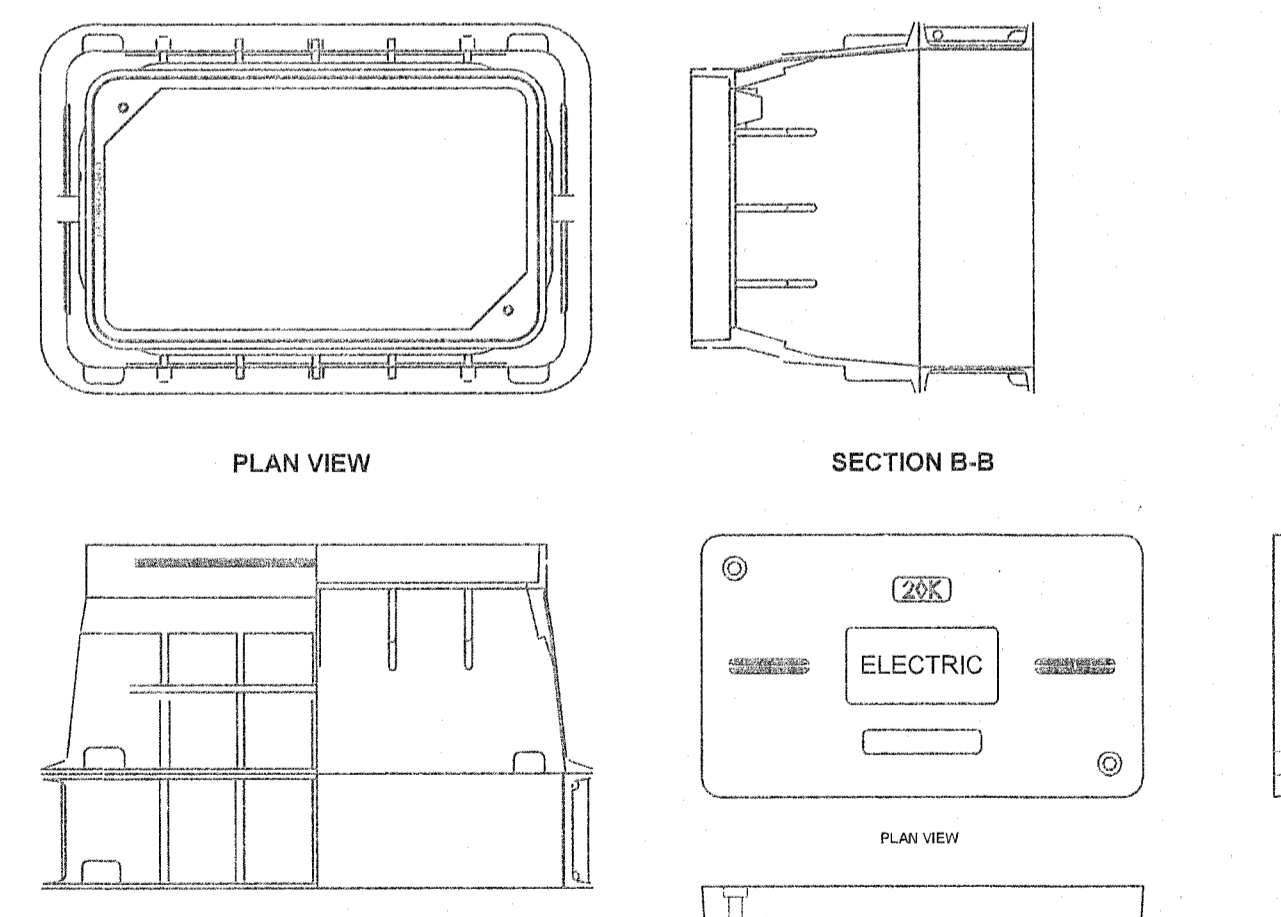
1 SITE PLAN - STREET LIGHTING
 0' 30' 60'
 1" = 30'-0"

SHEET KEYNOTES

- EXISTING POLE MOUNTED SHOEBOX HID STREET LIGHT TO BE REMOVED. CONTRACTOR TO COORDINATE REMOVAL OF STREET LIGHT WITH PGE.

STREET LIGHTING NOTES

- ALL MATERIALS AND WORKMANSHIP SHALL CONFORM TO PORTLAND GENERAL ELECTRIC (PGE) OPTION 'B' SPECIFICATIONS. ALL MATERIALS AND INSTALLATIONS SHALL BE APPROVED BY PGE.
- EQUIPMENT INSTALLATION SHALL COMPLY WITH LATEST EDITION OF THE PGE STATEMENT OF STREETLIGHT INSTALLATION RESPONSIBILITIES. OBTAIN LATEST EDITION FROM PGE. AMONG THE ITEMS LISTED IN THIS DOCUMENT, SOME HIGHLIGHTS ARE:
 - DEVELOPER/CONTRACTOR IS RESPONSIBLE FOR ALL TRENCH EXCAVATION AND BACKFILLING, CONDUITS, ELBOWS, VAULTS, JUNCTION BOXES, LANDSCAPE RESTORATION, AND ASSOCIATED PERMITS.
 - TRENCHES ARE TO BE 48" DEEP WHEN SHARED WITH OTHER UTILITIES, AND OTHERWISE AT LEAST 36" DEEP.
 - AN ON-SITE PRECONSTRUCTION MEETING IS REQUIRED.
 - ALL CONDUCTORS ARE TO BE INSTALLED IN CONDUIT.
 - ALL CONDUITS MUST BE GRAY, ELECTRICAL GRADE SCHEDULE 40 PVC. FLEXIBLE CONDUIT IS NOT ALLOWED.
 - ALL ELBOWS MUST BE FACTORY MADE.
 - A MINIMUM OF 12" WORKING SPACE IS TO BE PROVIDED BETWEEN THE TOP TO ELBOWS AND THE JUNCTION BOX LID TO ALLOW BENDING UP TO 4/0 ALUMINUM GAUGE WIRE WITH DAMAGE TO WIRE.
 - ELBOWS ARE TO BE CLUSTERED AT ONE END OF JUNCTION BOX.
 - WHERE JUNCTION BOXES ARE INSTALLED, THE CONTRACTOR SHALL RUN CONTINUOUS #10 CU 3-CONDUCTOR STREETLIGHT WIRE FROM THE LUMINAIRE TO THE JUNCTION BOX. PGE WILL RUN CONDUCTOR FROM THE SOURCE TO THE JUNCTION BOX.
 - STREETLIGHT WIRE SHALL BE #10 AWG, 800-VOLT, 3-CONDUCTOR, CLASS B STRANDING, TYPE TC, WITH SUNLIGHT-RESISTANT 45-MIL PVC JACKET, SUITABLE FOR DIRECT BURIAL INSTALLATIONS. INSULATION TO BE BLACK, RED AND GREEN PER NEMA WC-7 FOR NEC APPLICATIONS (TFN, THWN, THHN), WITH FILLERS OR BINDING TAPE ADDED TO PRODUCE ROUND OUTER JACKET, RATED 90-DEGREE CELSIUS DRY AND 75-DEGREE CELSIUS WET, 1000-FOOT NR REELS. JACKET TO DISPLAY SEQUENTIAL FOOTAGE MARKINGS, 2 REEL LABELS, ONE ATTACHED TO THE OUTSIDE FLANGE SURFACE, ONE ATTACHED TO THE DRUM WRAPPING, EACH TO DETAIL TOTAL FOOTAGE, INSIDE OR STARTING FOOTAGE.
 - TAMPED 3/4-INCH MINUS CRUSHED ROCK BACKFILL IS REQUIRED AROUND ALL POLES AND FOOTINGS, REGARDLESS OF SOIL CONDITION.
 - ALL METAL POLES MUST BE GROUND PER NESC 215.C AND NESC SECTION 9, USING A 5/8-INCH X 8-FOOT GALVANIZED ROD, CONNECTED TO THE GROUNDING LUG INSIDE THE POLE USING SOLID #6 CU BSD WIRE (STRANDED WIRE IS NOT ACCEPTABLE). GROUND ROD IS TO BE DRIVEN INTO UNDISTURBED SOIL NEAR THE POLE.
- POWER SOURCE FOR NEW STREET LIGHTS TO BE NEW PGE TRANSFORMER PROVIDED TO SERVE BUILDING. COORDINATE WITH PGE. REFERENCE PGE STREET LIGHTING CONTACT INFORMATION AND WORK ORDER NUMBER ON SHEET E1.01.
- JUNCTION BOXES ARE TO BE PROVIDED TO FOLLOWING PGE SPECIFICATION:
 - CONCRETE POLYMER LID, FIBERGLASS REINFORCED POLYMER FLARED SIDES, 18" DEEP, NO FLOOR, WITH SKID RESISTANT COVER ATTACHED BY TWO CAPTIVE STAINLESS STEEL, 3/8-INCH PENTA-HEAD BOLTS. GRAY COLOR PER PGE TSD SPECIFICATION.
 - OLDCASTLE 13241817, ARMOSTCAST A6001946TAX18-PGE, QUAZITE A42132418A017, HIGHLINE CHA132418HE1 OR APPROVED.
- OWNER IS RESPONSIBLE FOR COST OF EXISTING STREET LIGHT REMOVAL, CONSISTING OF THE ESTIMATED ORIGINAL COST, LESS DEPRECIATION, LESS SALVAGE VALUE, PLUS REMOVAL COST.



2 STREET LIGHTING JUNCTION BOX
 NO SCALE

CITY OF **West Linn** ENGINEERING APPROVED
 DATE 1/21/17 BY AP

PROJECT 2016-0204
 CONTACT Jeffrey Glanville

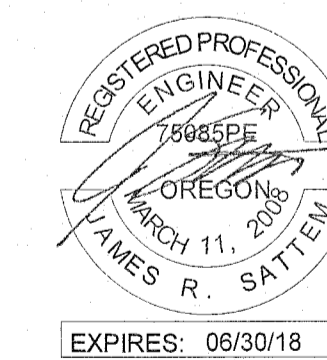
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 www.Interfaceengineering.com

TVFR STATION 55 - ROSEMONT
 West Linn, OR

Tualitan Valley Fire & Rescue

REVISION	DATE	REASON FOR ISSUE
1	04/17/17	Addendum 3



SITE PLAN - STREET LIGHTING

GMP / PERMIT SET

DATE 02/20/17	REVISION 1
PROJECT NUMBER 160420	SHEET NUMBER E1.02
SCALE As indicated	



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PLANT LIST: GENERAL LANDSCAPING

SYMBOL	#	LATIN NAME / Common Name	SIZE	SPACING
--------	---	--------------------------	------	---------

TREES				
	6	ACER TRUNCATUM 'WARRENRED' Pacific Sunset Maple	2" cal.	As Shown
	4	ALNUS RUBRA Red Alder	1" cal.	As Shown
	8	AMELANCHIER GRAND. 'AUTUMN BRILLIANCE' Autumn Brilliance Serviceberry	1.5" cal.	As Shown
	1	CHAMAECYPARIS OBT. 'GRACILIS' Slender Hinoki Cypress	5' ht.	As Shown
	3	CORNUS KOUSA x NUTALLII 'STARLIGHT' Starlight Flowering Dogwood	1.5" cal.	As Shown
	10	PINUS CONTORTA var. CONTORTA Shore Pine	6-7' ht.	As Shown
	10	PSEUDOTSUGA MENZIESII Douglas Fir	7-8' ht.	As Shown
	10	PSEUDOTSUGA MENZIESII Douglas Fir	7-8' ht.	As Shown
	10	THUJA PLICATA Western Red Cedar	10-12' ht.	As Shown
	3	STREET TREE Consult with City of West Linn	2" cal.	As Shown

SHRUBS				
	55	ABELIA GRANDIFLORA 'LUCKY LOTS' Lucky Lots Glossy Abelia	2 gal.	4' o.c.
	13	CORNUS ALBA 'BAILHALO' Ivory Halo Dogwood	5 gal.	5' o.c.
	24	CORNUS SERICEA 'KELSEY' Kelsey Dogwood	1 gal.	30" o.c.
	6	ILEX CRENATA 'SKY PENCIL' Sky Pencil Japanese Holly	18" ht.	2' o.c.
	64	ILEX x 'MONDO' Little Rascal Holly	2 gal.	3' o.c.
	61	LIGUSTRUM JAPONICUM 'TEXANUM' Wax Leaf Privet	5 gal.	4' o.c.
	105	MAHONIA AQUIFOLIUM Tall Oregon Grape	2 gal.	4' o.c.
	30	MYRICA CALIFORNICA Tall Oregon Grape	5 gal.	8' o.c.
	46	NANDINA DOM. 'FIREPOWER' Firepower Dwarf Nandina	2 gal.	2' o.c.
	17	OEMLERIA CERASIFORMIS Indian Plum	5 gal.	8' o.c.
	27	PHILADELPHUS LEWISII Wild Mock Orange	5 gal.	6' o.c.
	6	RHODODENDRON 'VULCAN' Vulcan Rhododendron	18-21"	4' o.c.
	14	SAMBUCUS RACEMOSA Red Elderberry	5 gal.	6' o.c.
	52	SYMPHORICARPOS ALBUS Snowberry	2 gal.	5' o.c.
	31	VIBURNUM DAVIDII David Viburnum	2 gal.	3' o.c.
	25	VIBURNUM TINUS 'SPRING BOUQUET' Spring Bouquet Viburnum	5 gal.	4' o.c.
	18	WEIGELA FLORIDA 'WINGS OF FIRE' Wings of Fire Weigela	5 gal.	4' o.c.

GROUNDCOVER & PERENNIALS				
	268	ARCTOSTAPHYLOS U.U. 'MASSACHUSETTS' Massachusetts Kinnikinnick	1 gal.	3' o.c.
	118	COTONEASTER DAM. 'CORAL BEAUTY' Coral Beauty Bearberry	1 gal.	4' o.c.
	70	EUONYMUS FORTUNEI 'WHITE ALBUM' White Album Wintercreeper	1 gal.	3' o.c.
	43	HELICTOTRICHON SEMPERVIRENS Coral Reef Stonecrop	1 gal.	2' o.c.
	29	JUNCUS PATENS 'ELK BLUE' Elk Blue Gray Rush	1 gal.	18" o.c.
	140	MAHONIA REPENS Blue Spruce Stonecrop	1 gal.	3' o.c.
		FINE LAWN See Specifications	Seed	
		ROUGH SEED See Specifications	Seed	
		EXISTING LANDSCAPING TO REMAIN		

PLANT LIST: WATER QUALITY FACILITIES

SYMBOL	#	LATIN NAME / Common Name	SIZE	SPACING
--------	---	--------------------------	------	---------

TREES				
	7	FRAXINUS LATIFOLIA Oregon Ash	1.5" cal.	As Shown

SHRUBS				
	41	CORNUS SERICEA Redtwig Dogwood	2 gal.	3' o.c.
	65	SPIRAEA BETULIFOLIA Birch Leaf Spirea	1 gal.	3' o.c.

HERBACEOUS PLANTS (*)				
	450	CAREX OBNUPA Slough Sedge	1 gal.	1.25' o.c.
	215	DESCHAMPSIA CESPITOSA Tufted Hairgrass	1 gal.	1.25' o.c.
	450	JUNCUS PATENS Spreading Rush	1 gal.	1.25' o.c.
	325	DESCHAMPSIA CESPITOSA Tufted Hairgrass	1 gal.	1.25' o.c.
	162	IRIS DOUGLASIANA Douglas Iris	1 gal.	1.25' o.c.
	163	POLYSTICHUM MUNITUM Sword Fern	1 gal.	1.5' o.c.

(*) PLANT IN ALTERNATING GROUPS OF 15-25.

GROUNDCOVER				
	500	FRAGARIA CHILOENSIS Beach Strawberry	1 gal.	1' o.c.

WATER QUALITY FACILITY CALCULATIONS
PER CITY OF PORTLAND 2016 STORMWATER MANAGEMENT MANUAL

STORMWATER FACILITY
TOTAL AREA=3,320 SF
ZONE A AREA=1,393 SF
HERBACEOUS PLANTS REQUIRED=1,115
ZONE A/B AREA=899 SF
HERBACEOUS PLANTS REQUIRED=650
SMALL SHRUBS REQUIRED=36
ZONE B AREA=966 SF
SHRUBS REQUIRED=68
GROUNDCOVER REQUIRED=676
TREES PROPOSED= 7

(Proposed groundcover quantity has been reduced to offset the inclusion of trees within the facility, as allowed per Chapter 2, Figure 2.15)

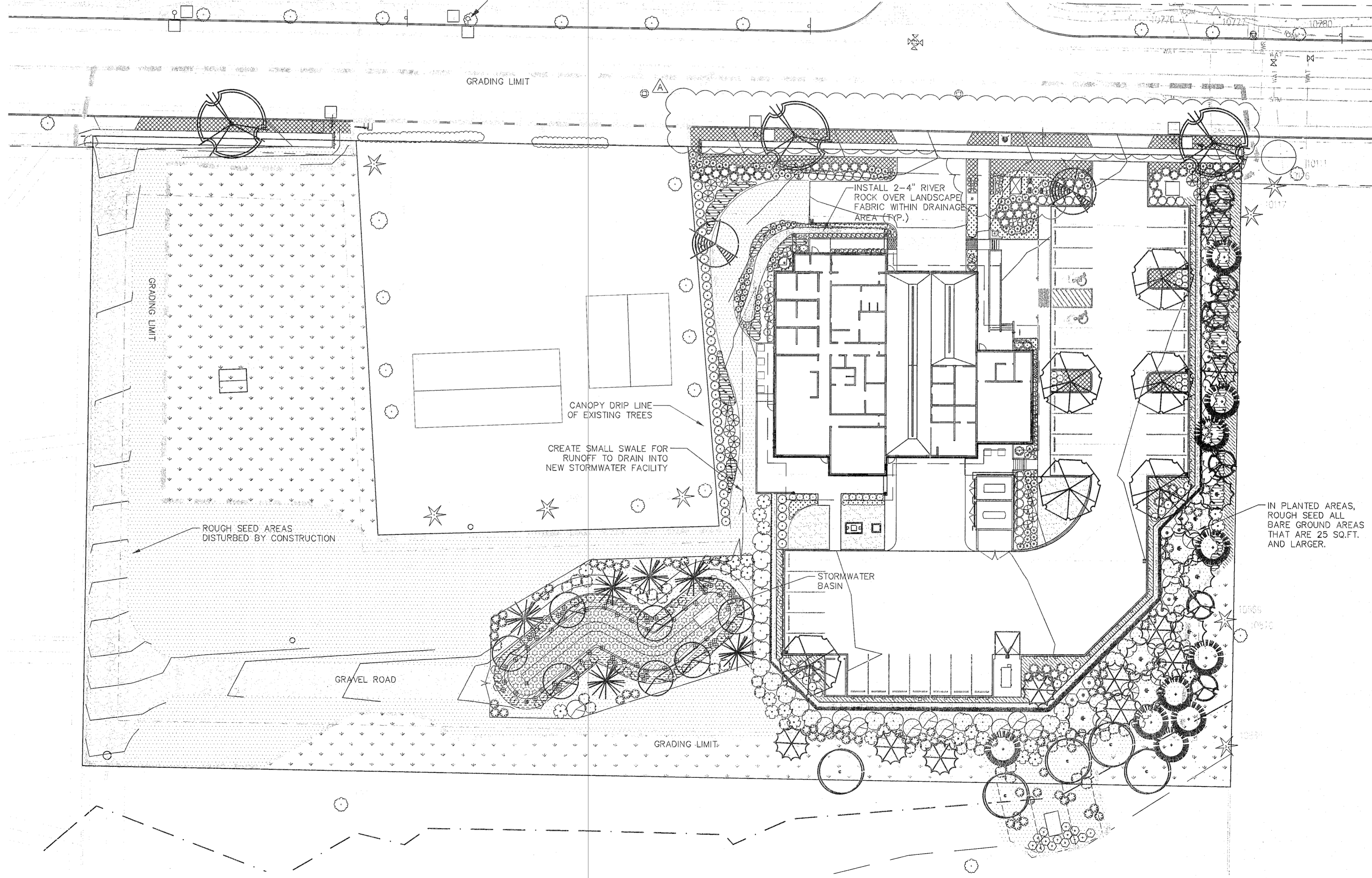
SITE AREA SUMMARY:

TOTAL SITE AREA= 137,073 SF
TOTAL LANDSCAPE AREA= 69,875 SF (50.9%)
PARKING AREA= 15,848 SF
INTERIOR PARKING LANDSCAPE AREA= 3,948 SF (25%)

GENERAL NOTES:

- Contractor is to verify all plant quantities.
- Adjust plantings in the field as necessary.
- Project is to be irrigated by an automatic, underground system, which will provide full coverage for all plant material. System is to be design/build by Landscape Contractor. Guarantee system for a minimum one year.
- All plants are to be fully foliated, well branched and true to form.
- Contractor is to notify Landscape Architect and/or Owner's Representative of any site changes or conditions that may be detrimental to plant health or cause future problems.

CITY OF ENGINEERING
West Linn APPROVED
DATE 7/21/17 BY AD



LANDSCAPE PLAN
SCALE 1" = 30'-0"

OTTEN LANDSCAPE ARCHITECTS Inc.
 3933 SW Kelly Avenue • Suite B • Portland, Oregon 97239-4393
 Phone (503) 972-0311 • Fax (503) 972-0314 • www.ottendesign.com

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20790 Hidden Springs Rd
West Linn, OR 97068

Tualatin Valley Fire & Rescue

REVISION	DATE	REASON FOR ISSUE
△	5/10/2017	



LANDSCAPE PLAN

GMP/PERMIT SUBMITTAL

DATE	REVISION
02/20/17	

PROJECT NUMBER	SHEET NUMBER
160420	L1.0

SCALE 1" = 30'-0"

WATER QUALITY SPECIFICATIONS PER CITY OF PORTLAND, BUREAU OF ENVIRONMENTAL SERVICES STORMWATER MANAGEMENT MANUAL:

SITE PREPARATIONS: Unwanted vegetation in the facility area shall be removed during site preparation with equipment appropriate for the type of material encountered and site conditions. All construction and other debris shall be removed before topsoil is placed. After the facility is cleared and graded, all disturbed subsoil shall be tilled before capping with 18" of compost-amended topsoil. After tilling is completed, no other construction traffic shall be allowed in the area, except for planting and related work. The City will expect the landscape contractor to be responsible for final grading and for ensuring that surface and stormwater runoff flows are functioning as designed.

TIMING: Plantings should be installed between February 1 and May 1 or between October 1 and November 15. Bare root stock shall be installed only from December 15 through April 15. When plantings must be installed outside these times, additional measures may be needed to assure survival.

EROSION CONTROL: Grading, soil preparation, and seeding shall be performed during optimal weather conditions and at low flow levels to minimize sediment impacts. Site disturbance shall be minimized and desirable vegetation retained, where possible. Slopes shall be graded to support the establishment of vegetation. Other erosion control methods must be in accordance with the City of Portland Erosion Control Manual. See Civil sheets for additional grading information.

HERBICIDES: If necessary, excessive weed growth may be treated with Rodeo or Garlon 3-A (or approved equals) in strict accordance with the manufacturer's instructions.

FERTILIZER: Do not apply fertilizer to any plantings within the Water Quality Swales or Infiltration Planters.

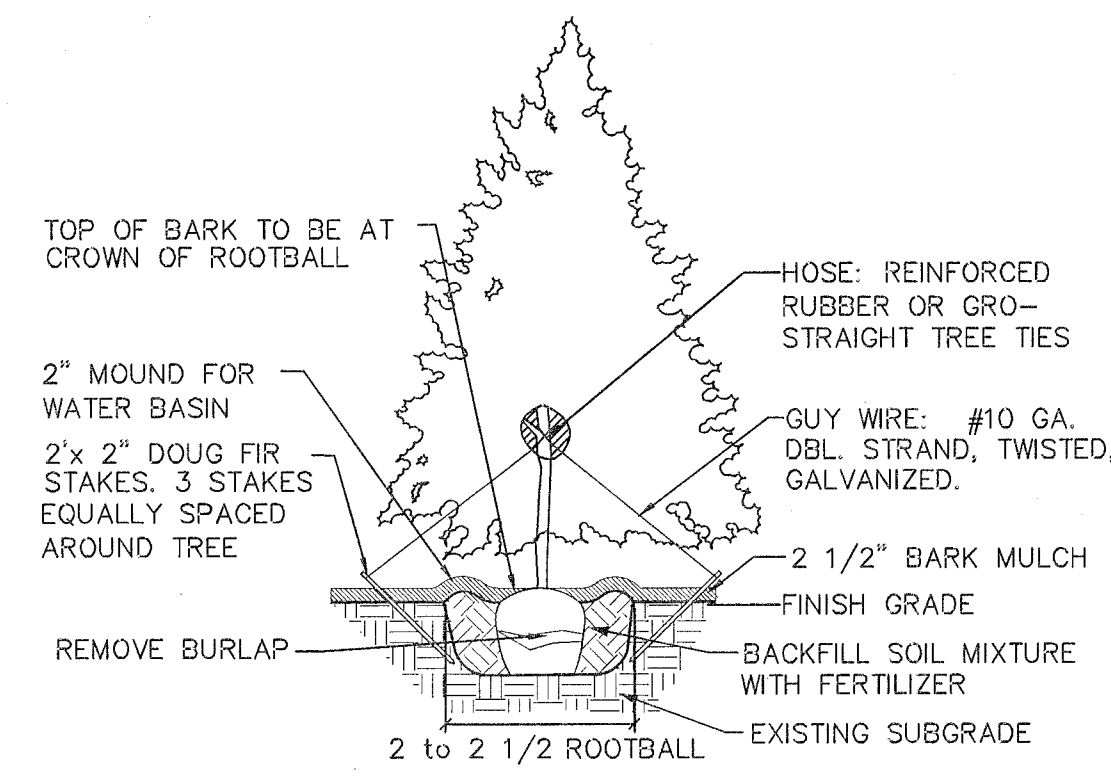
PLANTING TREES AND SHRUBS: Plant upright and face to give best appearance or relationship to adjacent plants and structures. Loosen and remove twine binding and burlap from top one-half of root balls. Cut off cleanly all broken or frayed roots, and spread roots out. Stagger Plants in rows. Backfill planting hole with soil mix while working each layer to eliminate voids.

MULCHING: Approved mulching materials and practices include organic materials such as compost, bark mulch, leaves, sawdust, straw, or wood shavings, as well as small river gravel, pumice, or other inert materials, applied in a 1' radius (measured from the center of the plant) around upland trees and shrubs. For ground cover plantings, the mulch shall be applied to cover all soil between plants to retain moisture and discourage weed growth around newly installed plant material. Mulch shall be weed-free and not chemically treated. Care should be exercised to use the appropriate amount of mulch. Over-use can cause impacts including the leaching of tannins and nutrients, and the migration of mulch into waterways. Manure mulching and high-fertilizer hydroseeding are prohibited in a facility area during and after construction.

IRRIGATION: Project is to be irrigated by an temporary, automatic, above ground system, which will provide full coverage for all plant material. System is to be design/build by landscape contractor. Guarantee system for a minimum period of two years. Permanent irrigation systems are not allowed for BES maintained facilities, unless approved by BES.

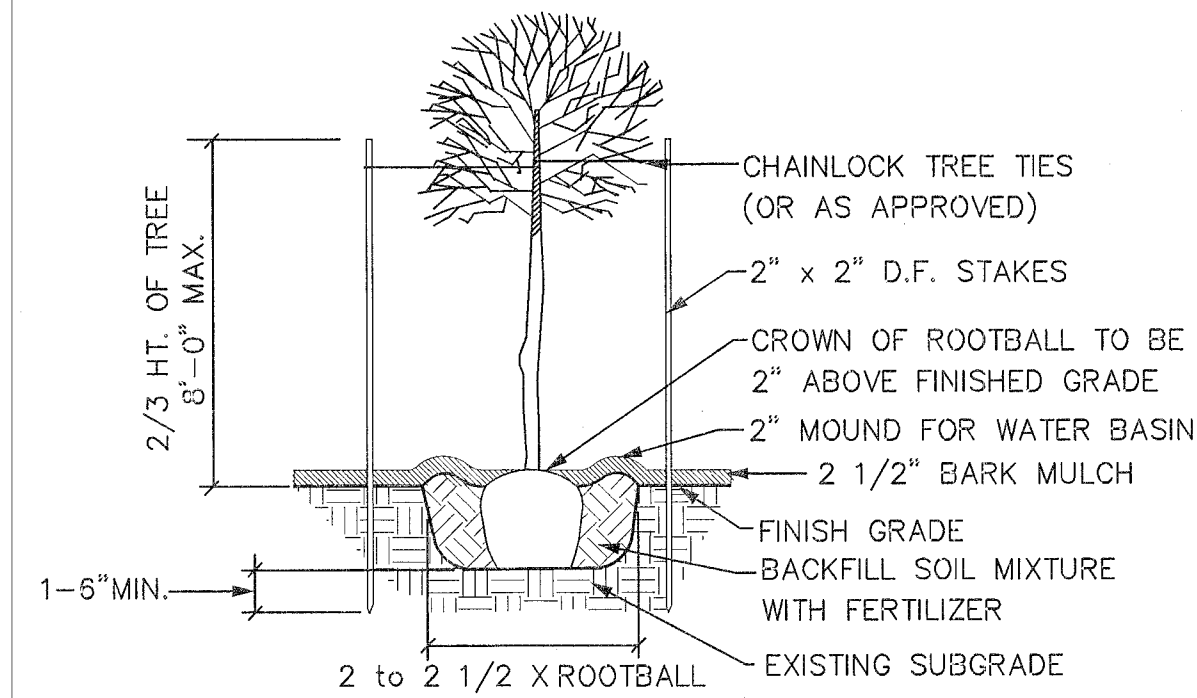
MAINTENANCE: Every permitted project with at least one stormwater facility is required to submit an Operations & Maintenance form prior to permit issuance. Required inspections shall be completed accordingly during the two-year maintenance period. All stormwater management facilities, constructed to comply with the requirements of City of Portland Bureau of Environmental Services manual, must be properly operated and maintained for the life of the facility. City staff has the right and responsibility to inspect facilities to assure they are being properly operated and maintained.

CLEAN-UP: At completion of each division of work all extra material, supplies, equipment, etc., shall be removed from the site. All walks, paving, or other surfaces shall be swept clean, mulch areas shall have debris removed and any soil cleared from surface. All areas of the project shall be kept clean, orderly and complete.



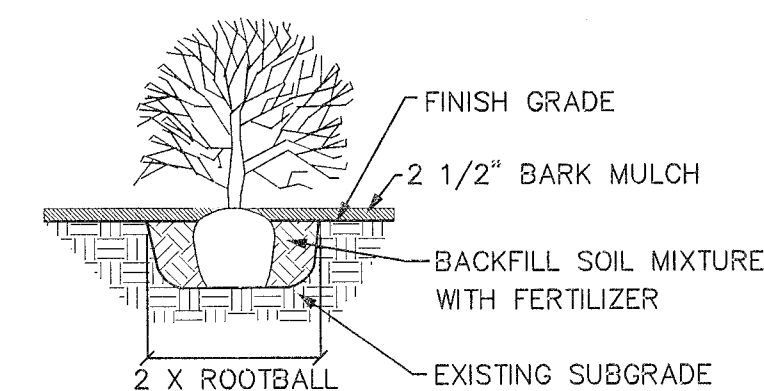
EVERGREEN TREE STAKING DETAIL

NOT TO SCALE



DECIDUOUS TREE PLANTING DETAIL

NOT TO SCALE



SHRUB PLANTING DETAIL

NOT TO SCALE

CITY OF **West Linn** ENGINEERING **APPROVED**
DATE 7/2/17 BY AR

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A	5/10/2017	



LANDSCAPE SPECIFICATIONS & DETAILS

GMP/PERMIT SUBMITTAL

DATE 02/20/17	REVISION
PROJECT NUMBER 160420	SHEET NUMBER L2.0
SCALE 1" = 30'-0"	