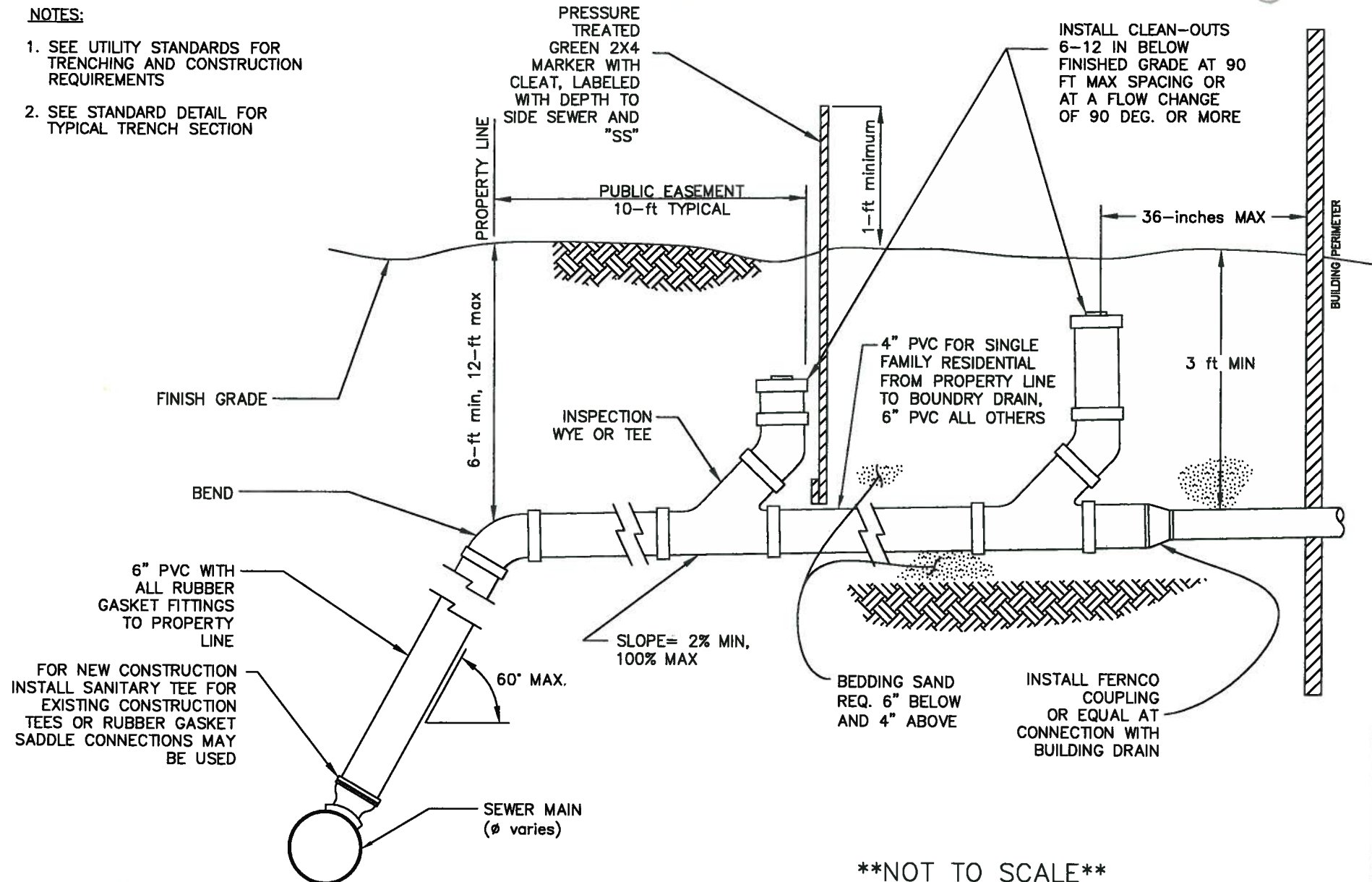


**NOTES:**

1. SEE UTILITY STANDARDS FOR TRENCHING AND CONSTRUCTION REQUIREMENTS
2. SEE STANDARD DETAIL FOR TYPICAL TRENCH SECTION



**\*\*NOT TO SCALE\*\***

**APPROVED**  
City of Oak Harbor  
Engineering Dept.

5/8/07  
Date



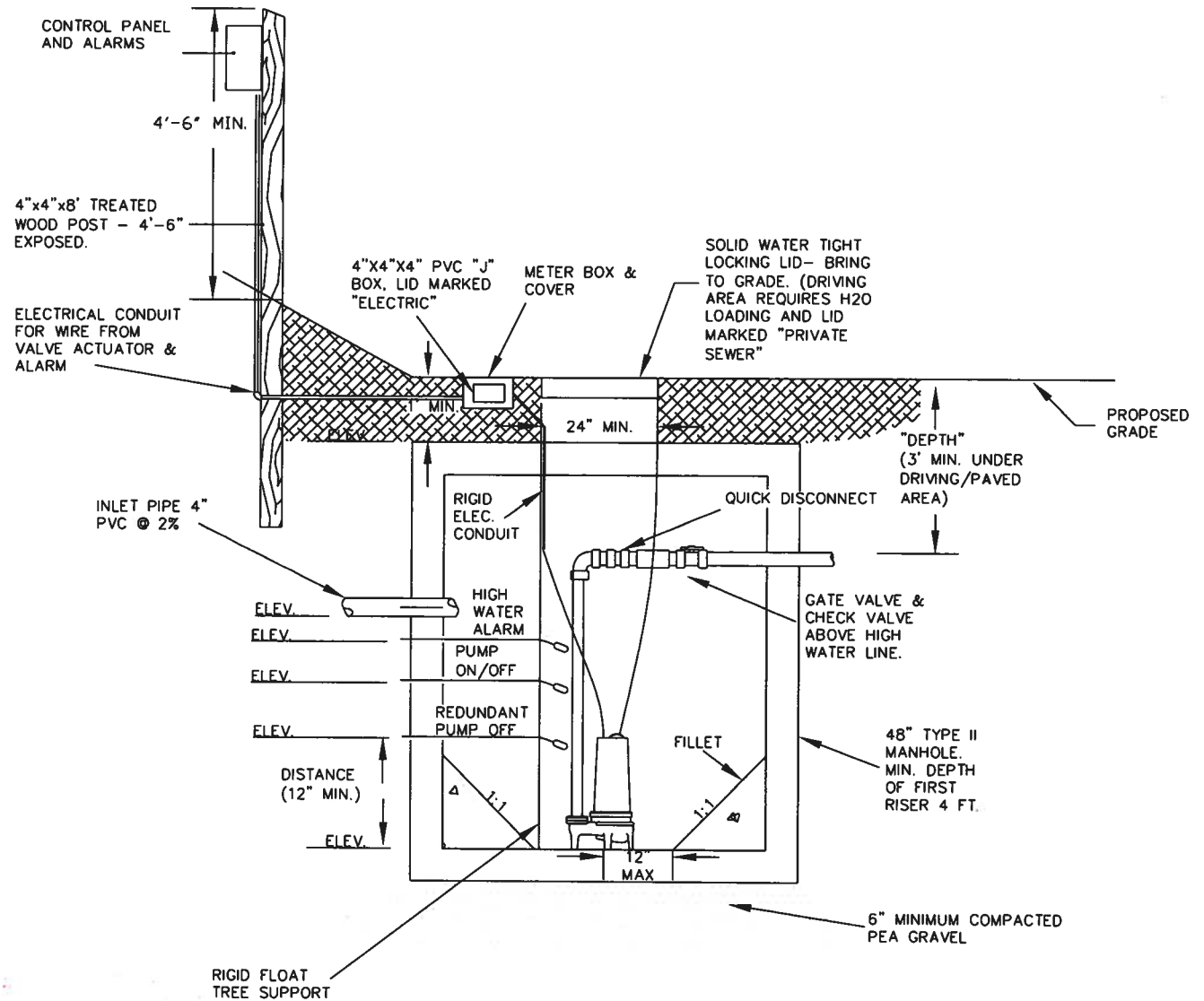
City of  
**Oak Harbor**  
ENGINEERING DEPARTMENT  
865 SE Barrington Drive  
Oak Harbor, WA 98277

**TYPICAL SIDE SEWER**

SS-1Typical Side sewer.dwg  
REVISED 2-24-06

**NOTES:**

1. AN OPERATIONAL CHECK OF THE PUMP, ON/OFF SWITCH, FLOATS AND ALARM SYSTEM SHALL BE REQUIRED AS PART OF THE TESTING PROCEDURES.
2. GRAVITY SEWER PIPE SHALL BE CONSIDERED AS PART OF THE RESIDENTIAL SEWER PUMP INSTALLATION. TESTING OF GRAVITY LINES SHALL BE COMPLETED AT THE TIME THE FORCE MAIN IS TESTED.
3. THE ALARM MUST BE IN A CONSPICUOUS LOCATION AND MUST CONSIST OF BOTH AUDIO AND VISUAL ALARMS.
4. WET WELL MUST BE WATERTIGHT.
5. THE GRINDER PUMP WET WELL SHALL BE INSTALLED ON LEVEL UNDISTURBED SOIL WITH A MINIMUM TOTAL LOAD BEARING CAPACITY OF 2000 POUNDS PER SQUARE FOOT. THE GRINDER PUMP WET WELL SHALL BE SET ON A LAYER OF PEA GRAVEL A MINIMUM OF 6 INCHES COMPACTED DEPTH.
6. ELECTRICAL INSPECTION SHALL BE COMPLETED AND APPROVAL POSTED AT JOB SITE PRIOR TO CALLING FOR INSPECTION BY CITY INSPECTOR.
7. THE PUMPING CHAMBER SHALL BE ADEQUATELY VENTED. VENTING MAY BE ACCOMPLISHED THROUGH THE BUILDING OR STRUCTURE PLUMBING VENTS WHERE THE SYSTEM VENTING HAS BEEN APPROVED BY THE LOCAL JURISDICTION AUTHORITY OR BY A DIRECT 2" MINIMUM VENT TO THE ATMOSPHERE.
8. EQUIPMENT THAT IN NORMAL OPERATION MAY CAUSE AN ARC OR SPARK SHALL NOT BE INSTALLED IN ANY PUMPING CHAMBER.
9. FLOAT SWITCHES INSTALLED IN AN UNCLASSIFIED LOCATION SHALL BE HERMETICALLY SEALED TO PREVENT THE ENTRANCE OF GASES OR VAPORS.
10. WHERE A CONDUIT SYSTEM IS INSTALLED BETWEEN THE PUMPING CHAMBER AND THE CONTROL PANEL, MOTOR DISCONNECT, OR POWER SOURCE, AN APPROVED SEALING FITTING SHALL BE INSTALLED TO PREVENT THE MIGRATION OF GASES OR VAPORS FROM THE PUMPING CHAMBER, AND SHALL REMAIN ACCESSIBLE.
11. WIRE SPLICES IN JUNCTION BOXES INSTALLED IN PUMPING CHAMBERS, SHALL BE SUITABLE FOR WET LOCATIONS.
12. SUBMERGENCE OF THE PUMP MOTOR SHALL BE GUARANTEED BY THE DESIGN OF THE PUMP OR BY REDUNDANT OFF FLOATS.



**APPROVED**  
City of Oak Harbor  
Engineering Dept

\_\_\_\_\_  
Signature

6/18/06  
Date



City of  
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865 SE Borrington Drive  
Oak Harbor, WA 98277

RESIDENTIAL SEWER  
GRINDER PUMP

SS-2Residential Sewer Grinder Pump.dwg

REVISED 3-20-06

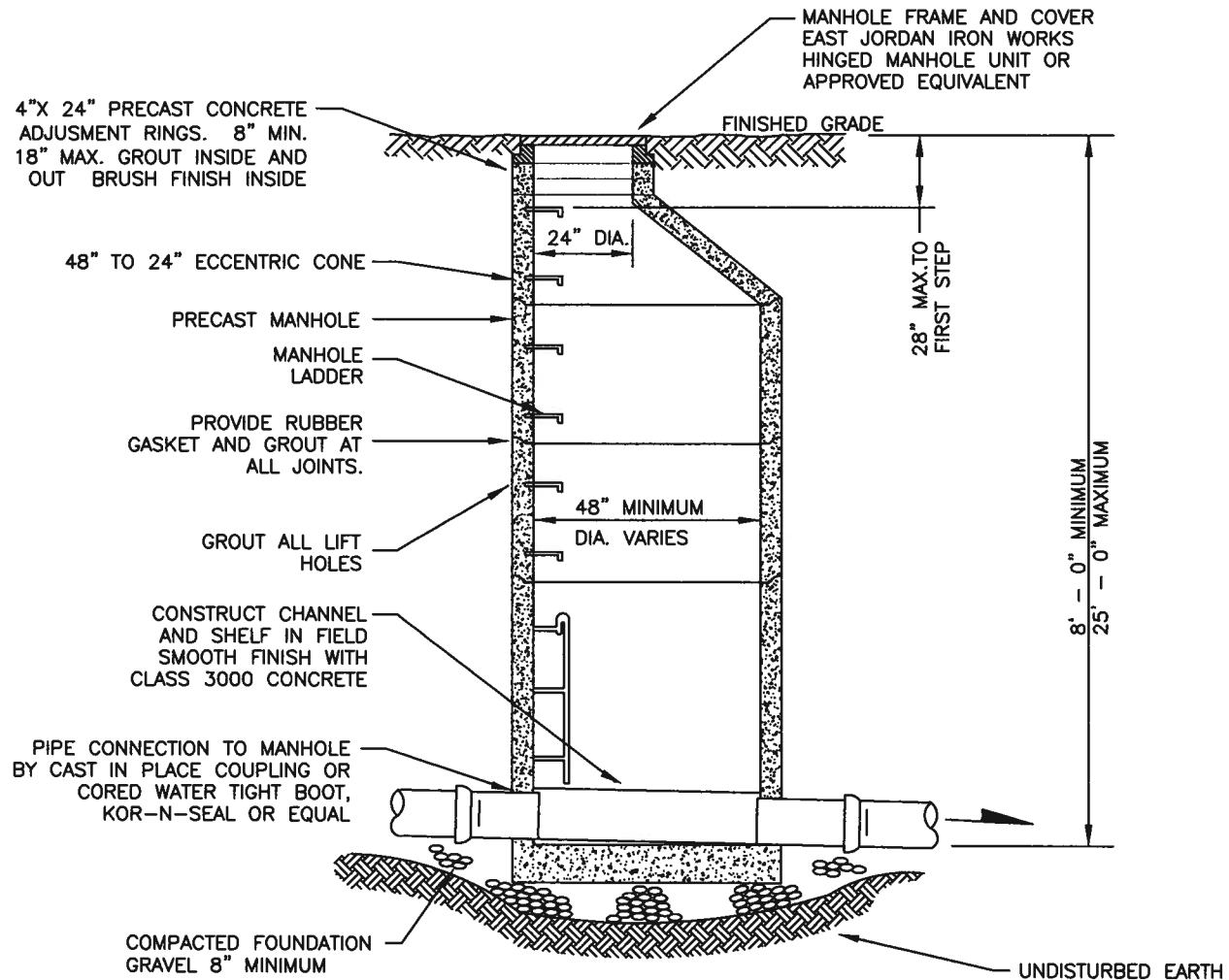
**NOTES:**

1. DROP OF GRADE THROUGH MANHOLE SHALL BE 0.1-FT UNLESS OTHERWISE APPROVED BY CITY ENGINEER.

2. MANHOLES SHALL COMPLY WITH WSDOT STANDARD SPECIFICATIONS FOR TYPE I MANHOLES

3. PIPES SHALL PROTRUDE NO MORE THAN 1-inch INTO MANHOLE.

4. ECCENTRIC CONE SHALL BE PLACED OUT OF TIRE TRACK AND SUCH THAT THE LADDER LANDS ON THE LARGEST SHELF



**APPROVED**  
City of Oak Harbor  
Engineering Dept

Signature

3-19-10  
Date



City of  
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ENGINEERING DEPARTMENT  
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Oak Harbor, WA 98277

TYPICAL SECTION  
TYPE 1 MANHOLE

SS-3Typical Type 1 Manhole.dwg

REVISED 3-19-10

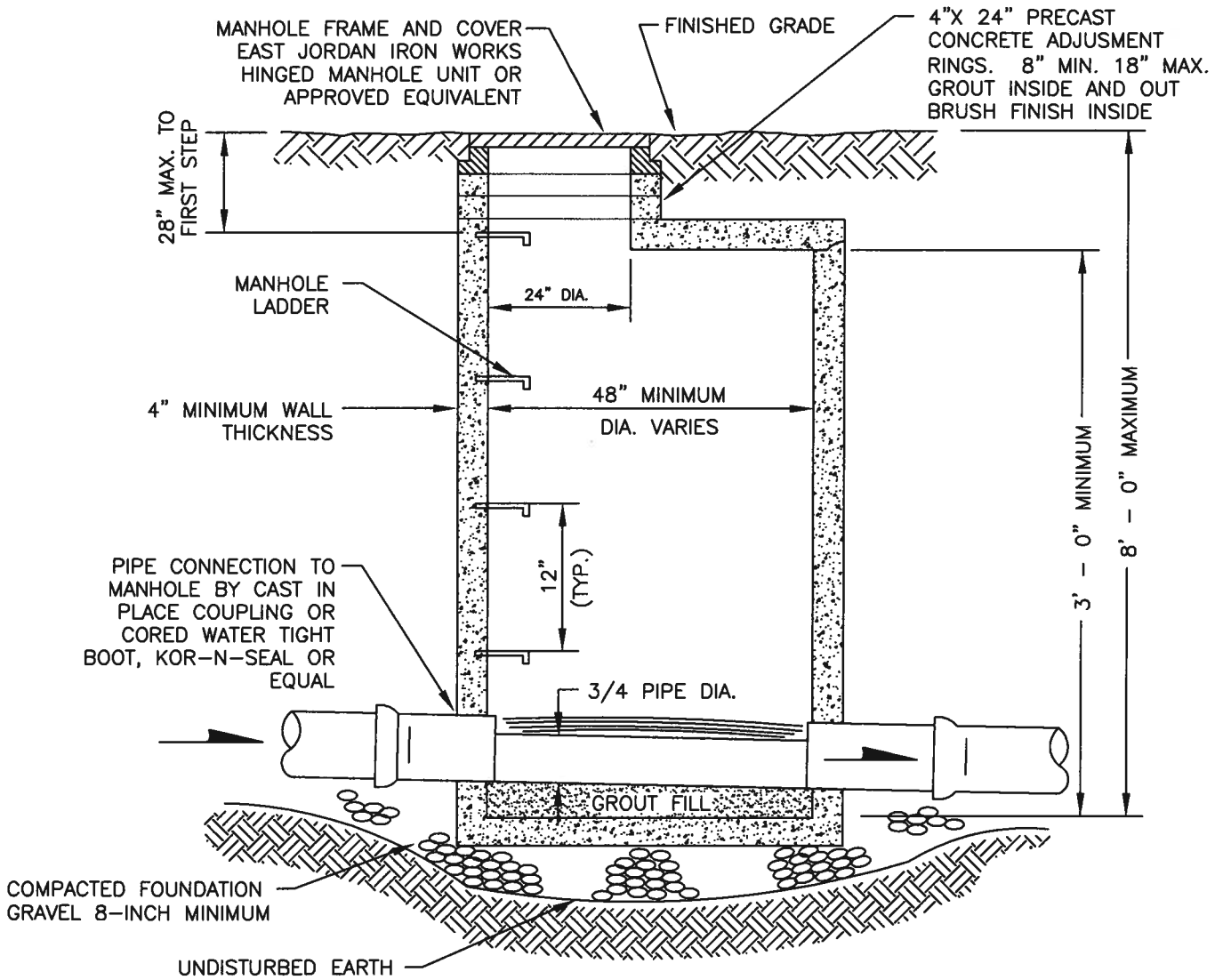
**NOTES:**

1. DROP OF GRADE THROUGH MANHOLE SHALL BE 0.1-FEET UNLESS OTHERWISE APPROVED BY CITY ENGINEER.
2. MANHOLES SHALL COMPLY WITH WSDOT STANDARD SPECIFICATIONS FOR TYPE III MANHOLES
3. PIPES SHALL PROTRUDE NO MORE THAN 1-INCH INTO MANHOLE.

**APPROVED**  
 City of Oak Harbor  
 Engineering Dept.

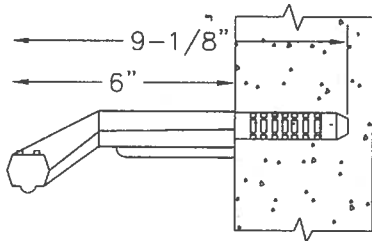
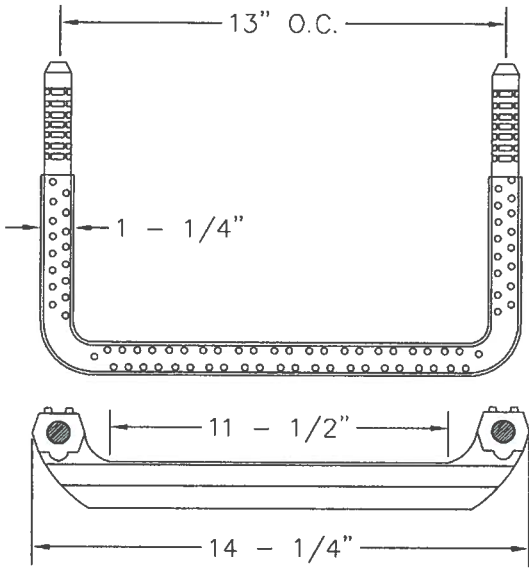
Signature

3-19-10  
 Date



**City of Oak Harbor**  
 ENGINEERING DEPARTMENT  
 865 SE Barrington Drive  
 Oak Harbor, WA 98277

**TYPE III MANHOLE**



POLYPROPYLENE STEP, LANE  
NO. P-13938 OR EQUAL

POLYPROPYLENE  
MANHOLE STEPS

RAIL  
9/16" ROUND  
BAR



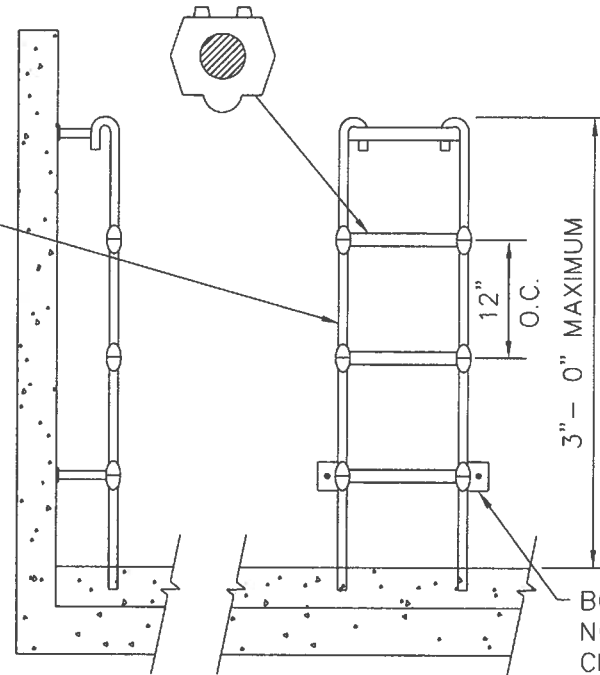
Signature \_\_\_\_\_

Date \_\_\_\_\_

**APPROVED**  
City of Oak Harbor  
Engineering Dept

6/9/06

RUNG  
1/2" GRADE 60



LADDER SHALL CONFORM TO  
POLYPROPYLENE ASTM D-1401  
1/2" GRADE 60 REINFORCING  
BAR A-615 9/16" COLD DRAWN  
BAR C-1018.

POLYPROPYLENE LADDER

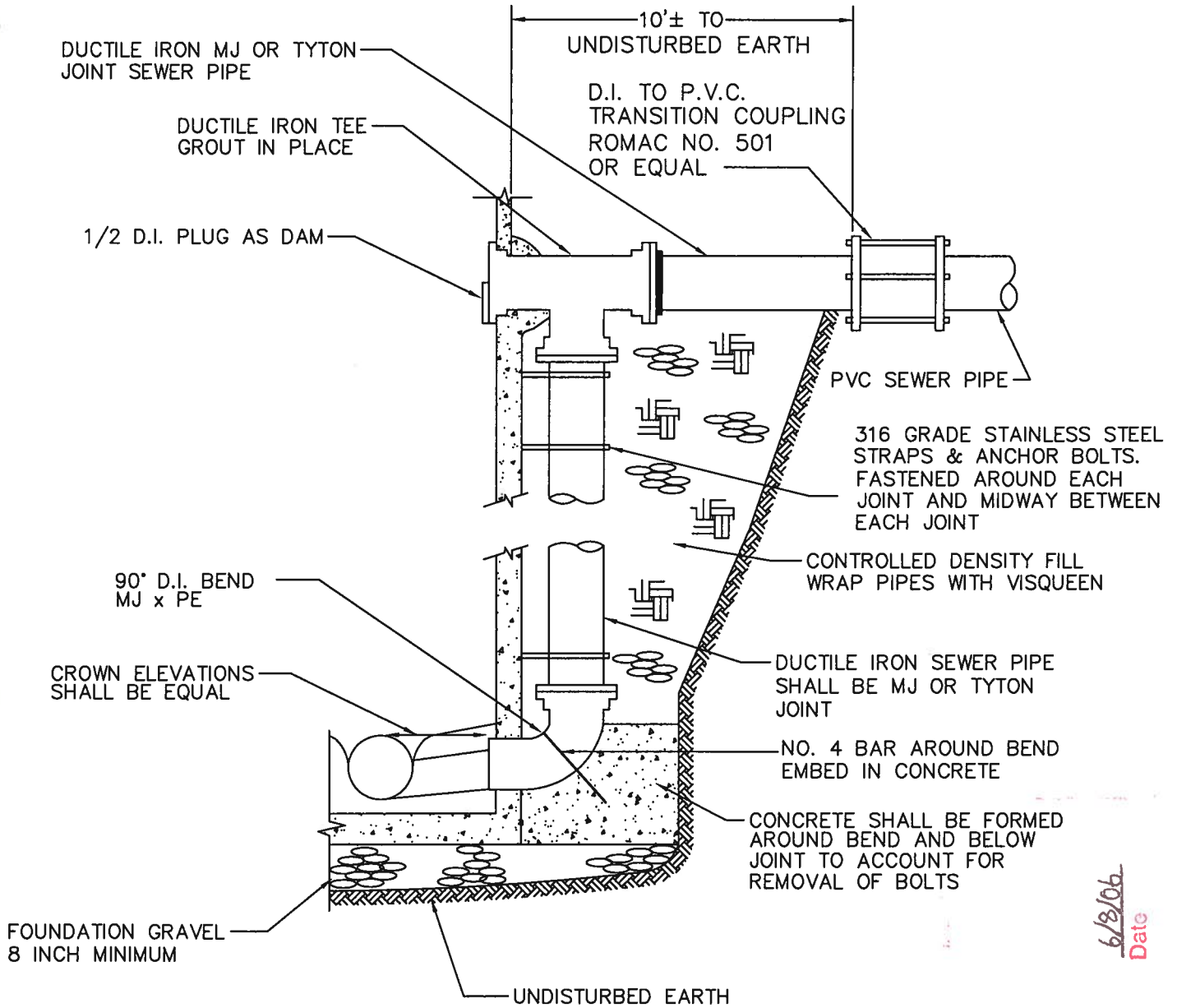


City of  
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ENGINEERING DEPARTMENT  
865 SE Barrington Drive  
Oak Harbor, WA 98277

TYPICAL MANHOLE  
LADDER STEPS

SS-5Typ Manhole Ladder & Steps.dwg

REVISED 3-28-06



**NOTES:**

1. DROP OF GRADE THROUGH MANHOLE SHALL BE 0.1-FT UNLES OTHERWISE APPROVED BY CITY ENGINEER.
2. MANHOLES SHALL COMPLY WITH WSDOT STANDARD SPECIFICATIONS FOR TYPE III MANHOLES
3. PIPES SHALL PROTRUDE NO MORE THAN 1-inch INTO MANHOLE.

6/2/06  
Date

**APPROVED**  
City of Oak Harbor  
Engineering Dept

\_\_\_\_\_  
Signature

**City of Oak Harbor**  
ENGINEERING DEPARTMENT  
865 SE Barrington Drive  
Oak Harbor, WA 98277

**TYPICAL SECTION  
OUTSIDE DROP CONNECTION  
TYPE III SEWER MANHOLE**

SS-60Outside Drop Connect Type 3 Manhole.dwg  
REVISED 3-20-06