

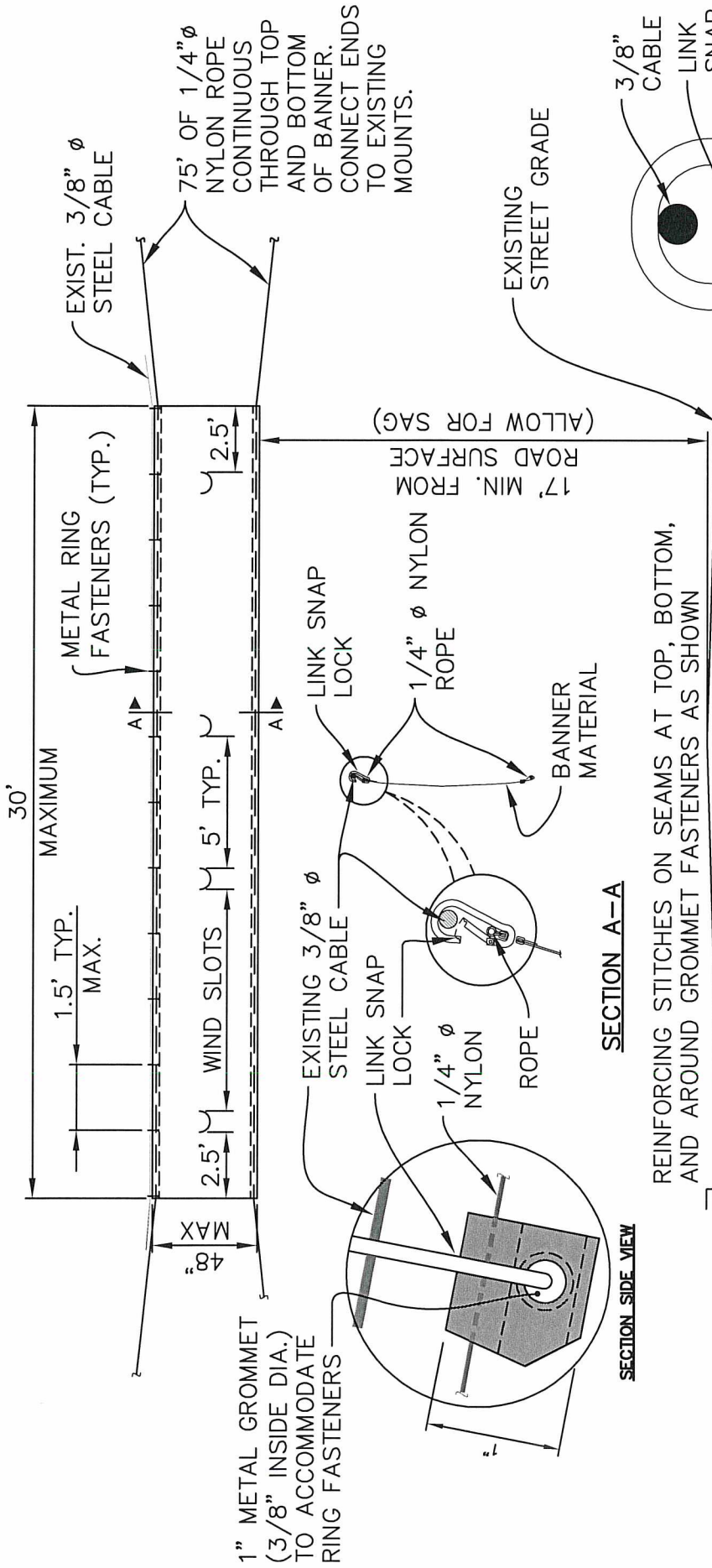
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| <b>NAME</b>  | <b>NUMBER</b> |
|--|---------------|
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**NOTES:**

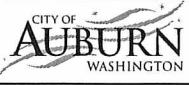
1. WIND SLOT SHALL BE 6" DIAMETER HALF CIRCLE, MINIMUM. THEY MAY BE LOCATED IN AREAS WHICH DO NOT DEDUCT FROM THE BANNER.
2. WIND SLOTS SHALL BE SPACED ONE SLOT PER 5 FT. OF BANNER LENGTH.
3. BANNER SHALL BE DURABLE TEARING RESISTANT MATERIAL, I.E., NYLON, ETC.
4. BANNER SHALL BE CONNECTED TO EXISTING CABLE WITH DETACHABLE METAL METAL RINGS, CURTAIN TYPE RINGS WILL NOT BE ALLOWED.
5. REINFORCING STITCHES SHALL BE PROVIDED ON SEAMS AT TOP, BOTTOM, & AROUND GROMMET FASTENERS AS SHOWN.
6. WIND SLOTS SHALL HAVE REINFORCING SEAMS AROUND FULL SLOT LENGTH TO PREVENT TEARING.
7. METAL RINGS SHALL BE SUBMITTED FOR APPROVAL AT TIME OF APPLICATION FOR PERMIT.
8. BANNER SHALL BE CONSTRUCTED USING A SINGLE LAYER OF BANNER MATERIAL. DOUBLE SIDED BANNERS SHALL HAVE PRINT ON BOTH SIDES OF THE SINGLE LAYER MATERIAL.
9. BANNER CONSTRUCTION SHALL BE APPROVED BY THE CITY ENGINEER PRIOR TO ISSUANCE OF PERMIT.

APPROVED BY CITY ENGINEER:

DATE:

*[Signature]*

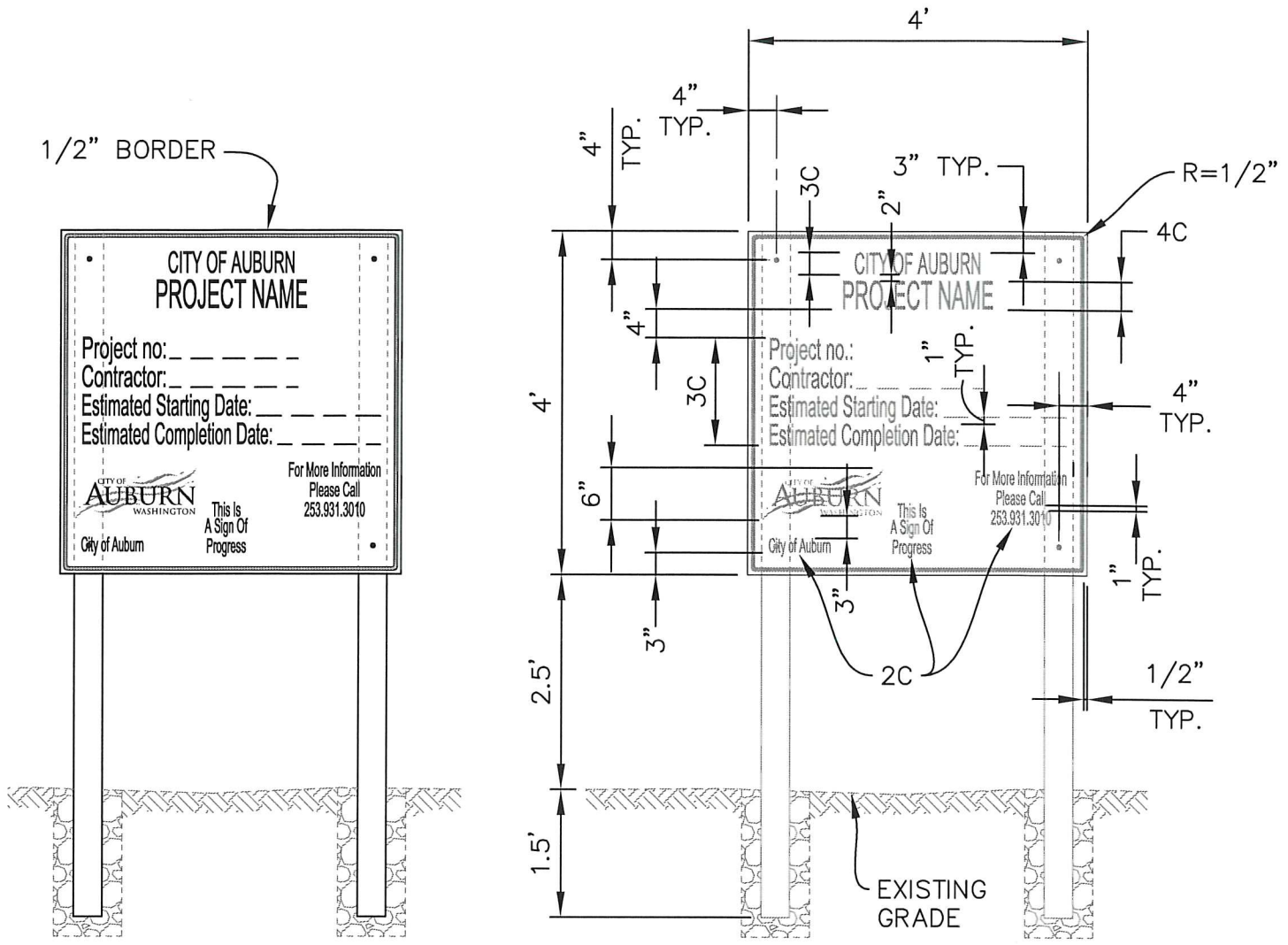
2/14/2017



BANNER  
DETAIL

3-1/4" LINK SNAP LOCK (20)  
NOT TO SCALE

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**CONSTRUCTION NOTES:**

1. SIGN BOARD SHALL BE CONSTRUCTED FROM 4'x4'x3/4" EXTERIOR MARINE PLYWOOD.
2. ALL LETTERS AND NUMERALS SHALL BE SERIES C.
3. LETTERING SHALL BE BLACK ON WHITE BACKGROUND USING 3M SCOTCHLITE EC FILM SERIES 1700 OVER 3M DIAMOND GRADE VIP OR BETTER.
4. SIGN AND POSTS SHALL BE PLANTED INTO AN UNYIELDING SOIL AND REINFORCED BY TAMPING GRAVEL OR SMALL ROCKS WHEN NECESSARY TO ASSURE RESISTANCE AGAINST STRONG WIND. BRACING MAY BE REQUIRED AT SOME LOCATIONS AS DIRECTED BY THE ENGINEER.
5. SIGN BOARD SHALL BE FABRICATED AND MOUNTED ON 2 EACH 4"x4"x8' POSTS WITH THE FOLLOWING GALVANIZED FASTENERS AND SIZES AS INDICATED:
  - 4 EA. 1/4" DIA.x6"
  - 4 EA. 1/4" NUTS
  - 8 EA. 1/4" WASHERS

APPROVED BY CITY ENGINEER:

DATE:

*[Signature]*

8/5/2016



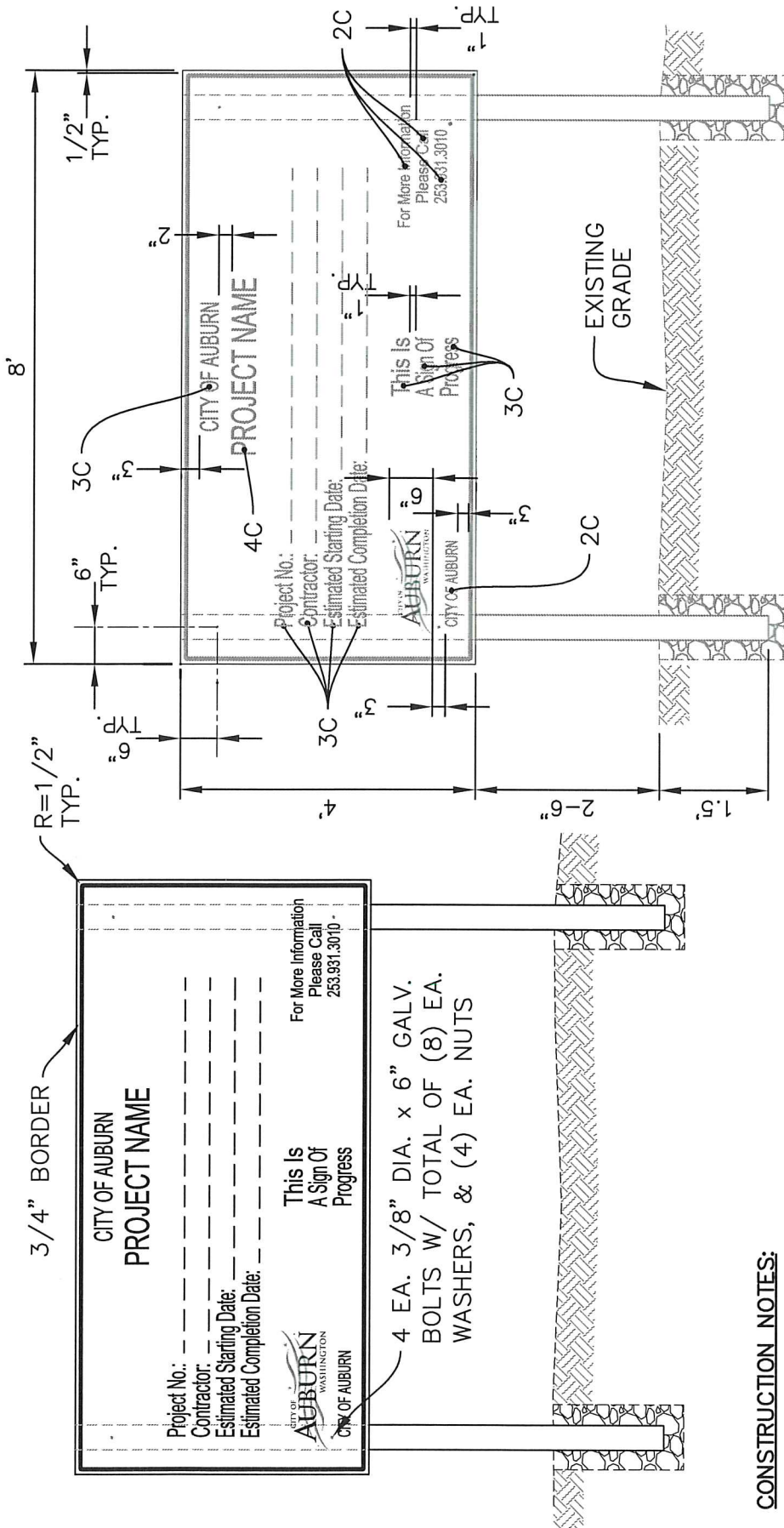
TEMPORARY CONSTRUCTION  
SITE SIGN BOARD (4'x4')

COMMUNITY DEVELOPMENT & PUBLIC WORKS DEPT.

STANDARD DETAIL: G-02.1







**CONSTRUCTION NOTES:**

1. SIGN BOARD SHALL BE CONSTRUCTED FROM 4'x4'x3/4" EXTERIOR MARINE PLYWOOD.
2. ALL LETTERS AND NUMERALS SHALL BE SERIES C.
3. LETTERING SHALL BE BLACK ON WHITE BACKGROUND USING 3M SCOTCHLITE EC FILM SERIES 1700 OVER 3M DIAMOND GRADE VIP OR BETTER.
4. SIGN AND POSTS SHALL BE PLANTED INTO AN UNYIELDING SOIL AND REINFORCED BY TAMPING GRAVEL OR SMALL ROCKS WHEN NECESSARY TO ASSURE RESISTANCE AGAINST STRONG WIND. BRACING MAY BE REQUIRED AT SOME LOCATIONS AS DIRECTED BY THE ENGINEER.
5. SIGN BOARD SHALL BE FABRICATED AND MOUNTED ON 2 EACH 4"x4"x8' POSTS WITH THE FOLLOWING GALVANIZED FASTENERS AND SIZES AS INDICATED:
  - 4 EA. 3/8" DIA.x6"
  - 4 EA. 3/8" NUTS
  - 8 EA. 3/8" WASHERS

APPROVED BY CITY ENGINEER:

DATE:

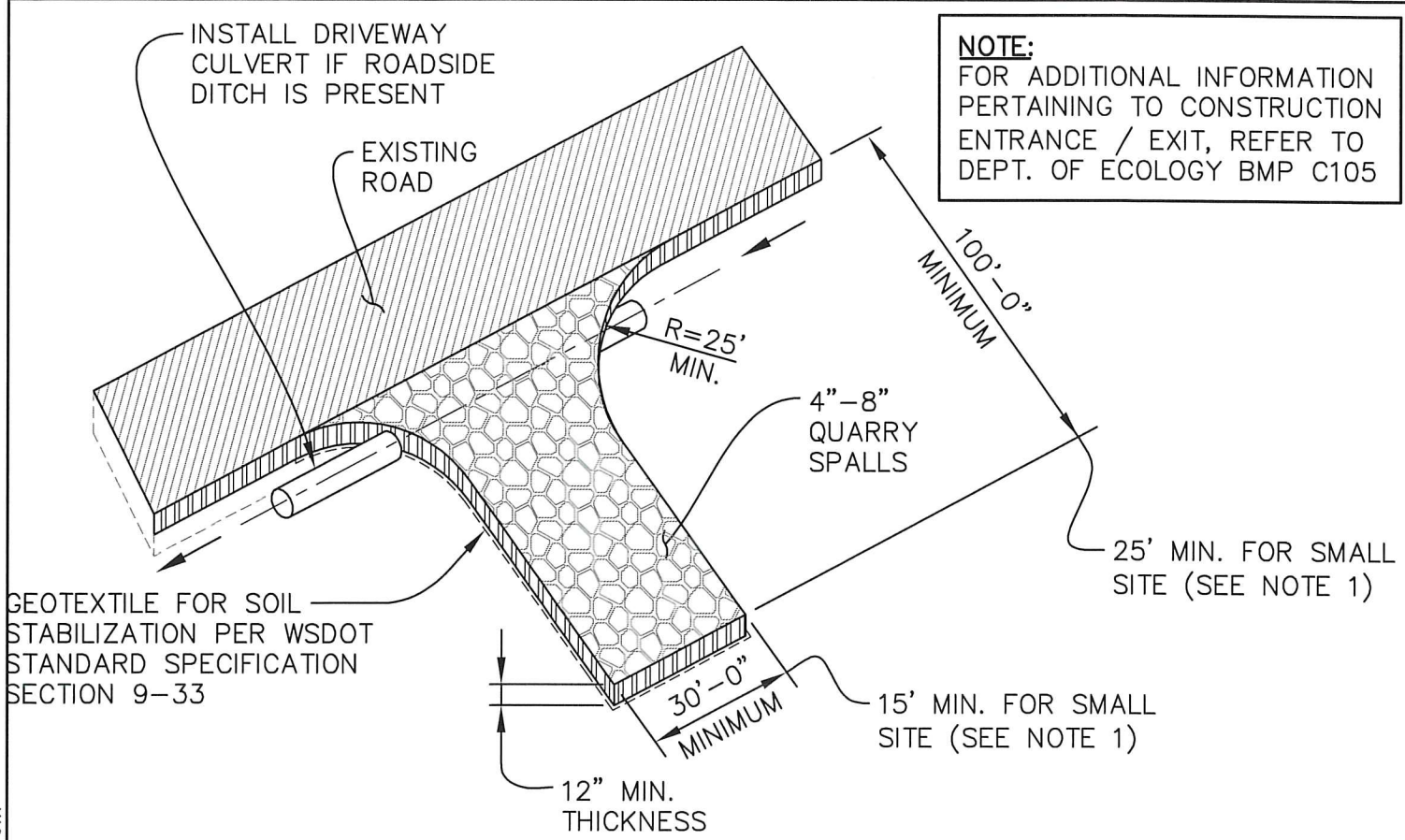
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8/5/2016



TEMPORARY CONSTRUCTION  
SITE SIGN BOARD (8'x4')





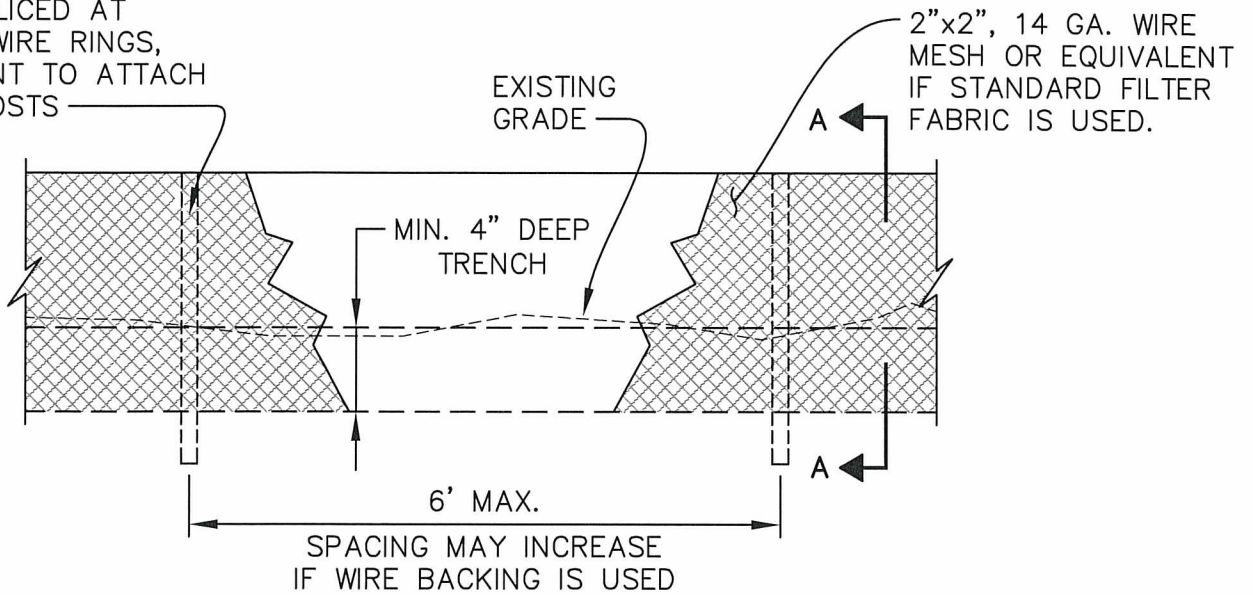
**MAINTENANCE STANDARDS:**

1. SMALL SITE IS DEFINED AS A SITE THAT ADDS OR REPLACES LESS THAN 5,000 SQUARE FEET OF IMPERVIOUS SURFACE & DISTURBS LESS THAN ONE ACRE.
2. QUARRY SPALLS PLUS WOVEN GEOTEXTILE FABRIC UNDER ROCK SHALL BE ADDED AS NEEDED TO KEEP THE ENTRANCE IN CONFORMANCE WITH THESE STANDARDS.
3. IF THE ENTRANCE IS NOT PREVENTING SEDIMENT FROM BEING TRACKED ONTO PAVEMENT, THEN ALTERNATIVE MEASURES TO KEEP THE STREETS FREE OF SEDIMENT SHALL BE USED. THIS MAY INCLUDE SHOVELING, PICKUP SWEEPING, & HAND SWEEPING, AN INCREASE IN THE ENTRANCE DIMENSIONS, OR THE INSTALLATION OF A SELF-CONTAINED WHEEL WASH STATION, (REFER TO DOE BMP C-106 FOR MORE INFORMATION).
4. ANY SEDIMENT THAT IS TRACKED ONTO STREET PAVEMENT SHALL BE REMOVED IMMEDIATELY BY SHOVELING, PICKUP SWEEPING, & HAND SWEEPING. THE SEDIMENT COLLECTED BY SWEEPING SHALL BE REMOVED OR STABILIZED ONSITE. PAVEMENT SHALL NOT BE CLEANED BY WASHING DOWN THE STREET, EXCEPT WHEN SWEEPING IS INEFFECTIVE & THERE IS A THREAT TO PUBLIC SAFETY. IF IT IS NECESSARY TO WASH THE STREETS, A CONSTRUCTION OF A SMALL SUMP SHALL BE CONSIDERED. SEDIMENT WOULD THEN BE WASHED INTO THE SUMP.
5. ANY ROCK SPALLS THAT ARE LOOSEENED FROM THE DRIVEWAY PAD & ONTO THE ROADWAY SHALL BE REMOVED IMMEDIATELY. VACTOR TRUCK MUST BE USED TO CLEAN CATCH BASIN IF IT BECOMES PLUGGED.
6. VEHICLES SHALL NOT ENTER OR EXIT THE SITE OTHER THAN THE CONSTRUCTION ENTRANCE(S).
7. REMOVE TEMPORARY CONSTRUCTION ENTRANCE/EXIT UPON COMPLETION OF THE ON-SITE WORK.

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|  |                   |  |   |
|--|-------------------|--|---|
| APPROVED BY CITY ENGINEER:<br><i>[Signature]</i> | DATE:<br>8/5/2016 | CITY OF<br><b>AUBURN</b><br>WASHINGTON | TEMPORARY CONSTRUCTION<br>ENTRANCE / EXIT |
| COMMUNITY DEVELOPMENT & PUBLIC WORKS DEPT.       |                   |  | STANDARD DETAIL: E-01.1                   |

JOINTS IN FILTER FABRIC SHALL BE SPLICED AT POSTS. USE WIRE RINGS, OR EQUIVALENT TO ATTACH FABRIC TO POSTS



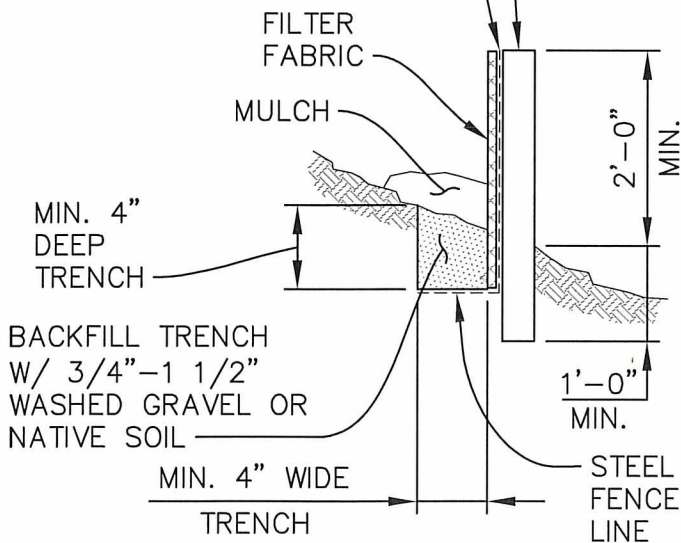
**SILT FENCE**  
NOT TO SCALE

**MAINTENANCE STANDARDS:**

1. INSPECT WEEKLY ON ACTIVE SITES, MONTHLY ON INACTIVE SITES, & AFTER EACH STORM EVENT TO VERIFY PROTECTION IS STILL ADEQUATE. ANY DAMAGE SHALL BE REPAIRED IMMEDIATELY.
2. IF CONCENTRATED FLOWS ARE EVIDENT UPHILL OF THE FENCE, THEY MUST BE INTERCEPTED AND CONVEYED TO A SEDIMENT POND.
3. THE UPHILL SIDE OF THE FENCE SHALL BE PERIODICALLY CHECKED FOR SIGNS OF CLOGGING CAUSING CHANNELIZATION OF THE FLOWS PARALLEL TO THE FENCE. IN SUCH CASE, REPLACE THE FENCE AND OR REMOVE THE TRAPPED DEBRIS AND SEDIMENT.
4. SEDIMENT AND DEBRIS BUILD UP MUST BE REMOVED WHEN 6" HIGH.
5. REMOVE AND REPLACE DETERIORATED FILTER FABRIC DUE TO ULTRAVIOLET BREAKDOWN.
6. UPON COMPLETION OF WORK AND WHEN ALLOWED BY THE CITY OF AUBURN, THE CONTRACTOR SHALL REMOVE ALL FILTER FABRIC FENCE AND GRAVEL. PROVIDE FINISH GRADES WITH SURFACING MATERIAL AND LANDSCAPING AS REQUIRED.

STEEL FENCE POSTS

2"x2", 14 GA. WIRE MESH OR EQUIVALENT IF STANDARD FILTER FABRIC IS USED



**SECTION A-A**  
NOT TO SCALE

**NOTES:**

1. FILTER FABRIC FENCES SHALL BE INSTALLED ALONG CONTOUR WHENEVER POSSIBLE.
2. FOR ADDITIONAL TECHNICAL INFORMATION, REFER TO WSDOE BMP C233.

APPROVED BY CITY ENGINEER:

DATE:

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*8/5/2016*



SILT CONTROL FENCE



DRAINAGE GRATE,  
RECTANGULAR  
GRATE SHOWN

CURB &  
GUTTER

OVERFLOW BYPASS  
OPENING (TYP.)

GEOTEXTILE  
FABRIC

5" MAX.

SEDIMENT AND  
DEBRIS RETRIEVAL  
STRAPS (TYP.)

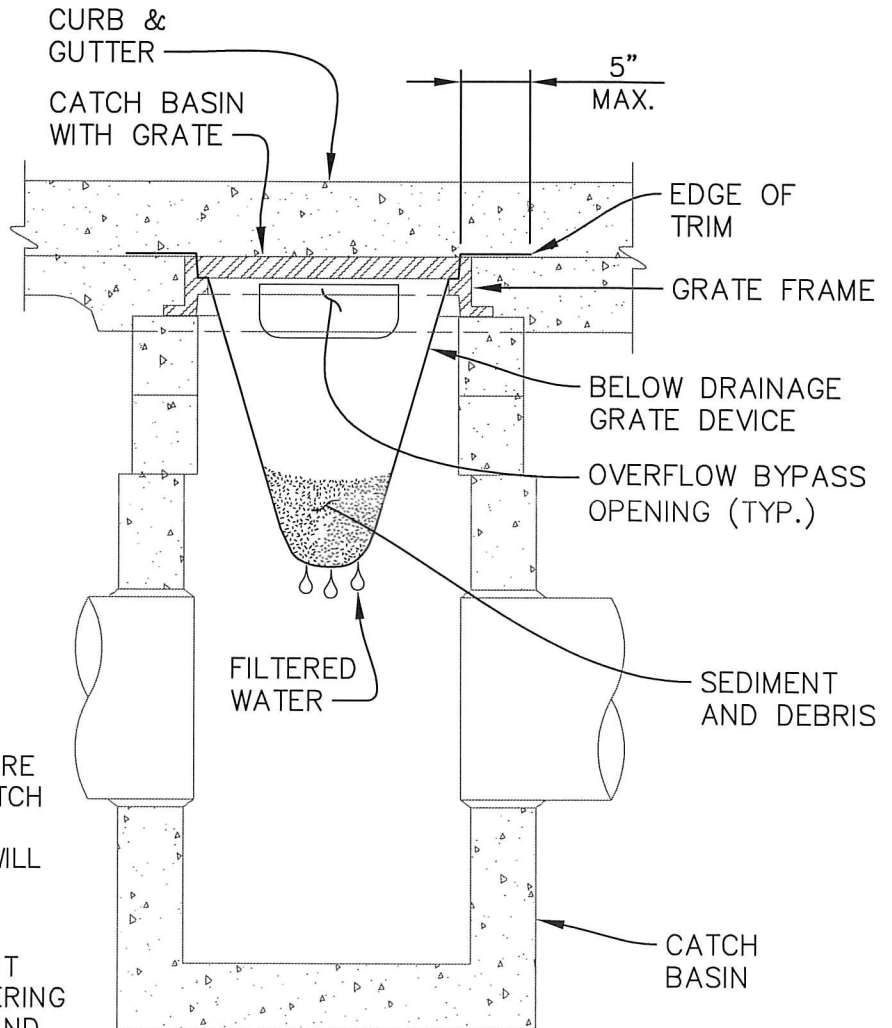
BELOW DRAINAGE  
GRATE DEVICE

**MAINTENANCE STANDARDS:**

1. ANY ACCUMULATED SEDIMENT ON OR AROUND THE FILTER FABRIC SHALL BE REMOVED PROMPTLY AND DISPOSED OF.
2. SEDIMENT SHALL NOT BE REMOVED WITH WATER INSIDE THE BASIN.
3. REGULAR MAINTENANCE IS REQUIRED. INSPECT WEEKLY ON ACTIVE SITES, MONTHLY ON INACTIVE SITES, & AFTER EACH STORM EVENT TO VERIFY PROTECTION IS STILL ADEQUATE. REPLACE AS NEEDED.
4. ANY SEDIMENT IN THE CATCH BASIN INSERT SHALL BE REMOVED WHEN IT HAS FILLED 1/3 OF THE STORAGE CAPACITY OF THE FILTER DEVICE.
5. THE GEOTEXTILE FABRIC FILTER MEDIA SHALL BE INSPECTED AFTER EACH STORM EVENT & CLEANED OR REPLACED WHEN 1/3 OF STORAGE CAPACITY IS REACHED, OR MONTHLY, UNDER NORMAL WEATHER CONDITIONS, WHICHEVER OCCURS FIRST.
6. REMOVE CATCH BASIN INLET PROTECTION DEVICE UPON COMPLETION OF THE WORK.

**SCHEMATIC DETAIL VIEW**

NOT TO SCALE



**SECTION A-A**

NOT TO SCALE

**NOTES:**

1. THIS DEVICE IS APPLICABLE TO WHERE PONDING OF WATER ABOVE THE CATCH BASIN WILL NOT CAUSE TRAFFIC PROBLEMS AND WHERE OVERFLOW WILL NOT RESULT
2. THIS INSERT DEVICE SHALL HAVE A MINIMUM OF 0.5 C.F. OF STORAGE. IT SHALL ALSO PROVIDE FOR DE-WATERING STORED SEDIMENT, AN OVERFLOW, AND EASE OF MAINTENANCE.
3. FOR ADDITIONAL TECHNICAL INFORMATION, REFER TO WSDOE BMP C220.

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DATE:



CATCH BASIN  
INLET PROTECTION



CEMENT CONCRETE BLOCK WITH HOLES IN HORIZONTAL POSITION, TYP.

OVERFLOW WATER DIRECTION

CEMENT CONCRETE BLOCK WITH HOLES FACING UP, TYP.

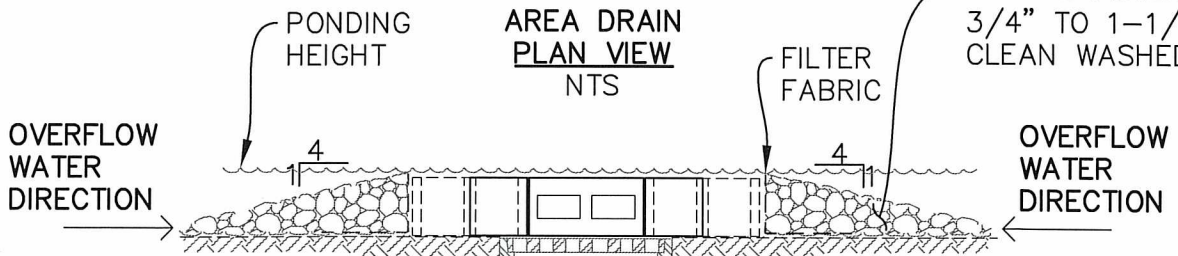
OVERFLOW WATER DIRECTION

FILTER FABRIC

CATCH BASIN GRATE

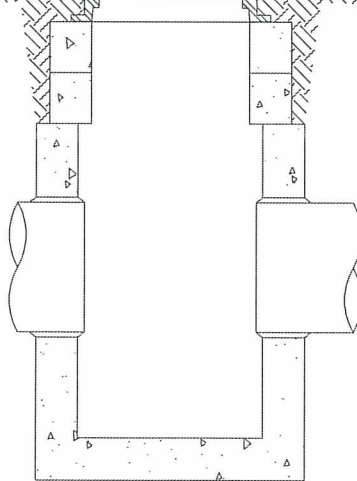
OVERFLOW WATER DIRECTION

GRAVEL FILTER WITH 3/4" TO 1-1/2" OF CLEAN WASHED ROCK

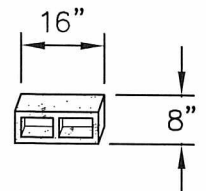


**MAINTENANCE STANDARDS:**

1. ANY ACCUMULATED SEDIMENT ON OR AROUND THE GRAVEL FILTER SHALL BE REMOVED PROMPTLY AND DISPOSED OF.
2. SEDIMENT SHALL NOT BE REMOVED WITH WATER INSIDE THE CATCH BASIN.
3. INSPECT WEEKLY ON ACTIVE SITES, MONTHLY ON INACTIVE SITES, & AFTER EACH STORM EVENT TO VERIFY PROTECTION IS STILL ADEQUATE. REPLACE AS NEEDED.
4. REMOVE CATCH BASIN PROTECTION UPON COMPLETION OF PROJECT.
5. THIS DETAIL IS APPLICABLE ONLY WHERE PAVEMENT DOES NOT EXIST AROUND THE CATCH BASIN.



**SECTION A-A**  
NTS



**TYPICAL CEMENT CONCRETE BLOCK**  
NTS

**NOTES:**

1. BASIN INLET IN SOME AREAS MAY REQUIRE (2) STACKS OF CEMENT CONCRETE BLOCKS, AS DIRECTED BY THE ENGINEER.
2. FOR ADDITIONAL TECHNICAL INFORMATION, REFER TO WSDOE BMP C220.

APPROVED BY CITY ENGINEER:

DATE:

*[Signature]*

2/20/2018



ALTERNATE CATCH BASIN INLET PROTECTION

48" MIN. PERFORATED CMP  
STANDPIPE, W/ (40) 1"Ø MIN.  
HOLES @ 10" O.C., OPEN TOP,  
CLOSED BOTTOM, ENCASED IN  
CONCRETE

DISTANCE GREATER  
THAN MIN. HEAD TO  
PASS DESIGN STORM

SHOW TOP  
OF BERM  
ELEVATION

SHOW OVERFLOW  
ELEVATIONS

SHOW & DESIGNATE  
THE DESIGN STORM  
ELEVATION

SILT FENCE  
(TYP.)

WATER  
SURFACE

WATER  
TIGHT SEAL  
SHOW INVERT  
ELEVATION

8" DIA.  
PVC MIN.

SHOW "Q"  
ALLOWABLE

8"x8"x8" PVC TEE  
WITH RUBBER  
GASKET JOINTS

SHOW ORIFICE SIZE  
AS REQ'D

6" CONC.  
BASE

COMPACTED  
GRAVEL BASE

SHOW POND  
BOTTOM  
ELEVATION

3/4" TO 1-1/2"  
WASHED ROCK  
GRAVEL CONE

6" MIN.  
DEAD  
STORAGE

**NOTES:**

1. PROVIDE A RIP RAP LINED SPILLWAY, 6" MINIMUM ABOVE STANDPIPE, OPEN TOP.
2. A MULTIPLE PHASE POND SEPARATED BY PERVIOUS GRAVEL WINDOW MAY BE REQUIRED TO CONTROL AND TRAP SEDIMENT, AND TO REDUCE DISCHARGE ENERGY.
3. POND CHARACTERISTICS SUCH AS DESIGN VOLUME, INFLOW, OUTFLOW, AND MAXIMUM HEAD SHALL BE SHOWN ON PLANS.
4. THE OUTLET PIPE SHALL BE A MINIMUM OF 8" DIAMETER.
5. INDICATE SEASONAL HIGH GROUND WATER ELEVATION.
6. THIS DETAIL IS FOR DESIGN GUIDANCE ONLY, THE ENGINEER IS RESPONSIBLE FOR PROVIDING THE NECESSARY ELEVATIONS AND ORIFICE SIZES.
7. REFER TO WSDOE BMP 220 FOR ADDITIONAL INFORMATION.

APPROVED BY CITY ENGINEER:

DATE:



GRADING/EROSION DISCHARGE  
CONTROL STRUCTURE

COMMUNITY DEVELOPMENT & PUBLIC WORKS DEPT.

STANDARD DETAIL: E-05.1

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CRUSHED SURFACING BASE COURSE (CSBC) PER SECTION 9-03.9(3) BETWEEN TRENCH BACKFILL AND PAVEMENT. MATCH EXISTING THICKNESS (4" MIN.)

SAW CUT FULL DEPTH 12" MIN. FROM EDGE OF TRENCH EXCAVATION, TYP.

FOR RESTORATION OF EXISTING ROADWAY SEE STD DETAIL T-02

ASPHALT TACK APPLIED TO ALL EXISTING PAVEMENT SURFACES PER SECTION 5-04.3(4). TACK COAT SHALL BE CSS-1 OR CSS-1H EMULSIFIED ASPHALT, PG, OR APPROVED EQUAL

EXISTING SUBGRADE

SELECT TRENCH BACKFILL: CRUSHED SURFACING TOP COURSE (CSTC) PER SECTION 9-03.9(3)

IMPORTED PIPE TRENCH BACKFILL: GRAVEL BORROW PER SECTION 9-03.14(1) SEE NOTE 3.

PIPE ZONE BEDDING: CRUSHED SURFACING TOP COURSE (CSTC) PER SECTION 9-03.9(3)

HMA CL. 1/2 IN. PG 64-22 MATCH EXISTING DEPTH 4" MIN.

PIPE O.D. 6" MIN.  
12" MIN.

← TRANSVERSE TRENCH      LONGITUDINAL TRENCH →

IF THE TRENCH BOTTOM IS DETERMINED TO BE UNSUITABLE BY THE ENGINEER, THE UNSUITABLE FOUNDATION MATERIAL SHALL BE REMOVED & REPLACED WITH PIPE FOUNDATION MATERIAL: AGGREGATE FOR GRAVEL BASE PER SECTION 9-03.10

**NOTES:**

1. TRANSVERSE TRENCHES ARE TRENCHES THAT RUN PERPENDICULAR OR DIAGONAL ACROSS THE TRAVELED WAY OF THE ROAD. LONGITUDINAL TRENCHES ARE TRENCHES THAT RUN PARALLEL WITH THE TRAVELED WAY OF THE ROAD.
2. ALL BACKFILL SHALL BE COMPACTED TO 95% MAXIMUM DENSITY.
3. MAY USE NATIVE MATERIAL FOR LONGITUDINAL TRENCH BACKFILL IF MATERIAL MEETS REQUIREMENTS OF SECTION 9-03.14(1).

APPROVED BY CITY ENGINEER:

DATE:

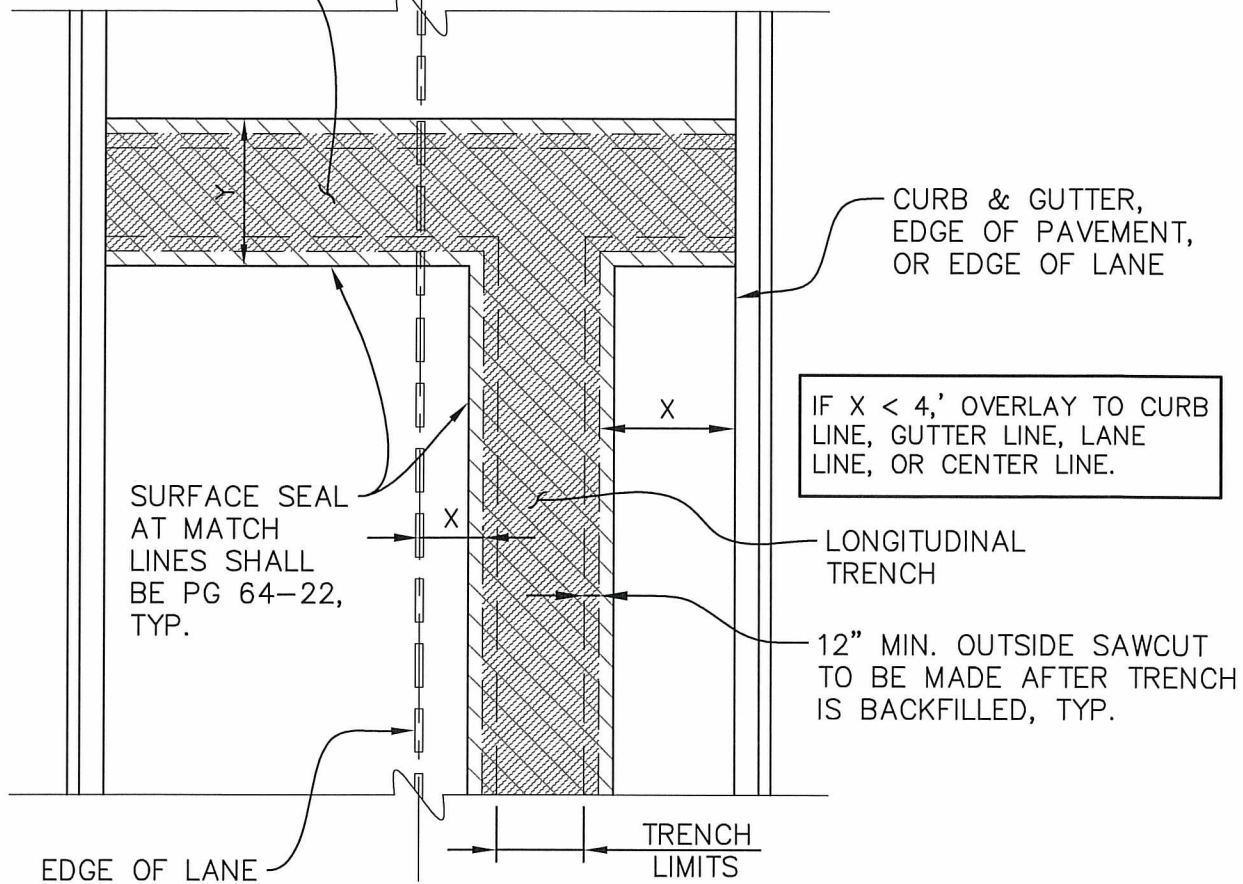
*[Signature]*

2/20/2018



TYPICAL PIPE TRENCH BACKFILL

TRANSVERSE TRENCH



IF X < 4,' OVERLAY TO CURB LINE, GUTTER LINE, LANE LINE, OR CENTER LINE.

SURFACE SEAL AT MATCH LINES SHALL BE PG 64-22, TYP.

LONGITUDINAL TRENCH

12" MIN. OUTSIDE SAWCUT TO BE MADE AFTER TRENCH IS BACKFILLED, TYP.

EDGE OF LANE

TRENCH LIMITS

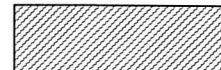
| TYPE OF STREET     | Y   |
|--------------------|-----|
| PRINCIPAL ARTERIAL | 50' |
| MINOR ARTERIAL     | 40' |
| COLLECTOR          | 30' |
| LOCAL              | 20' |

**LEGEND:**

GRIND & OVERLAY  
(2" MIN. DEPTH, 4' MIN. WIDTH)



FULL PAVEMENT DEPTH REPLACEMENT (SEE STD. DTL. T-01)



FULL DEPTH SAWCUT



**NOTES:**

1. ADDITIONAL RESTORATION OVERLAY MAY BE REQUIRED AS DIRECTED BY ENGINEER.
2. TRENCHES IN/ACROSS INTERSECTIONS SHALL BE CONSIDERED "TRANSVERSE".
3. ASPHALT PAVEMENT SHALL MATCH EXISTING PAVEMENT THICKNESS AND GRADE, OR PER DESIGN STANDARDS, WHICHEVER IS THICKER/STRONGER.
4. WHERE THE TRENCH CROSSES A CROSSWALK/PEDESTRIAN PATH AND THE TOTAL RESTORATION WIDTH EQUALS OR EXCEEDS HALF THE PEDESTRIAN PATH LENGTH, THE CONTRACTOR SHALL UPGRADE EXISTING CURB RAMPS THAT DO NOT MEET CURRENT ADA STANDARDS OR INSTALL NEW CURB RAMPS IF NOT PRESENT.

APPROVED BY CITY ENGINEER:

DATE:

*[Signature]*

2/20/2018



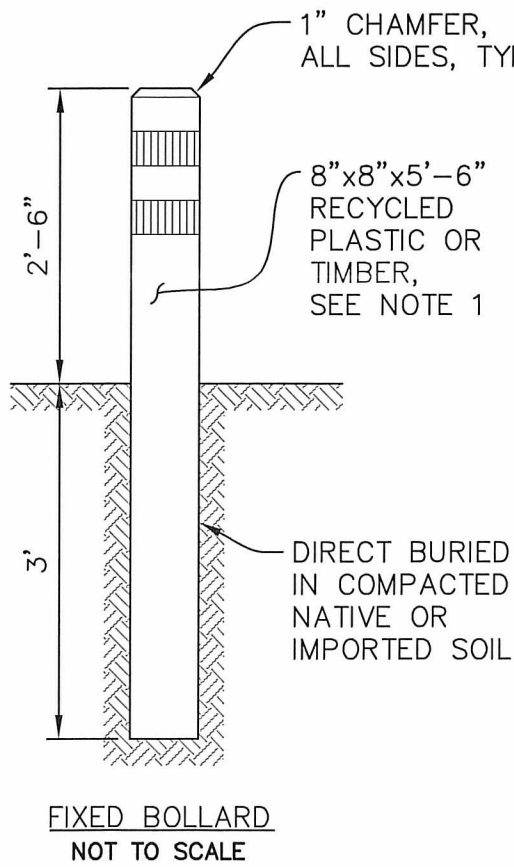
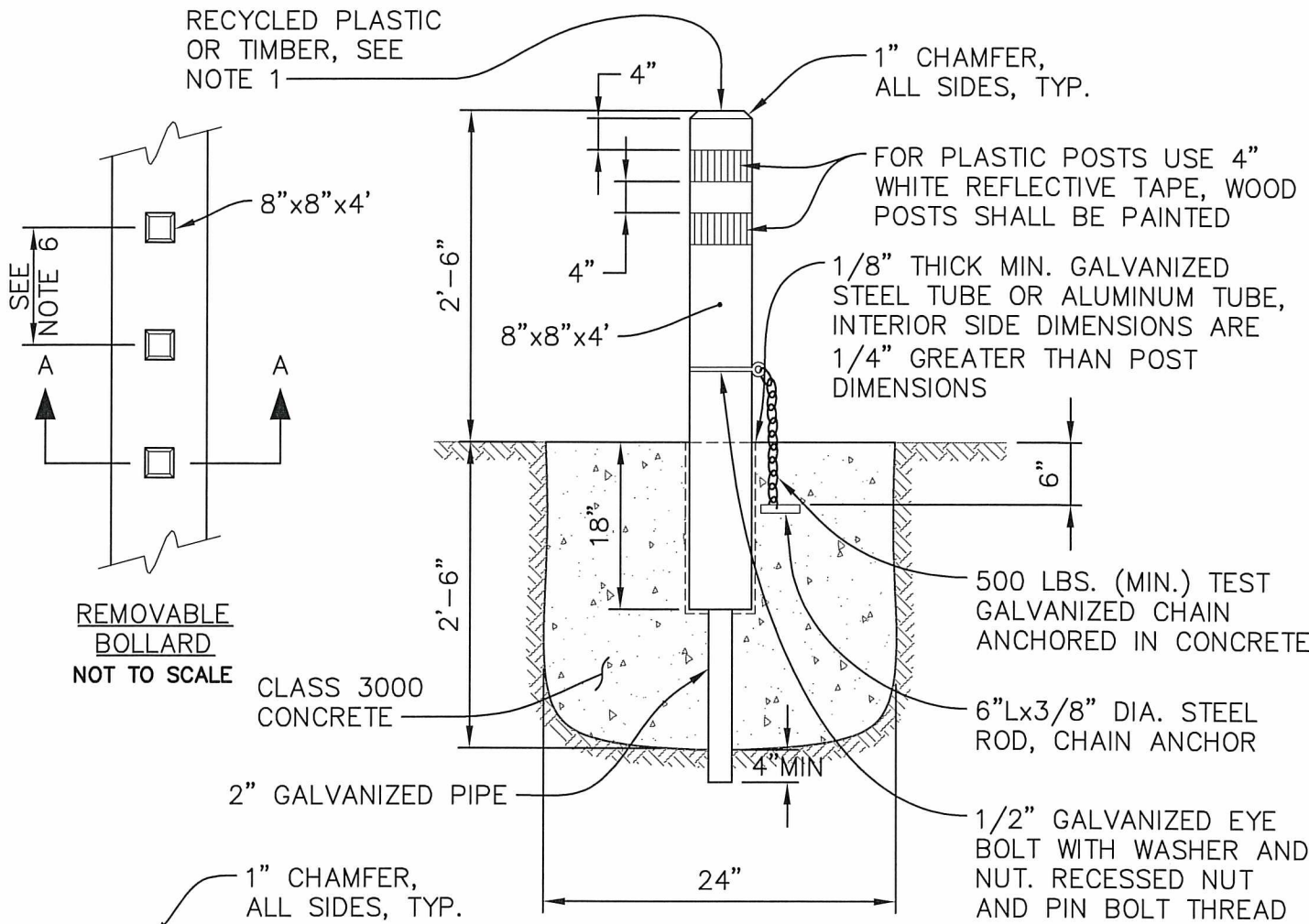
EXISTING ROADWAY RESTORATION OF UTILITY TRENCHES

COMMUNITY DEVELOPMENT & PUBLIC WORKS DEPT.

STANDARD DETAIL: T-02.2



Plotted by: Craig Dobyys on 2/2/2018 File location: M:\Construction Standard Details\Traffic\STDBETL-T-03.2



SECTION A-A  
NOT TO SCALE

**NOTES:**

1. RECYCLED PLASTIC BOLLARDS SHALL BE WHITE. TIMBER SHALL BE DOUGLAS FIR OF DENSE CONSTRUCTION GRADE, AND SHALL BE PRESSURE TREATED WITH WEATHER BORNE PRESERVATIVE (ACA, CCA, ACZA) IN ACCORDANCE WITH REQUIREMENTS OF SEC. 9-09.3(1) (GENERAL REQUIREMENTS) OF WSDOT STANDARD SPECIFICATIONS AND CITY'S AMENDMENTS THERETO. TOP 5" OF TIMBER SHALL BE PAINTED WHITE.
2. GALVANIZED STEEL TUBE SHALL CONFORM TO ASTM A53 GRADE A.
3. NUTS, BOLTS, & WASHERS SHALL CONFORM TO ASTM A307.
4. ALL STEEL PARTS SHALL BE GALVANIZED.
5. CEMENT CONCRETE SHALL BE CLASS 3000.
6. MINIMUM OF 5'-0" O.C. SPACING.
7. BOLLARD SHALL BE PLUMBED VERTICALLY IN ALL DIRECTIONS.

APPROVED BY CITY ENGINEER:

DATE:

*[Signature]*

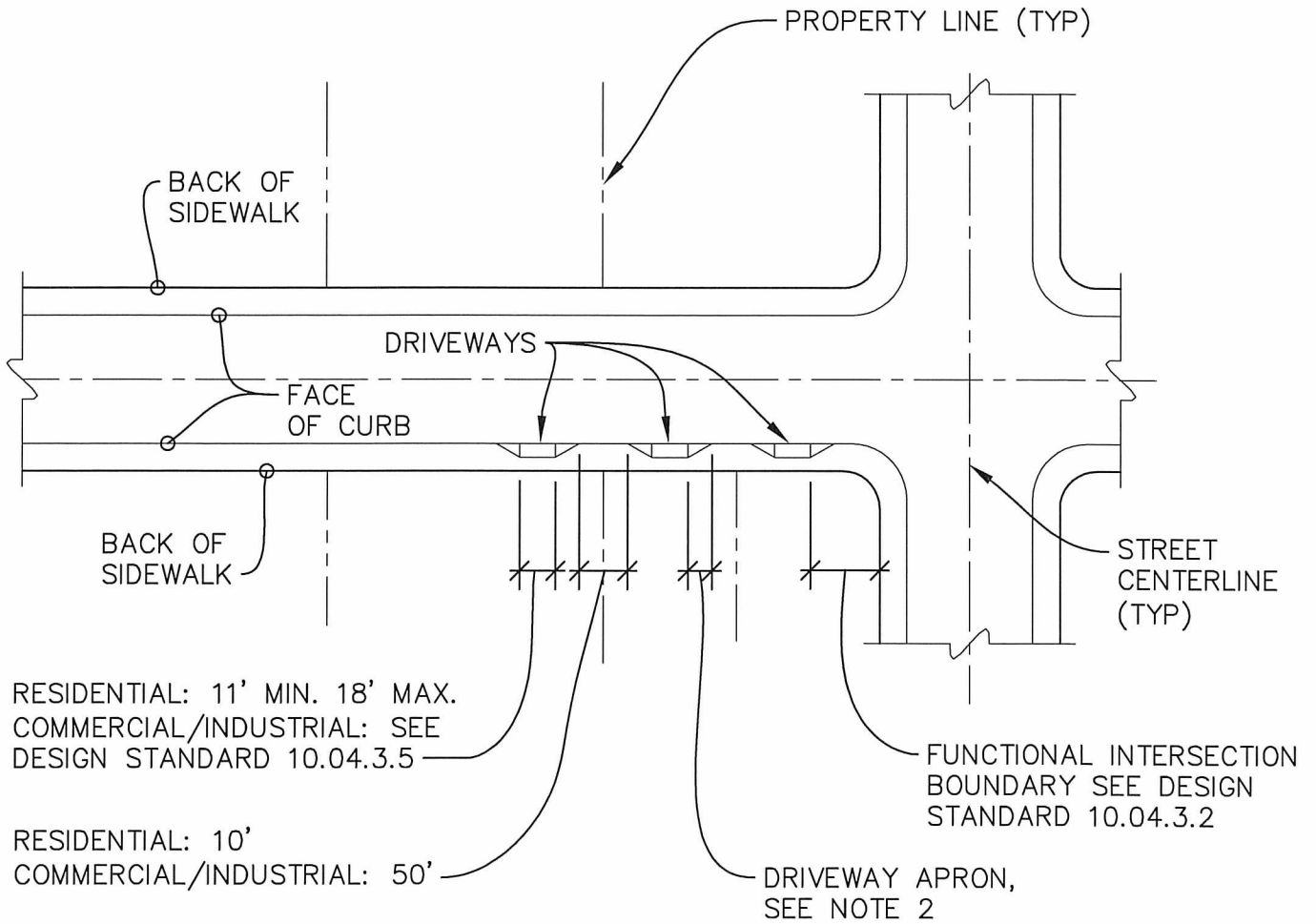
2/20/2018



TYPICAL  
BOLLARD INSTALLATION

COMMUNITY DEVELOPMENT & PUBLIC WORKS DEPT.

STANDARD DETAIL: T-03.2



**NOTES:**

1. DRIVEWAY WIDTHS AND LOCATIONS SHALL BE IN ACCORDANCE WITH SECTION 10.04 OF THE DESIGN STANDARDS.
2. DRIVEWAY TO BE CONSTRUCTED PER STANDARD DETAIL T-34 OR T-35.
3. RESIDENTIAL DRIVEWAYS SERVING 2 OR MORE LIVING UNITS SHALL BE LIGHT COMMERCIAL/INDUSTRIAL DRIVEWAYS.

APPROVED BY CITY ENGINEER:

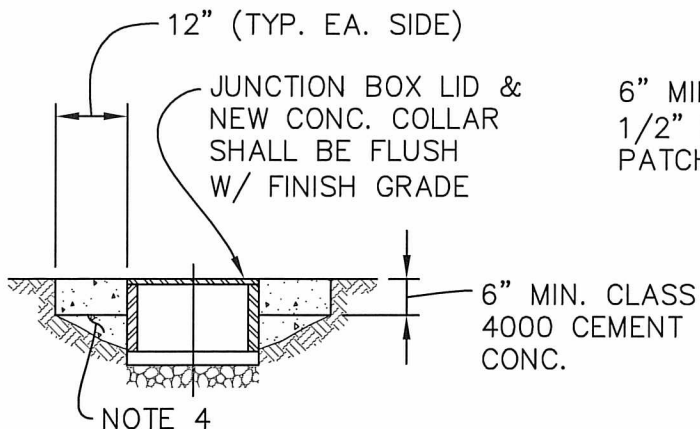
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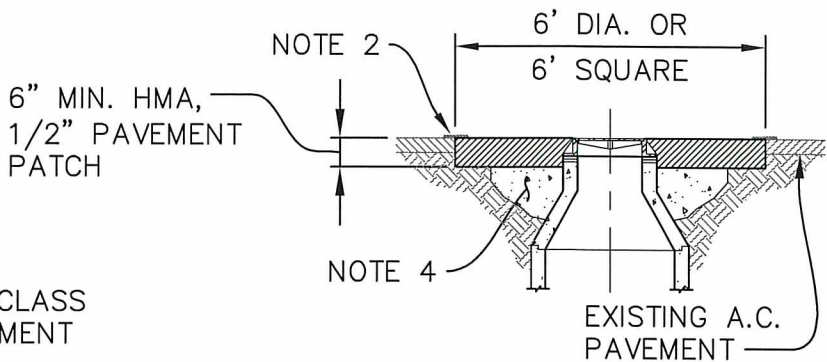
DRIVEWAY WIDTHS  
AND LOCATION

COMMUNITY DEVELOPMENT & PUBLIC WORKS DEPT.

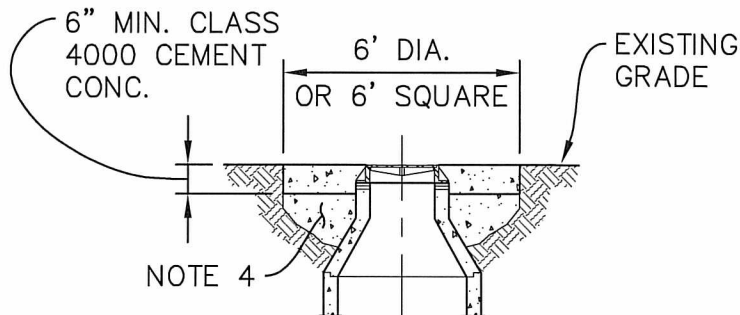
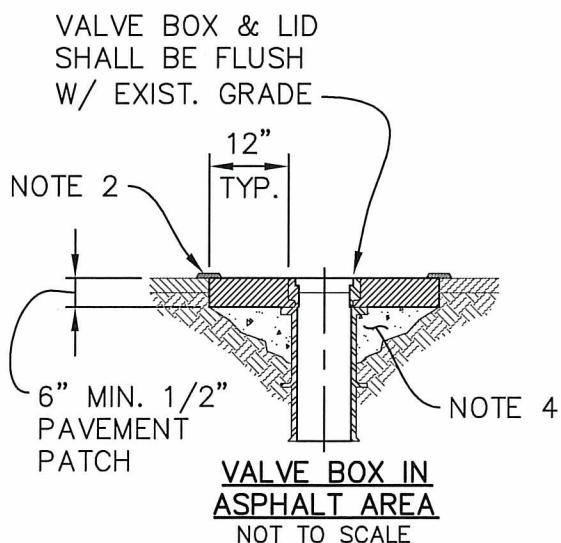
STANDARD DETAIL: T-04.3



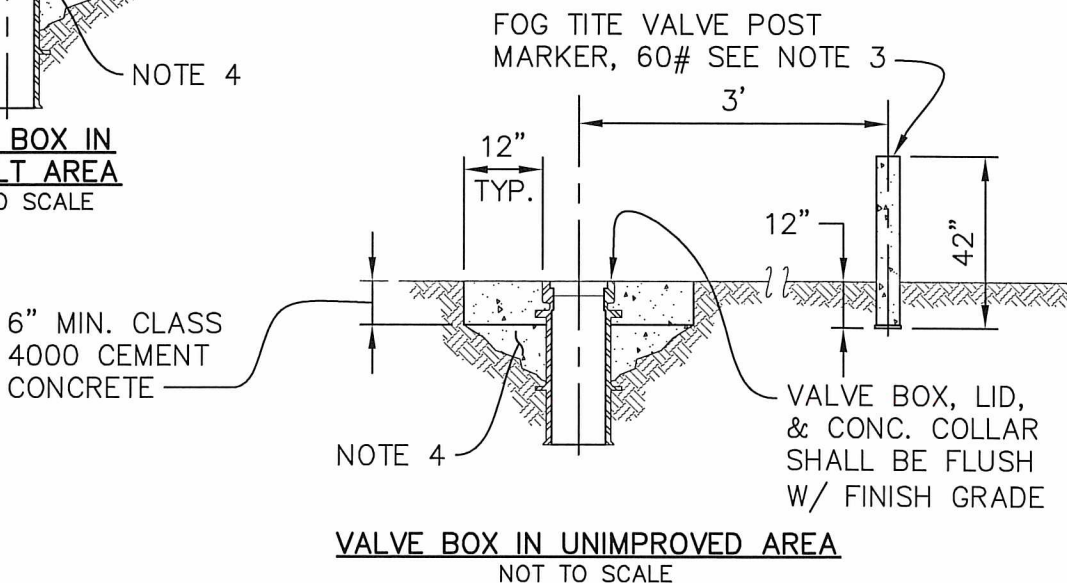
**JUNCTION BOX IN UNIMPROVED OR PARTIAL ASPHALT AREA**  
NOT TO SCALE



**MANHOLE (OR CB) IN ASPHALT AREA**  
NOT TO SCALE



**MANHOLE OR CATCH BASIN IN UNIMPROVED AREA**  
NOT TO SCALE



**NOTES:**

- ADJUSTMENT OF SANITARY SEWER AND STORM STRUCTURES SHALL BE PER SECTION 7-05.3(1). ADJUSTMENT OF WATER UTILITY STRUCTURES SHALL BE PER SECTION 7-12.3(2).
- SURFACE SEAL AT MATCHLINE SHALL BE CSS-1 OR CSS-1H EMULSIFIED ASPHALT OR PG.
- VALVE IN UNIMPROVED AREAS SHALL HAVE A VALVE POST MARKER.
- FILL ANY VOIDS OR DISTURBED AREAS BELOW 6" WITH QUICK SETTING CEMENT CONCRETE, DEPTH AS REQUIRED.
- RISER RING HEIGHT 2" MIN. 25" MAX. ANY ADJUSTMENT OVER 18" REQUIRES A HAND HOLD.

APPROVED BY CITY ENGINEER:

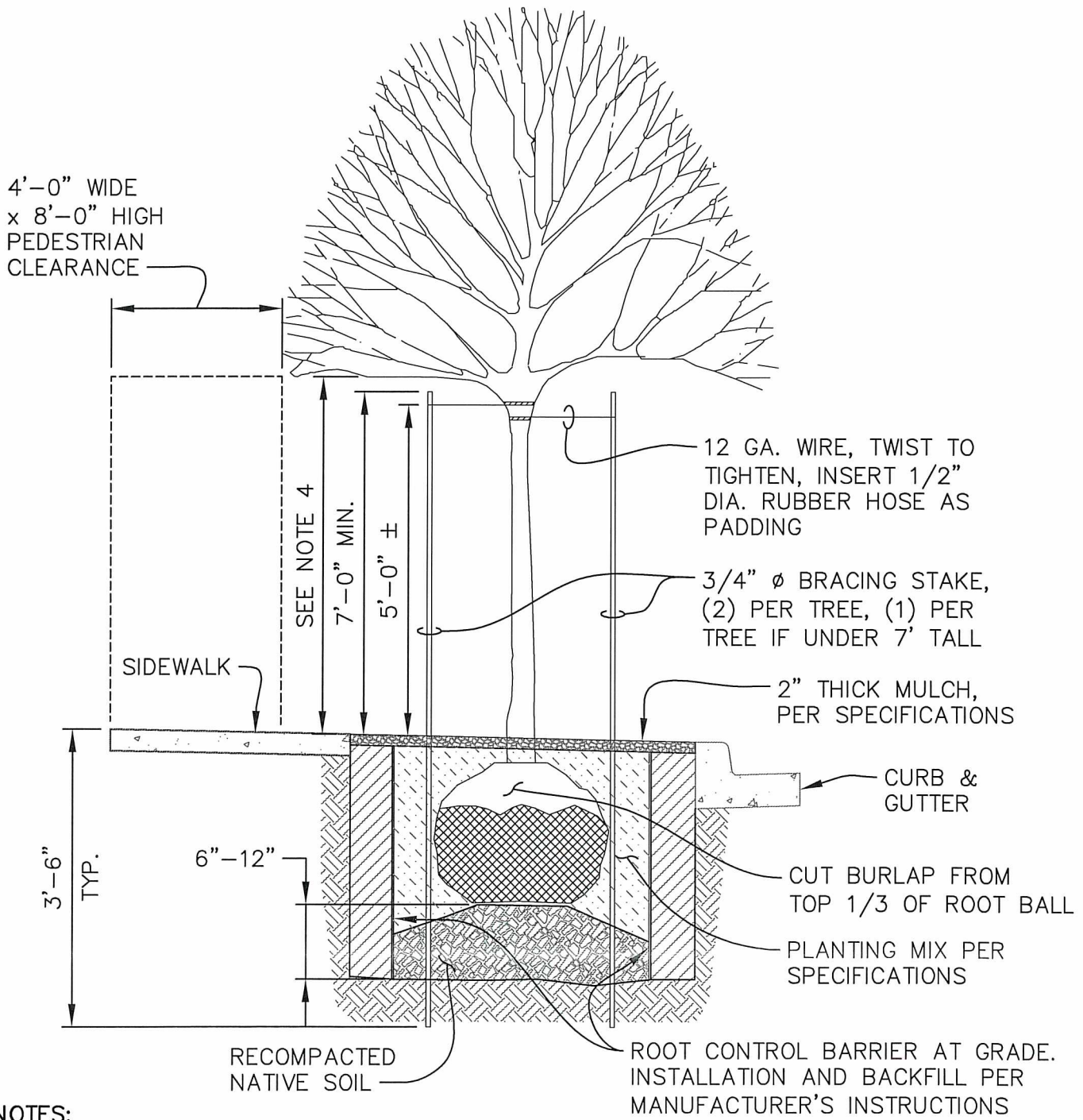
DATE:



ADJUSTMENT OF NEW AND EXISTING UTILITY STRUCTURES TO FINISH GRADE



Plotted by: Craig Dobyne on 2/2/2018 File location: M:\Construction Standard Details\Traffic\STDETAIL-T-06.2



**NOTES:**

1. PLANT TREES 1" HIGHER THAN GROWN IN NURSERY.
2. TREE PIT SHALL NOT BE LESS THAN 2 TIMES THE ROOT BALL DIAMETER.
3. STREET TREES SHALL NOT BE PLACED WITHIN SIGHT DISTANCE TRIANGLE.
4. AT TIME OF PLANTING, MAINTAIN LOWER BRANCHES OF TREE AT 5' MIN. CLEARANCE ABOVE THE SIDEWALK.
5. STREET TREES SHALL BE SELECTED FROM THE CITY APPROVED LIST OF STREET TREES.

APPROVED BY CITY ENGINEER:

DATE:

*[Signature]*

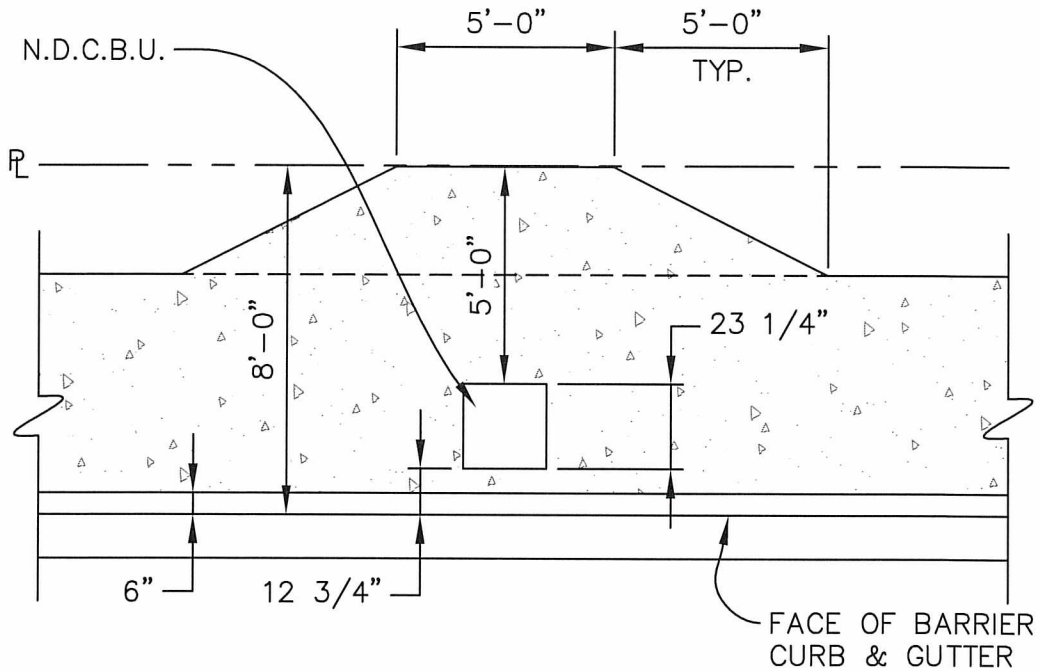
2/20/2018



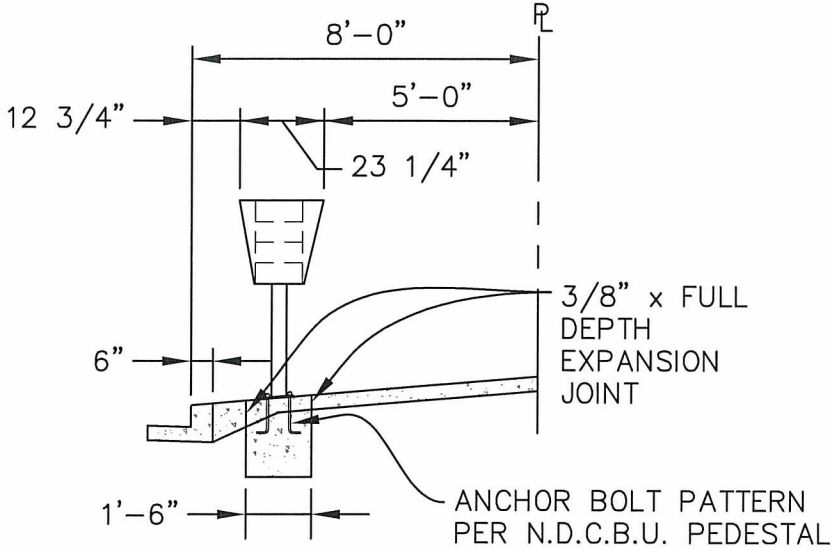
STREET TREE  
IN LANDSCAPE STRIP



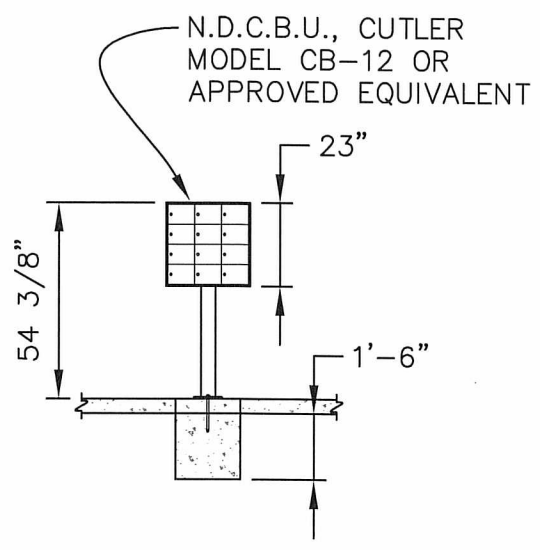
Plotted by: Craig Dabyns on 7/13/2016 File location: M:\Construction Standard Details\Approved Drawing Files (dwg)\Traffic\STDEL-T-07.1



**PLAN VIEW**



**SIDE VIEW**



**FRONT VIEW**

**NOTE:**

MAILBOX LOCATIONS SHALL BE COORDINATED WITH THE SERVING POST OFFICE AND APPROVED BY THE CITY OF AUBURN.

APPROVED BY CITY ENGINEER:

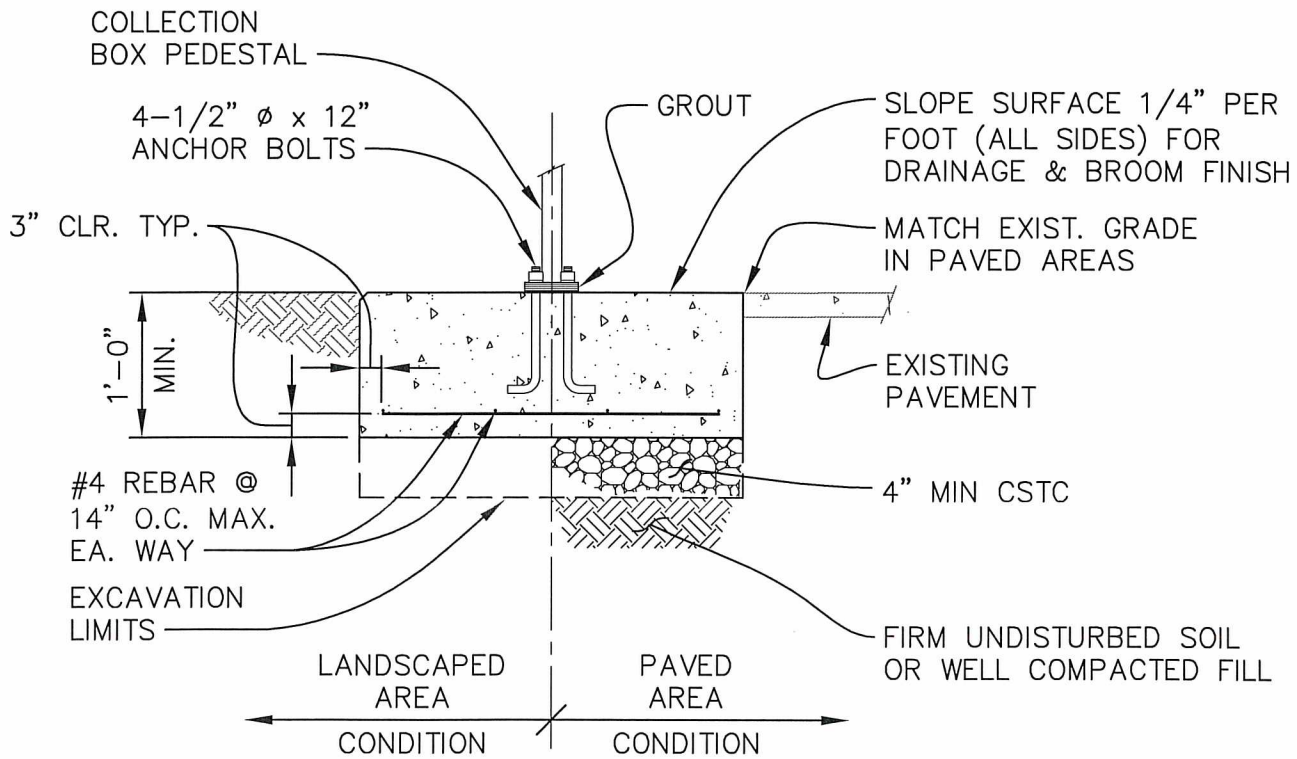
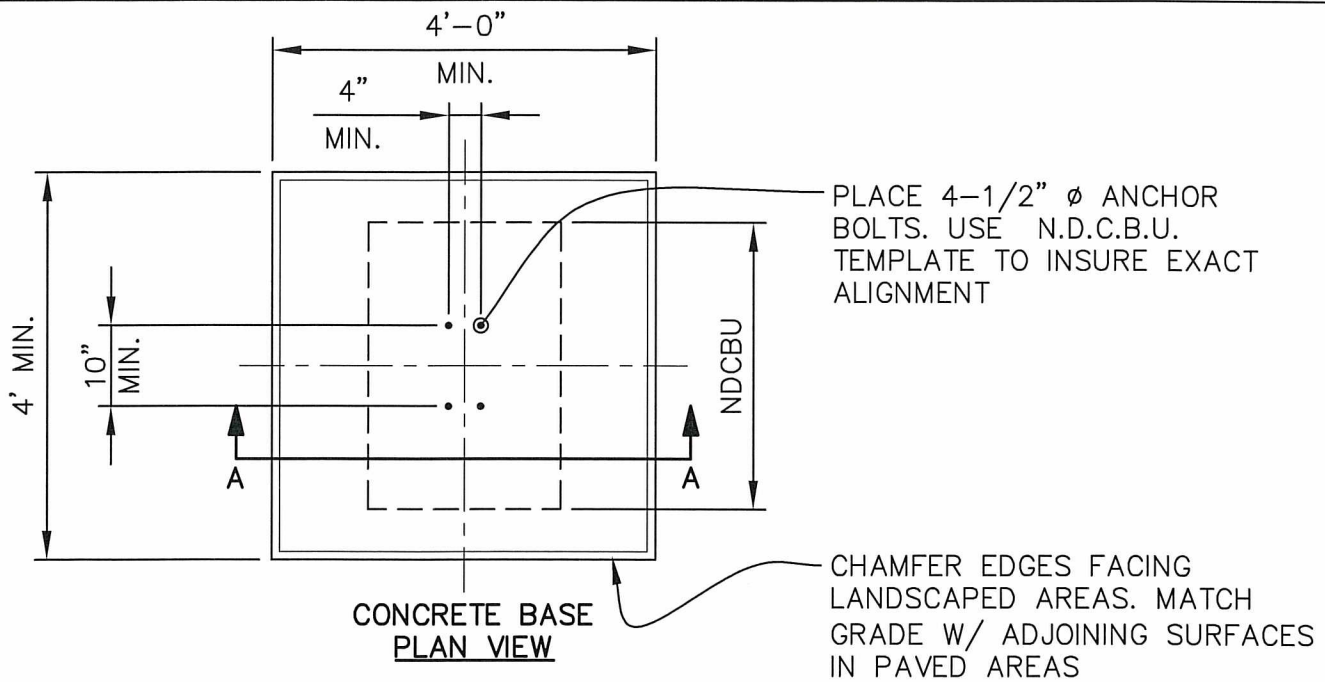
*Paul Gals*

DATE:

8/5/2016



NEIGHBORHOOD DELIVERY & COLLECTION BOX UNIT (N.D.C.B.U.) INSTALLATION



**NOTES:**

**SECTION A-A**

1. CONCRETE SHALL HAVE A COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS, CONTAIN 4% MIN. TO 6% MAX. AIR ENTRAINMENT AND BE PLACED WITH A 3-1/2" TO 4-1/2" SLUMP IN ACCORDANCE WITH ACI 301.
2. REINFORCING STEEL SHALL CONFORM TO ASTM A615, GRADE 40.
3. ANCHOR BOLTS SHALL CONFORM TO ASTM A307, GALVANIZED CARBON STEEL OR ASTM A193, B8M (316) STAINLESS STEEL.
4. GROUT SHALL BE NON-SHRINK, NON-METALLIC.

APPROVED BY CITY ENGINEER:

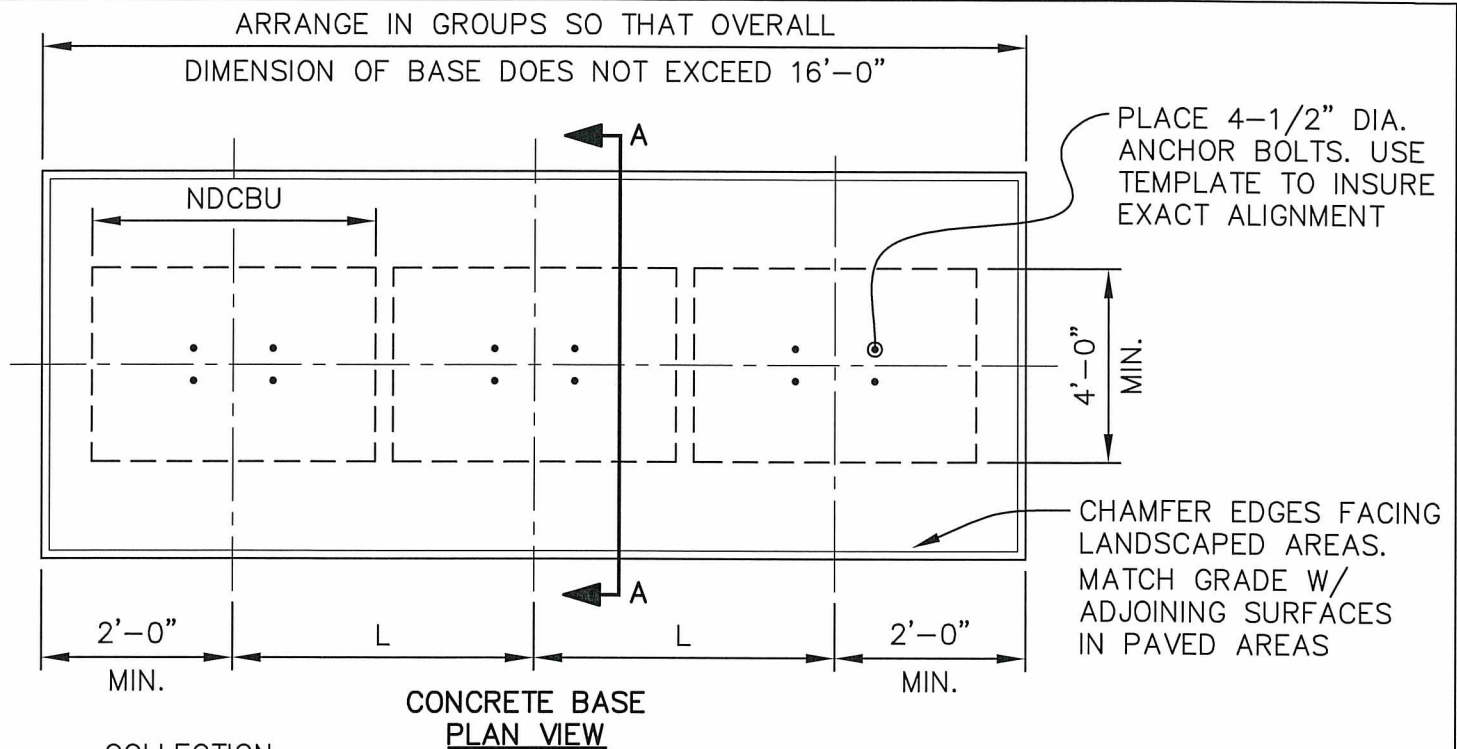
DATE:

*[Signature]*

2/20/2018



NEIGHBORHOOD DELIVERY & COLLECTION BOX UNIT (N.D.C.B.U.) SINGLE UNIT



COLLECTION BOX PEDESTAL

4-1/2" DIA. X 12" ANCHOR BOLTS

3" CLR. TYP.

1'-0" MIN.

#4 REBAR AT 14" O.C. MAX. EA. WAY

EXCAVATION LIMITS

LANDSCAPED AREA

PAVED AREA

CONDITION

CONDITION

GROUT

SLOPE SURFACE 1/4" PER FOOT, ALL SIDES FOR DRAINAGE W/ BROOM FINISH

MATCH EXIST. GRADE IN PAVED AREAS

EXISTING PAVEMENT

4" MIN CSTC

FIRM UNDISTURBED SOIL OR WELL COMPACTED FILL

**NOTES:**

**SECTION A-A**

1. CONCRETE BASE DIMENSION "L" IS THE WIDTH OF NDCBU PLUS 2". FOUNDATION CAN BE EXTENDED BY LENGTH "L" TO ACCOMODATE ADDITIONAL UNITS.
2. CONCRETE SHALL HAVE A COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS, CONTAIN 4% MIN. TO 6% MAX. AIR ENTRAINMENT AND BE PLACED W/ A 3 1/2" TO 4 1/2" SLUMP IN ACCORDANCE W/ ACI 301.
3. REINFORCING STALL SHALL CONFORM TO ASTM A615, GRADE 40.
4. ANCHOR BOLTS SHALL CONFORM TO ASTM A307, GALVANIZED CARBON STEEL OR ASTM A193, B8M (316) STAINLESS STEEL.

APPROVED BY CITY ENGINEER:

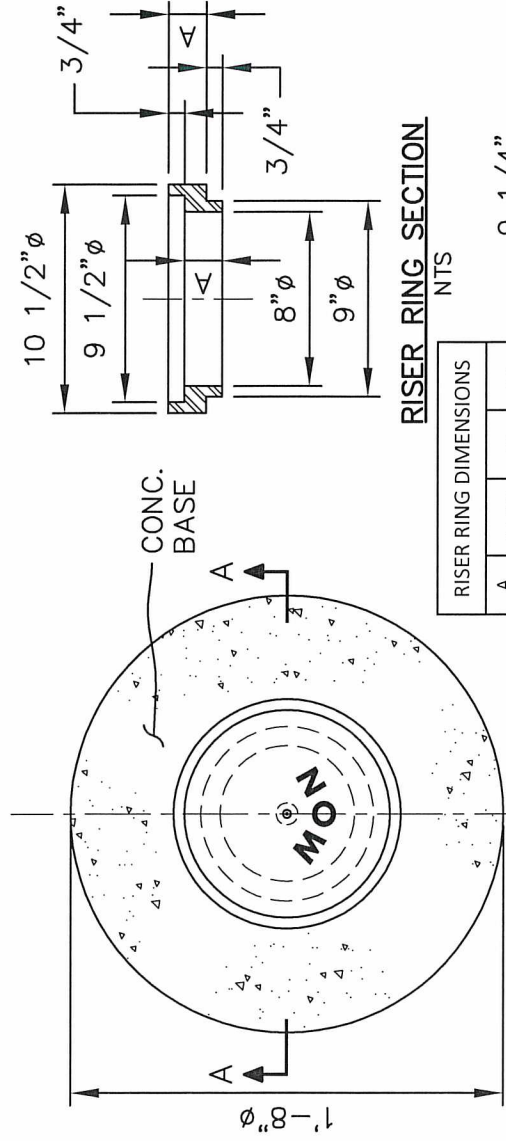
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2/20/2008



NEIGHBORHOOD DELIVERY & COLLECTION BOX UNIT (N.D.C.B.U.) MULTIPLE UNITS

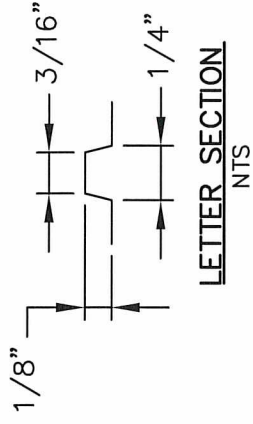




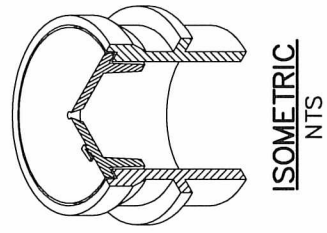
CONC. BASE

| RISER RING DIMENSIONS |        |
|-----------------------|--------|
| A (SIZE)              | 3"     |
|                       | 2"     |
|                       | 1 1/2" |

**RISER RING SECTION**  
NTS

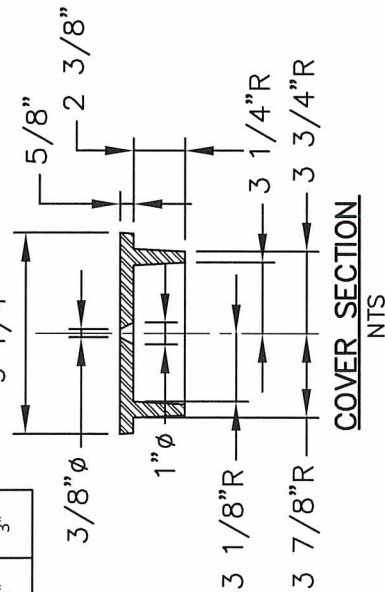


**LETTER SECTION**  
NTS

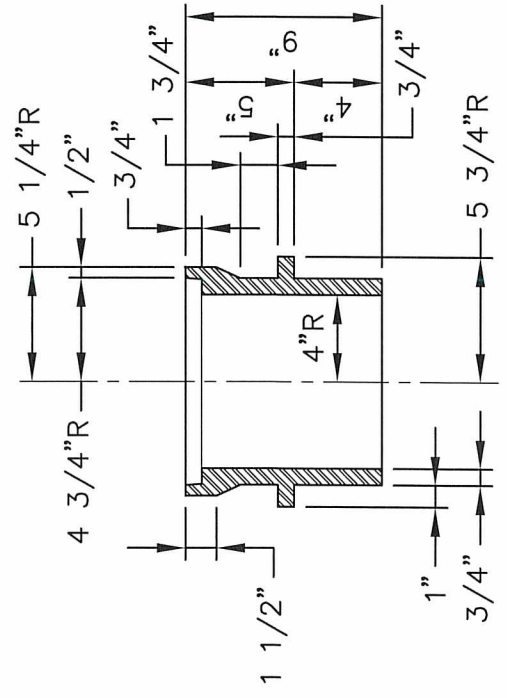


**ISOMETRIC**  
NTS

| APPROXIMATE WEIGHTS |         |
|---------------------|---------|
| CASE                | 60 LBS. |
| COVER               | 19 LBS. |
| TOTAL               | 79 LBS. |

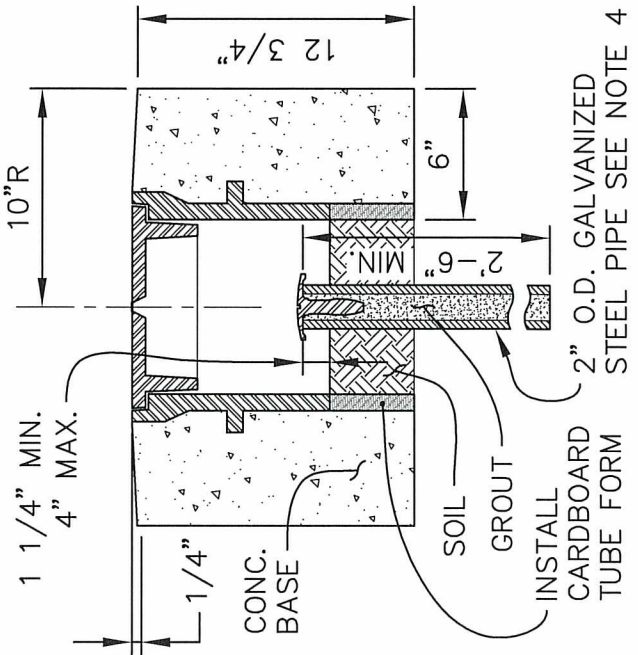


**COVER SECTION**  
NTS



**CASE SECTION**  
NTS

**PLAN**  
NTS



**SECTION A-A**  
NTS

APPROVED BY CITY ENGINEER:

DATE:



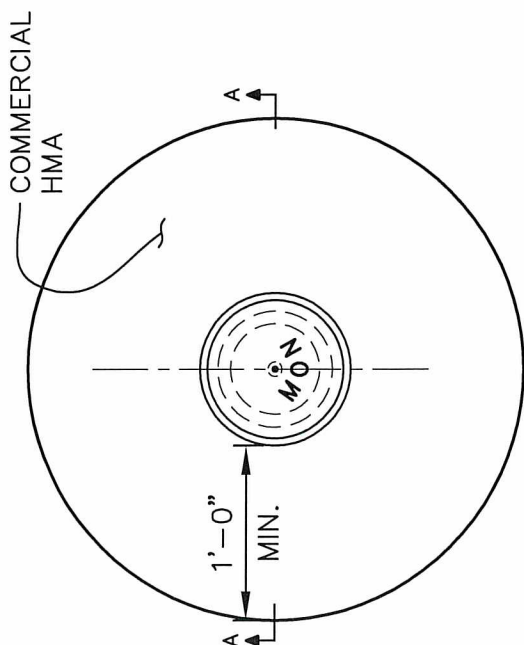
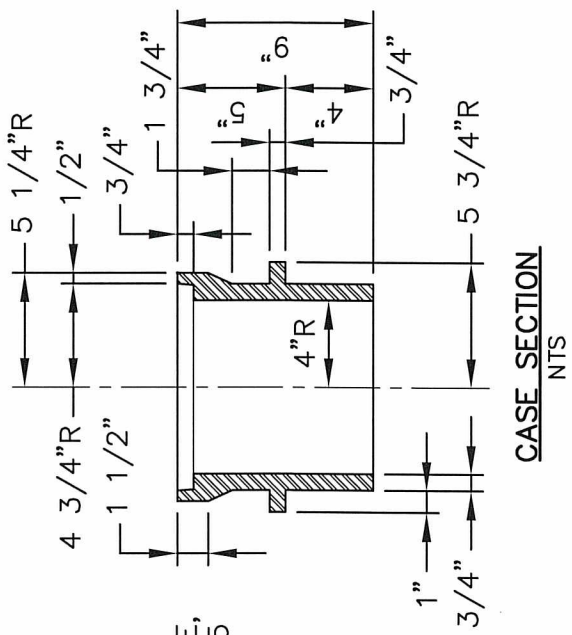
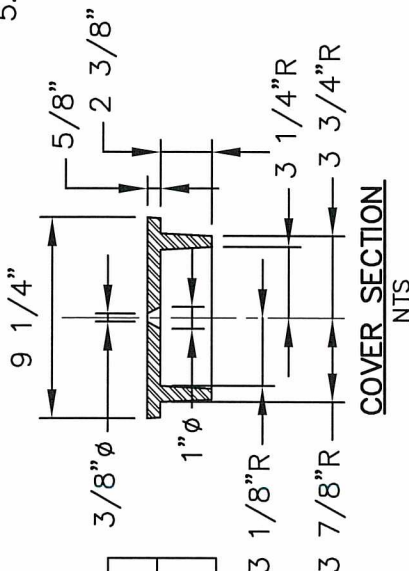
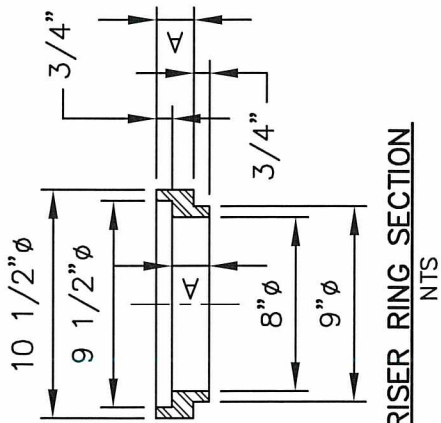
POURED IN PLACE MONUMENT  
TYPE 'B' MODIFIED

*Handwritten signature: Paul Galt*

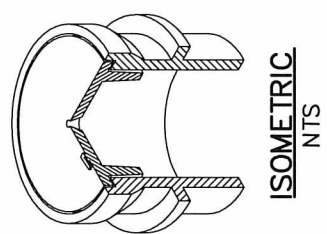
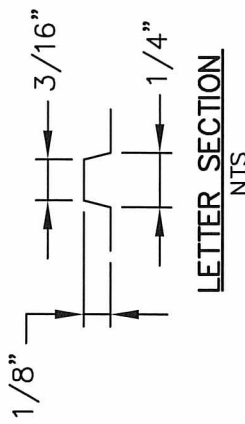
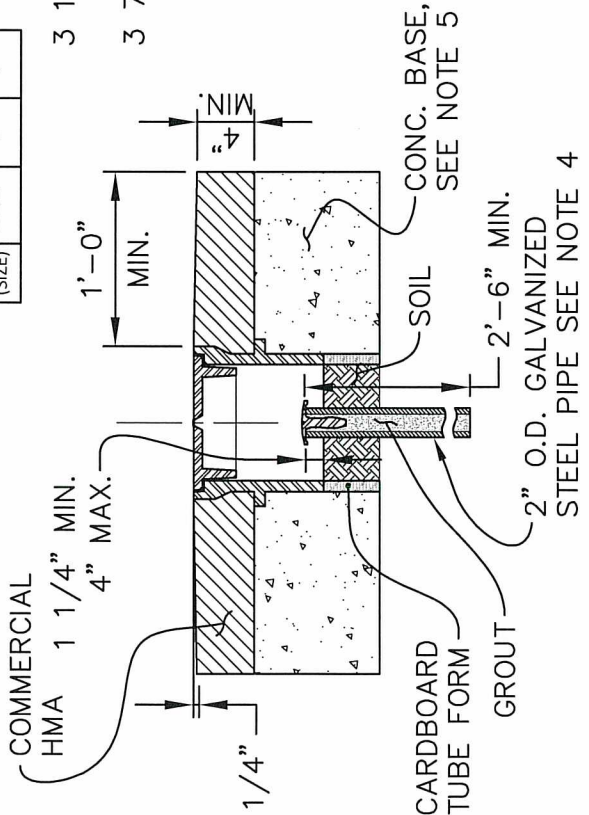
*Handwritten date: 8/5/2016*

**NOTES:**

1. DIMENSIONS MAY VARY ACCORDING TO MANUFACTURER.
2. BASE TO BE PLACED ON A WELL COMPACTED FOUNDATION.
3. MONUMENT CASE TO BE INSTALLED BY CONTRACTOR.
4. SEE WSDOT STD. PLAN A-10.20 FOR MONUMENT (BRASS DISC) TYPE TO PLACE IN 2" O.D. GALVANIZED PIPE.
5. VOIDS SHALL BE BACKFILLED W/ COMMERCIAL CONCRETE PER SECTION 6-02.3(2)B OF THE STANDARD SPECIFICATIONS.



| RISER RING DIMENSIONS |        |
|-----------------------|--------|
| A (SIZE)              | 3"     |
|                       | 2"     |
|                       | 1 1/2" |



| APPROXIMATE WEIGHTS |         |
|---------------------|---------|
| CASE                | 60 LBS. |
| COVER               | 19 LBS. |
| TOTAL               | 79 LBS. |

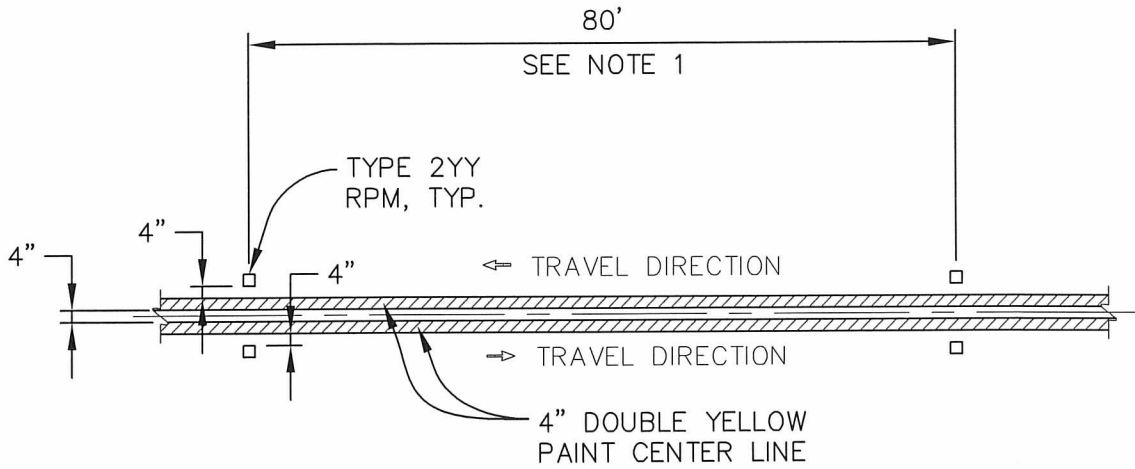
APPROVED BY CITY ENGINEER:

DATE:

*Craig Dobyns* 12/31/18



POURED IN PLACE MONUMENT TYPE 'B' MODIFIED (ASPHALT)



PLAN  
DOUBLE CENTERLINE

NOTES:

1. RAISED PAVEMENT MARKERS SHALL BE SPACED AT 80' (FT.) INTERVALS ON TANGENTS AND ON HORIZONTAL CURVES W/ A RADIUS OF 1500' (FT.) OR MORE, AND 40' (FT.) INTERVALS ON HORIZONTAL CURVES HAVING RADII OF LESS THAN 1500' (FT.).

APPROVED BY CITY ENGINEER: *FOR*

DATE:

*10/14/16*

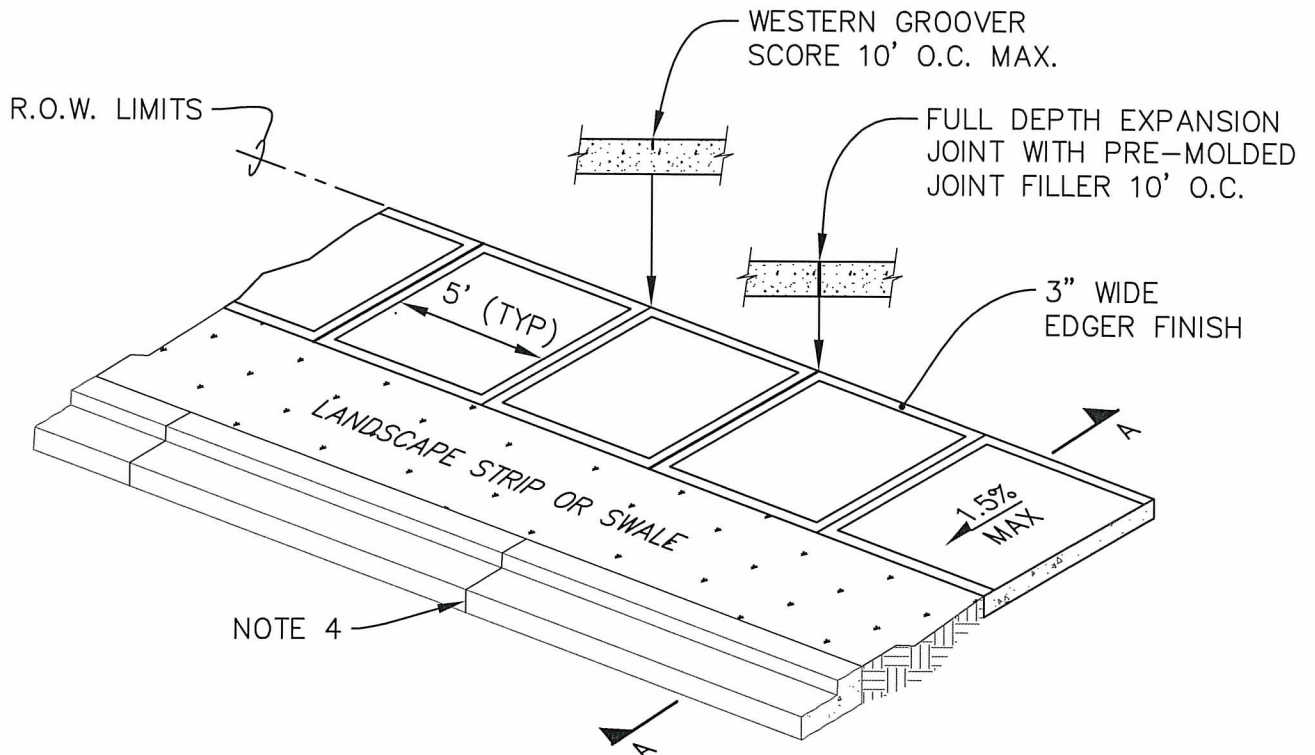


DOUBLE CENTERLINE WITH  
RAISED PAVEMENT MARKERS

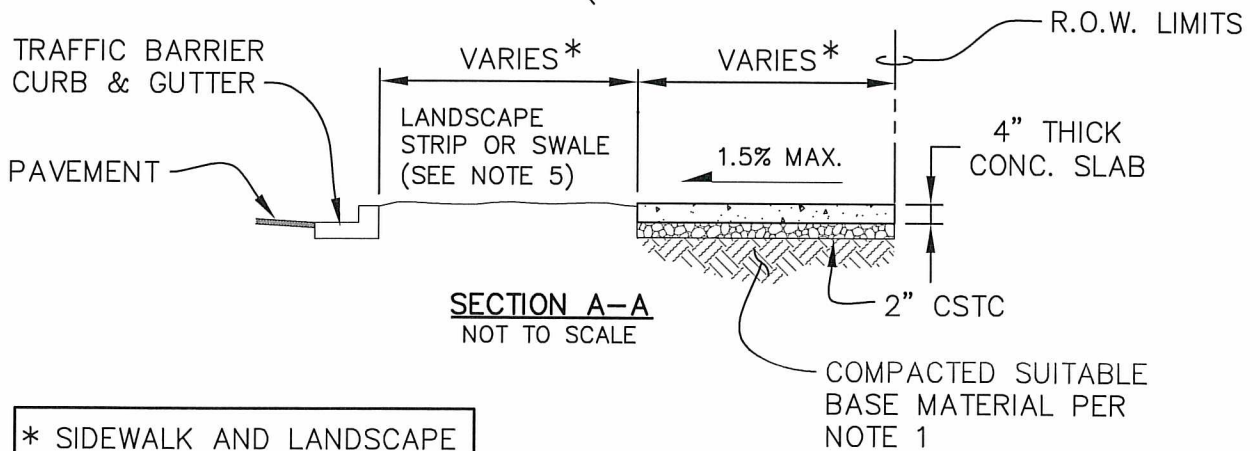
COMMUNITY DEVELOPMENT & PUBLIC WORKS DEPT.

STANDARD DETAIL: T-12.1





NOTE 4



\* SIDEWALK AND LANDSCAPE WIDTHS SHALL BE PER STREET CLASSIFICATION.

**NOTES:**

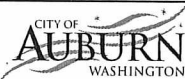
1. PLACE CEMENT CONCRETE ON COMPACTED SUITABLE BASE, AS PER SPECIFICATION SECTION 2-06.3 AND AS APPROVED BY THE ENGINEER.
2. CEMENT CONCRETE SHALL BE CLASS 3000 PER SPECIFICATION SECTION 6-02.3 WITH 5% AIR ENTRAINMENT.
3. INSPECTION REQUIRED FOR FORM AND SUB GRADE APPROVAL BEFORE POURING CONCRETE.
4. MATCH JOINTS ON SIDEWALK WITH JOINTS ON CURB OR AT 10' O.C.
5. LANDSCAPE STRIP SHALL GENERALLY BE GRADED TOWARDS THE CURB AT 1.5%. OTHER GRADES MAY BE ALLOWED WHERE IT CAN BE DEMONSTRATED TO NOT CAUSE DRAINAGE OR MAINTENANCE ISSUES.

APPROVED BY CITY ENGINEER:

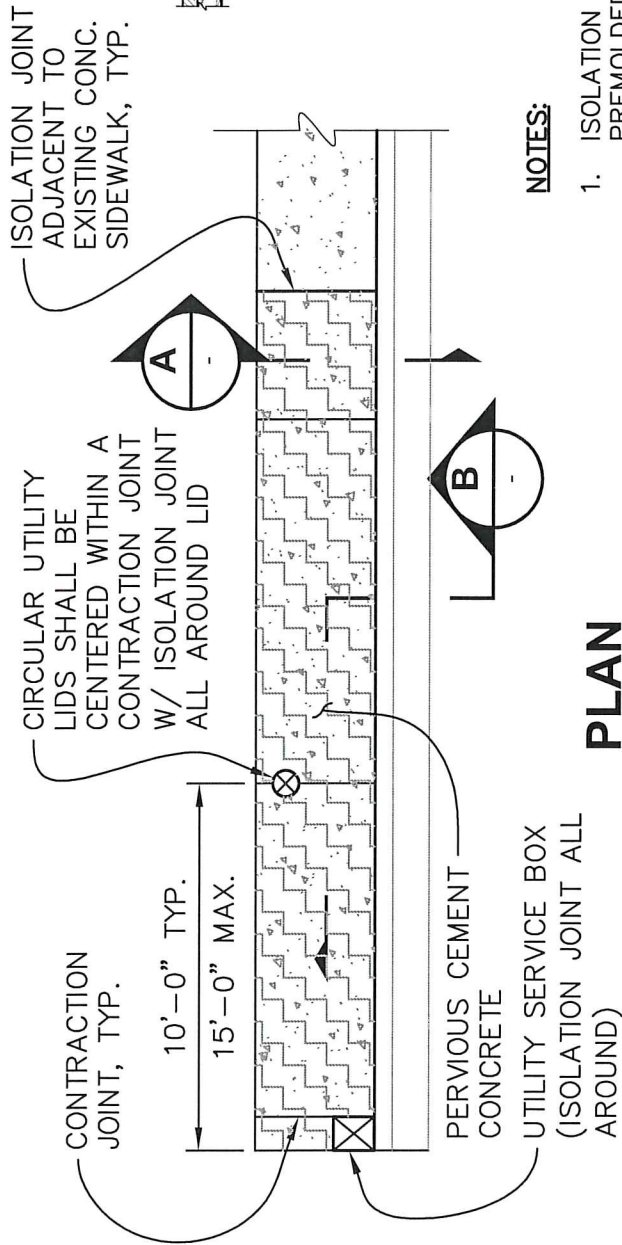
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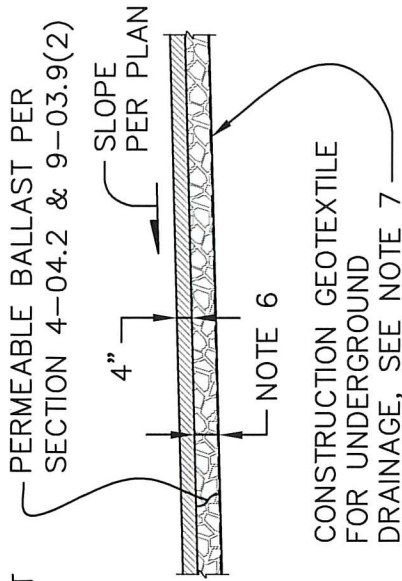
2/20/2018



CEMENT CONCRETE SIDEWALK WITH LANDSCAPE STRIP



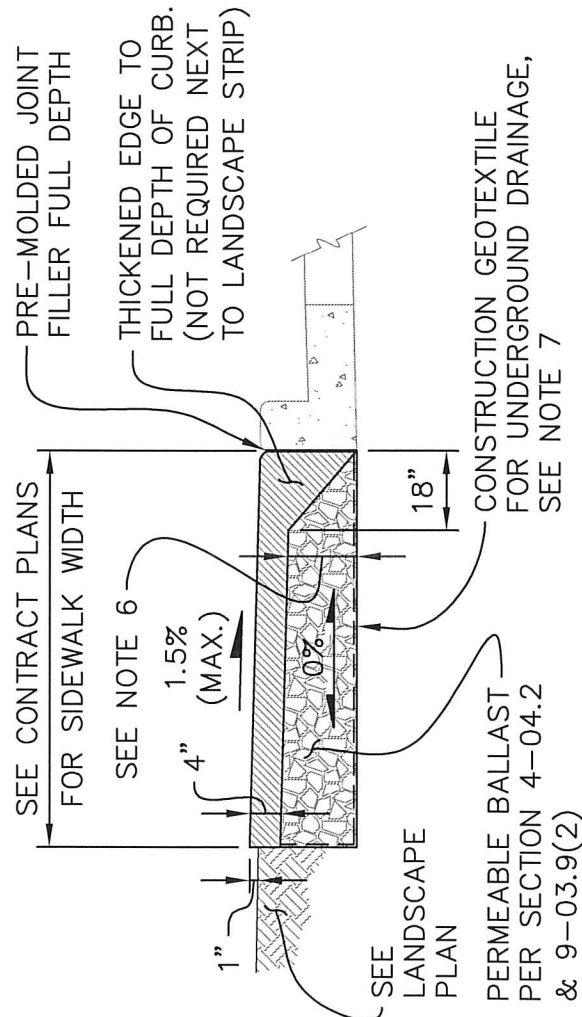
**PLAN**  
NTS



**SECTION B**  
NTS

**NOTES:**

1. ISOLATION JOINTS SHALL BE FULL DEPTH WITH 3/8" PREMOLDED JOINT FILLER.
2. CONTRACTION JOINTS SHALL HAVE A MINIMUM DEPTH OF 1/3 OF THE PERVIOUS CONCRETE THICKNESS AND 1/8" MAXIMUM WIDTH (UNLESS OTHERWISE APPROVED BY THE ENGINEER).
3. ALL JOINTS SHALL BE CLEAN & EDGED WITH A 1/2" RADIUS EDGER.
4. SUBGRADE PREPARATION SHALL BE IN ACCORDANCE WITH SECTION 2-06.3(3) (SUBGRADE FOR PERMEABLE PAVEMENTS). ALL SOFT & YIELDING FOUNDATION MATERIAL SHALL BE REMOVED & REPLACED WITH PERMEABLE BALLAST
5. FOR BALLAST DEEPER THAN CURB, PROVIDE A GEOMEMBRANE BARRIER BETWEEN PERMEABLE BALLAST & ROAD SECTION UNLESS ADJACENT ROAD IS PERMEABLE AS REQUIRED BY THE ENGINEER.
6. DEPTH OF PERMEABLE BALLAST VARIES. SEE SWMM FOR SPECIFIC REQUIREMENTS.
7. CONSTRUCTION GEOSYNTHETIC MAY BE REQUIRED BETWEEN NATIVE SOILS & PERMEABLE BALLAST IF DIRECTED BY THE ENGINEER. WHEN REQUIRED, THE GEOTEXTILE SHALL BE CLASS A, MODERATE SURVIVABILITY PER SECTION 9.33.2(1) TABLES 1 & 2 (UNLESS OTHERWISE APPROVED BY THE ENGINEER).



**SECTION A**  
NTS

APPROVED BY CITY ENGINEER:

DATE:

*Paul Gault*

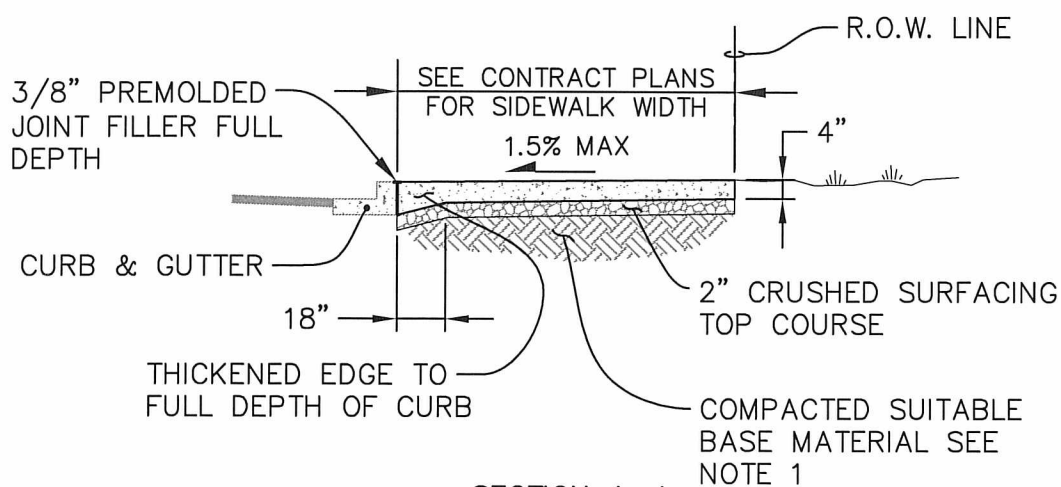
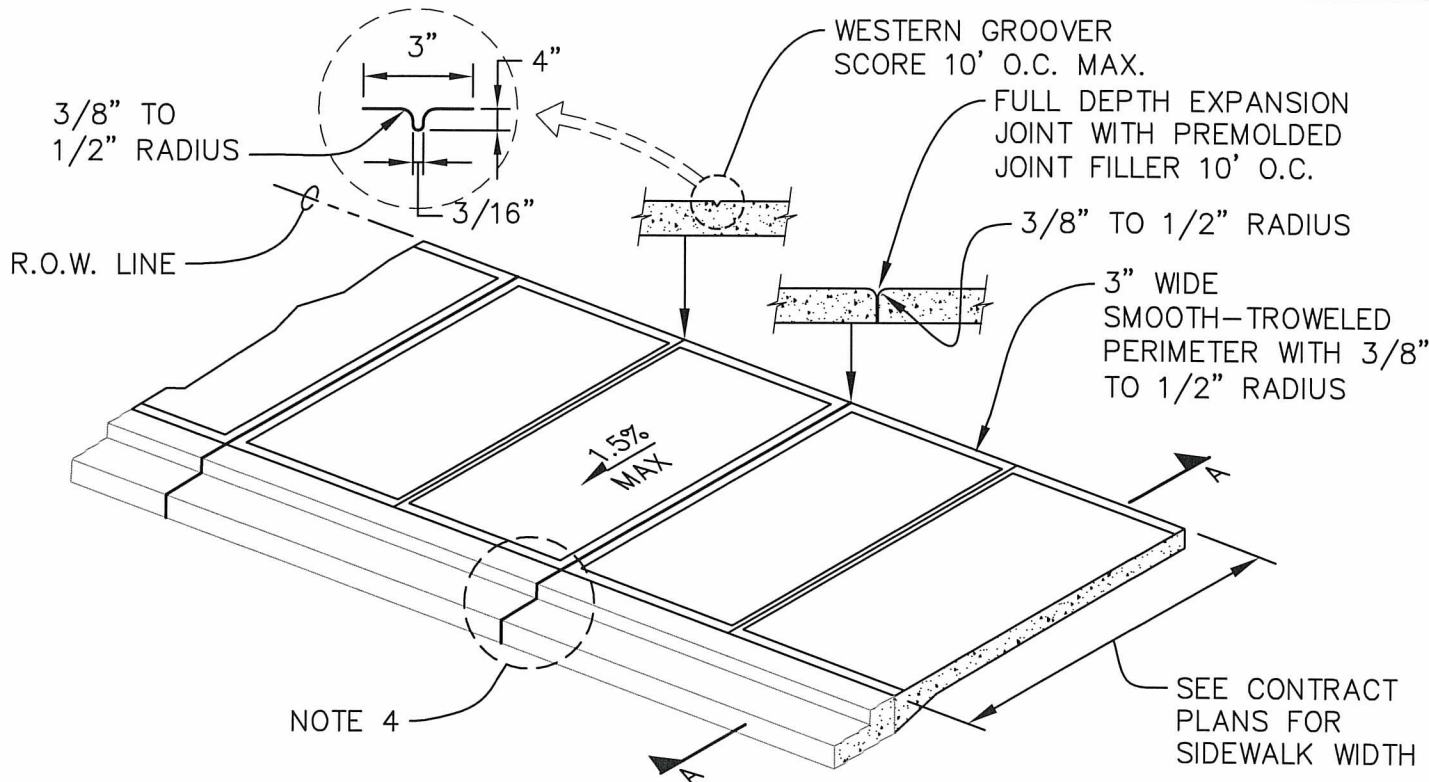
8/5/2016



PERVIOUS CEMENT  
CONCRETE SIDEWALK



Plotted by: Craig Dobyne on 8/1/2016 File location: M:\Construction Standard Details\Approved Drawing Files (dwg)\Traffic\STDETL-T-15.1



**SECTION A-A**  
NOT TO SCALE

**NOTES:**

1. PLACE CEMENT CONCRETE ON COMPACTED SUITABLE BASE, AS PER SPECIFICATION SECTION 2-06.3 AND AS APPROVED BY THE ENGINEER.
2. CEMENT CONCRETE SHALL BE CLASS 3000 PER SPECIFICATION SECTION 6-02.3.
3. INSPECTION REQUIRED FOR FORM AND SUB GRADE APPROVAL BEFORE POURING CONCRETE.
4. MATCH EXPANSION JOINTS ON SIDEWALK WITH EXPANSION JOINTS ON CURB OR AT 10' O.C.

APPROVED BY CITY ENGINEER:

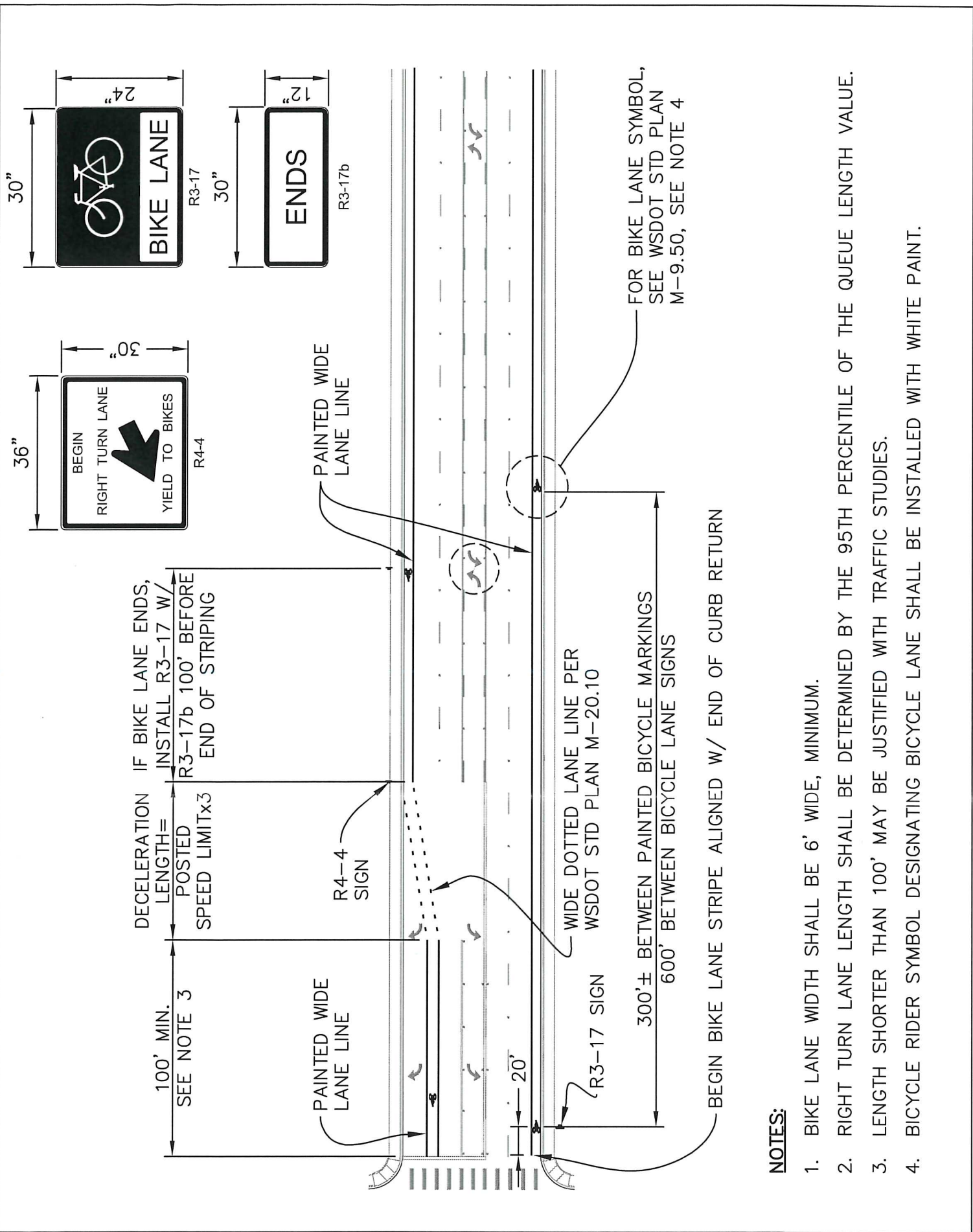
*Bob Gals*

DATE:

8/5/2016



CEMENT CONCRETE SIDEWALK  
WITHOUT LANDSCAPE STRIP



**NOTES:**

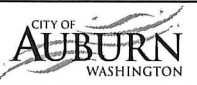
1. BIKE LANE WIDTH SHALL BE 6' WIDE, MINIMUM.
2. RIGHT TURN LANE LENGTH SHALL BE DETERMINED BY THE 95TH PERCENTILE OF THE QUEUE LENGTH VALUE.
3. LENGTH SHORTER THAN 100' MAY BE JUSTIFIED WITH TRAFFIC STUDIES.
4. BICYCLE RIDER SYMBOL DESIGNATING BICYCLE LANE SHALL BE INSTALLED WITH WHITE PAINT.

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DATE:

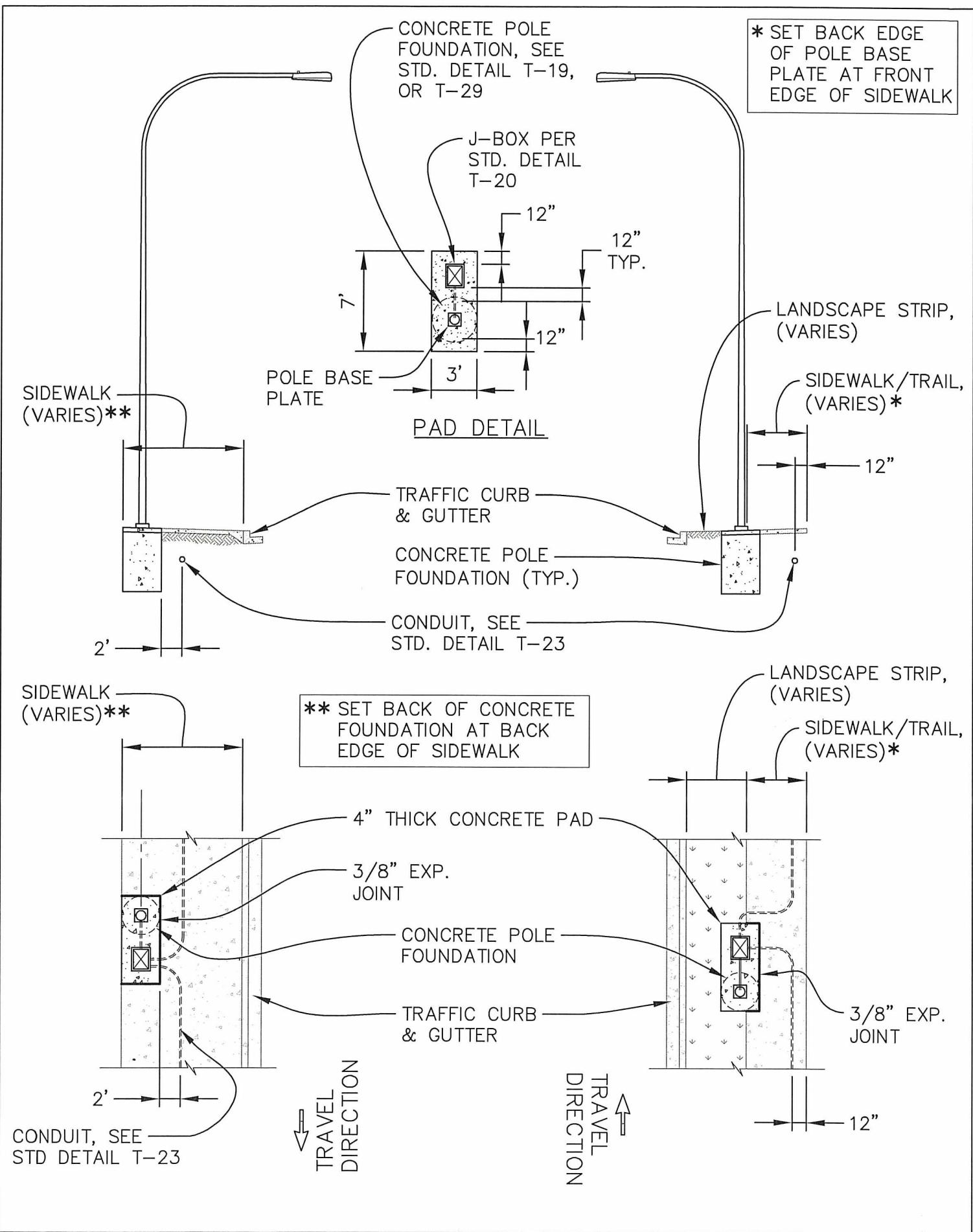
*Paul Sols*

*6/29/2018*



BICYCLE LANE MARKINGS

Plotted by: Craig Dobyns on 2/2/2018 File location: M:\Construction Standard Details\Current Working DWG\Traffic\STDELL-T-18.2



APPROVED BY CITY ENGINEER:

*[Signature]*

DATE:

2/20/2018

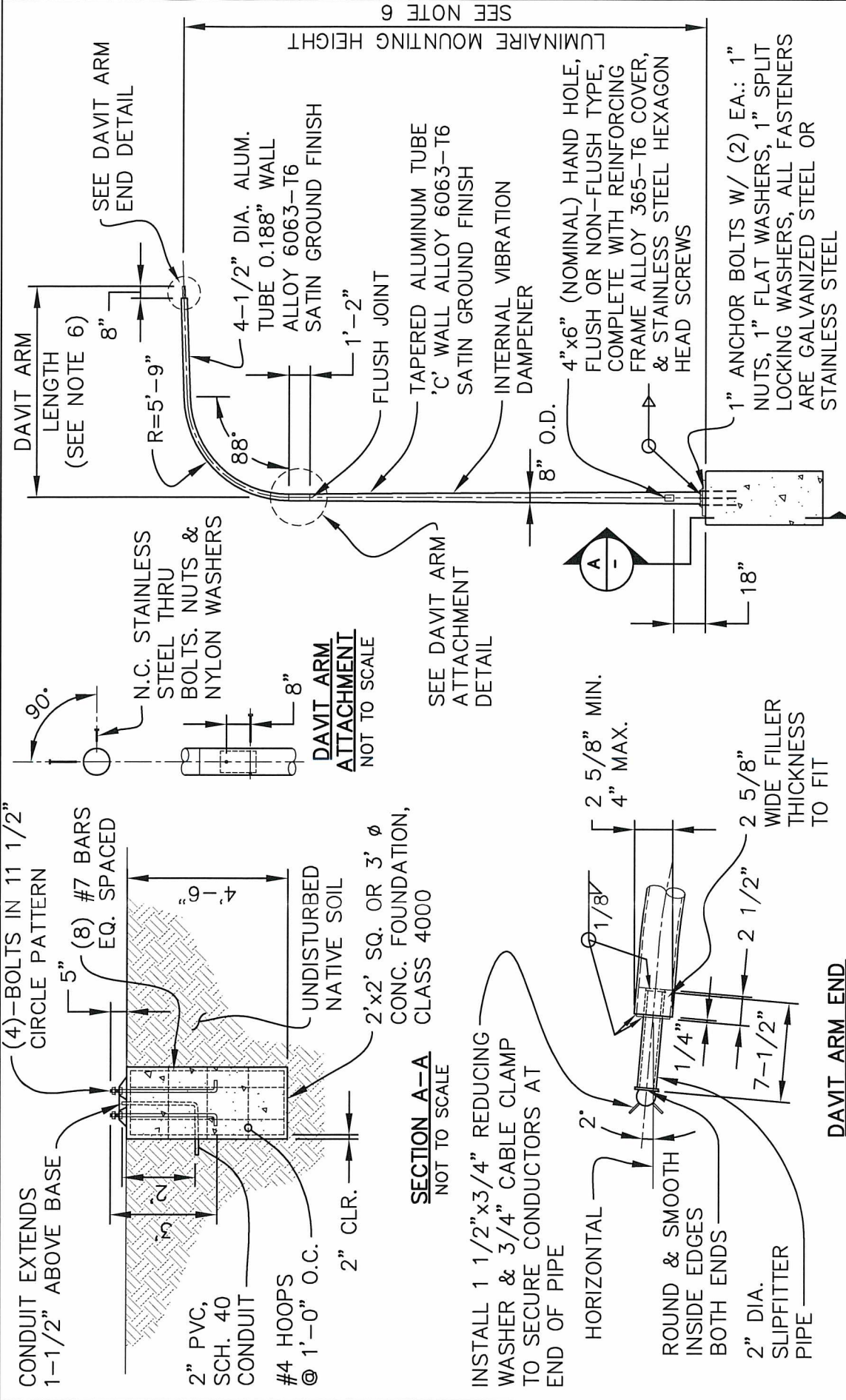


LUMINAIRE AND CONDUIT LAYOUT DETAIL

COMMUNITY DEVELOPMENT & PUBLIC WORKS DEPT.

STANDARD DETAIL: T-18.2





**NOTES:**

- POLE ASSEMBLIES DESIGNED TO SUPPORT MAXIMUM LUMINAIRE SIZE OF 1.5 SQ. FT. E.P.A. AND 60 LBS. IN A 100 MPH ISOTACH/130 MPH GUST VELOCITY WIND.
- 4043 FILLER WIRE USED FOR WELDING.
- ONLY THE BASE FLANGE WELDS ARE HEAT TREATED.
- BASE FLANGE SHALL ACCOMMODATE 11" TO 12" BOLT CIRCLE.
- 1"-8NC STEEL ANCHOR BOLT ASTM A576, AISI GRADE 1021-1046, 50,000 PSI=MIN. YIELD MEAN DIA. OF ROD STOCK 0.908± 0.011", OUT OF ROUND TOLERANCE: ± 0.012" ROLLED OR CUT THREADS PER A307, CLASS 2A, TOP 10" GALV. PER ASTM A153 COMPLETE WITH (8) 1" 8NC GALV. STL. HEX NUTS & (8) 1" GALV. STL. FLAT WASHERS.
- SEE DESIGN STANDARDS TABLE 10-8.
- SEE STD. DETAIL T-18 FOR POLE, CONDUIT, AND FOUNDATION PLACEMENT.

**NOTES:**

1. GRIND ALL 4 CORNERS AND EXPOSE TO BARE METAL.
2. FIELD WELD 2" BEAD AFTER APPROVAL OF WIRING INSPECTION BY THE ENGINEER.
3. SPRAY GALVANIZED PAINT TO ALL WELDS.
4. FOR JUNCTION BOX & LUMINAIRE LOCATION STD. DETAIL T-18.

FOG TITE LOCKING LID  
W/ TAMPER RESISTANT  
STAINLESS SCREWS

JUNCTION BOX PER  
WSDOT STD. PLAN  
J-40.10-04, TYPE 1

SEC MODEL 1791-DP  
OR APPROVED  
EQUIVALENT

"ILSCO"  
COPPER-COMPRESSION  
TYPE OR STAINLESS  
STEEL CLAMP

TYPE U.S.E. #8AWG STRANDED  
COPPER WIRE (SIZE PER  
ELECTRICAL PLAN)

FROM LAST  
JUNCTION BOX

2" DIA. PVC CONDUIT,  
SCH. 40, USE SCH. 80  
@ STREET CROSSINGS

POLE AND BRACKET CABLE,  
TWO CONDUCTOR AWG #10  
STRANDED COPPER WIRE, 45  
MIL PVC INSULATION, 95 MIL  
HMW POLYETHYLENE BELT  
OR APPROVED EQUIVALENT

TO LUMINAIRE

STREET LIGHT

FACE HANDHOLE  
AWAY FROM  
APPROACHING  
TRAFFIC

GROUND LUG

TYPE U.S.E. #8AWG  
STRANDED COPPER  
WIRE

1 1/2"

ABOVE BASE

SEC MODEL  
1791-SF FUSE  
KITS, 2 EACH

BELL END  
PVC BUSHING

BELL END  
PVC BUSHING

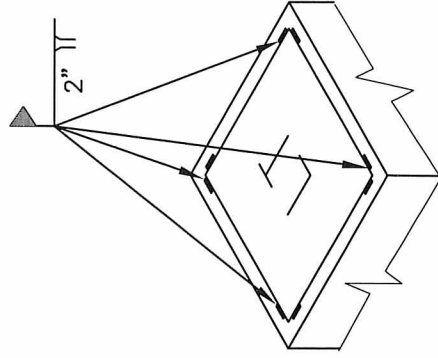
6"-8"  
BELOW  
LID

2" DIA. PVC,  
SCH. 40

BARE STRANDED COPPER GROUND  
(SIZE PER ELECTRICAL PLAN)

TO NEXT  
JUNCTION  
BOX

BELL END  
PVC BUSHINGS



APPROVED BY CITY ENGINEER:

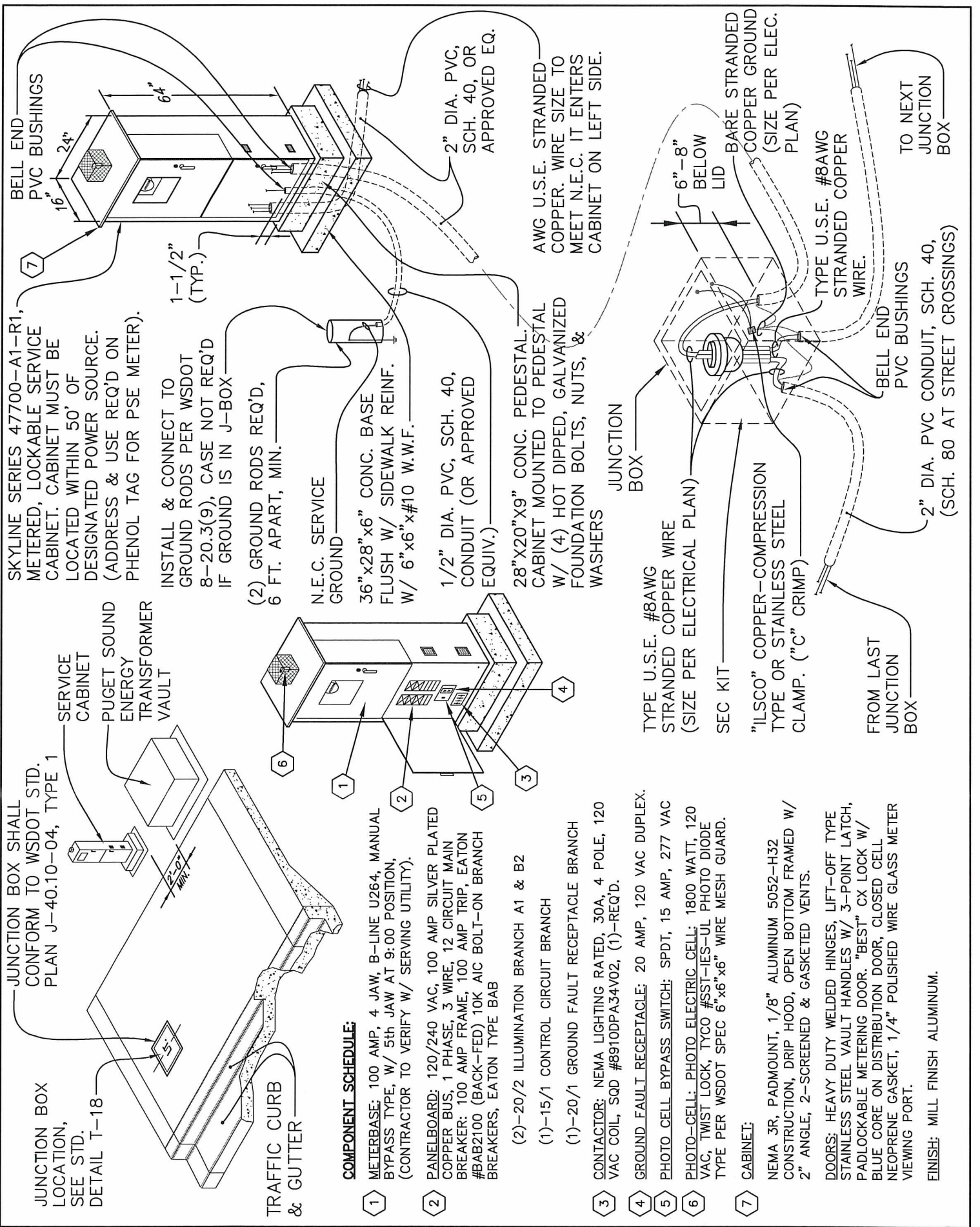
DATE:

2/20/2018



UNIFORM LUMINAIRE  
WIRING DETAIL





**COMPONENT SCHEDULE:**

- 1 METERBASE: 100 AMP, 4 JAW, B-LINE U264, MANUAL BYPASS TYPE, W/ 5th JAW AT 9:00 POSITION, (CONTRACTOR TO VERIFY W/ SERVING UTILITY).
- 2 PANELBOARD: 120/240 VAC, 100 AMP SILVER PLATED COPPER BUS, 1 PHASE, 3 WIRE, 12 CIRCUIT MAIN BREAKER: 100 AMP FRAME, 100 AMP TRIP, EATON #BAB2100 (BACK-FED) 10K AIC BOLT-ON BRANCH BREAKERS, EATON TYPE BAB
- 3 CONTACTOR: NEMA LIGHTING RATED, 30A, 4 POLE, 120 VAC COIL, S0D #8910DPA34V02, (1)-REQ'D.
- 4 (2)-20/2 ILLUMINATION BRANCH A1 & B2
- 5 (1)-15/1 CONTROL CIRCUIT BRANCH
- 6 (1)-20/1 GROUND FAULT RECEPTACLE BRANCH
- 7 GROUND FAULT RECEPTACLE: 20 AMP, 120 VAC DUPLEX.
- 8 PHOTO CELL BYPASS SWITCH: SPDT, 15 AMP, 277 VAC
- 9 PHOTO-CELL: PHOTO ELECTRIC CELL: 1800 WATT, 120 VAC, TWIST LOCK, TYCO #SST-IES-UL PHOTO DIODE TYPE PER WSDOT SPEC 6"x6"x6" WIRE MESH GUARD.
- 10 CABINET: NEMA 3R, PADMOUNT, 1/8" ALUMINUM 5052-H32 CONSTRUCTION, DRIP HOOD, OPEN BOTTOM FRAMED W/ 2" ANGLE, 2-SCREENED & GASKETED VENTS. DOORS: HEAVY DUTY WELDED HINGES, LIFT-OFF TYPE STAINLESS STEEL VAULT HANDLES W/ 3-POINT LATCH, PADLOCKABLE METERING DOOR. "BEST" CX LOCK W/ BLUE CORE ON DISTRIBUTION DOOR, CLOSED CELL NEOPRENE GASKET, 1/4" POLISHED WIRE GLASS METER VIEWING PORT. FINISH: MILL FINISH ALUMINUM.

APPROVED BY CITY ENGINEER:

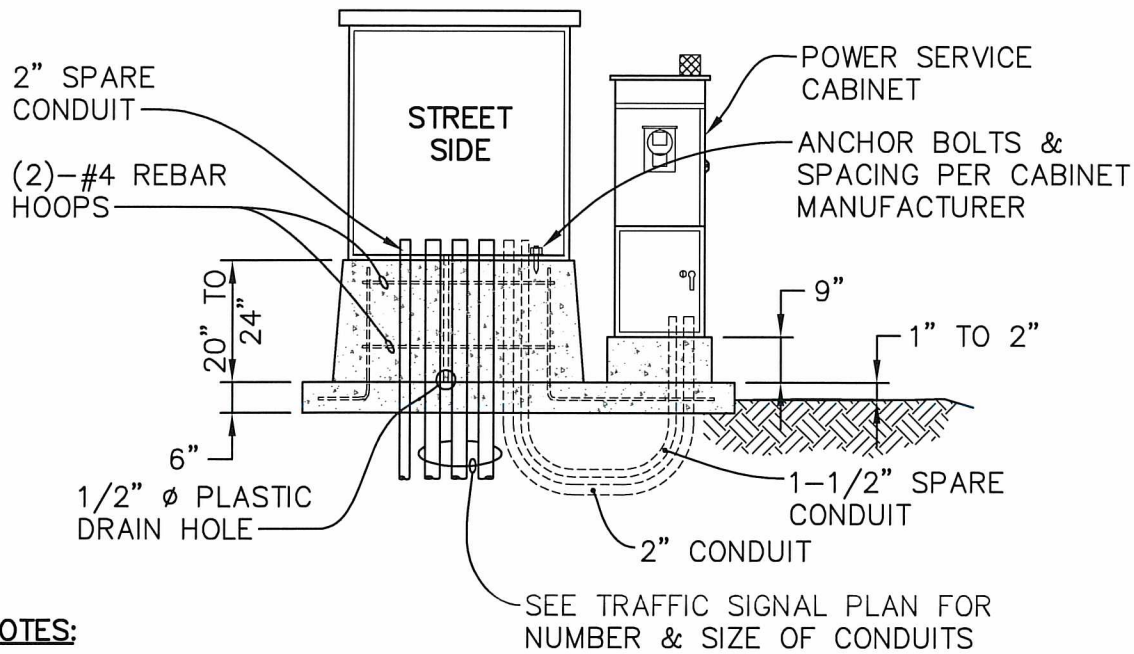
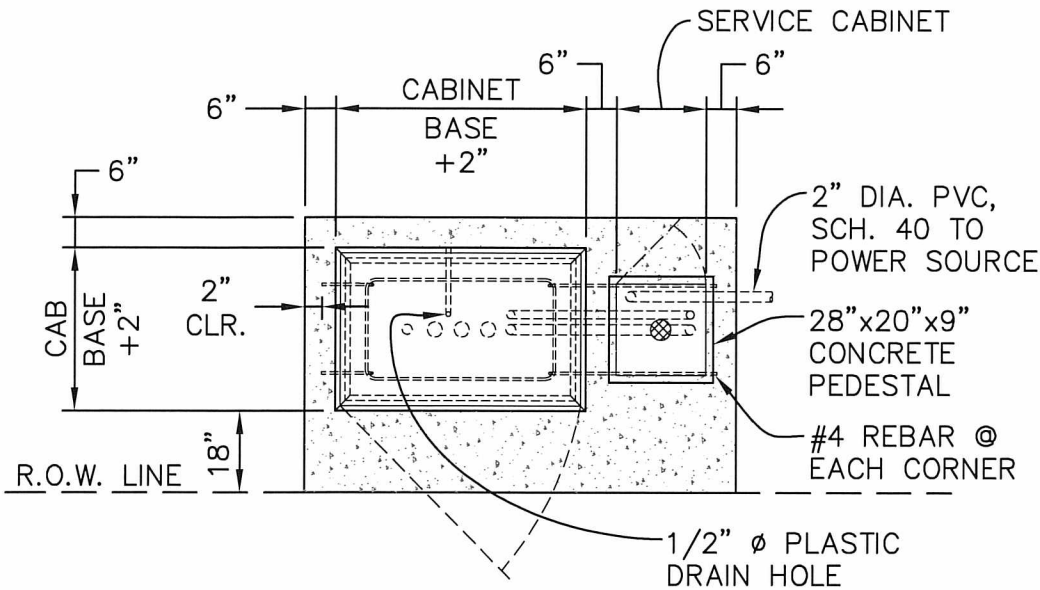
DATE:

*[Signature]*

*2/20/2018*



POWER SERVICE CABINET  
DETAIL



**NOTES:**

1. FOUNDATION SHALL BE CONSTRUCTED WITH CLASS 3000 CONCRETE WITH 3/4" CHAMFERED EDGE ON THE LOWER PAD.
2. CONDUITS SHALL BE EXTENDED NO MORE THAN 2" ABOVE CONCRETE SURFACE, ALIGNED, AND CENTERED ON CABINET.
3. CABINET POWER CONDUIT SHALL BE ON THE RIGHT SIDE WHEN FACING FRONT OF CABINET.
4. 2" DIA. SPARE CONDUIT SHALL BE INSTALLED AND RUN INTO THE JUNCTION BOX.
5. ENDS OF 1/2" DIA. DRAIN POLY TUBING SHALL BE CUT FLUSHED WITH CONCRETE SURFACE.
6. 1-1/2" DIA. SPARE CONDUIT SHALL BE INSTALLED AND RUN INTO SERVICE CABINET.
7. JOINT BETWEEN CABINET AND FOUNDATION SHALL BE SEALED USING A CLEAR WATERPROOF ADHESIVE CAULK.

APPROVED BY CITY ENGINEER:

DATE:

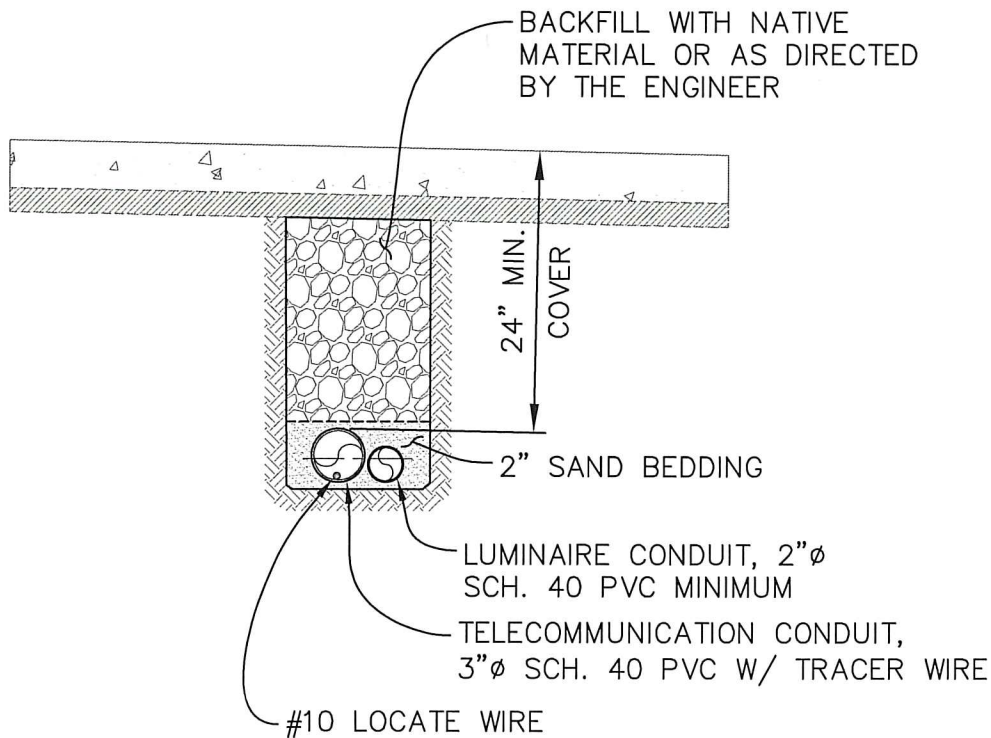
*[Signature]*

6/29/2018



TRAFFIC SIGNAL CONTROLLER  
& FOUNDATION DETAIL





NOTES:

1. PULL STRING SHALL BE INSTALLED IN ALL SPARE CONDUIT.
2. SEE STD. DETAIL T-18 FOR CONDUIT PLACEMENT.

APPROVED BY CITY ENGINEER:

DATE:

2/20/2018



TELECOMMUNICATION AND LUMINAIRE ELECTRICAL TRENCH

COMMUNITY DEVELOPMENT & PUBLIC WORKS DEPT.

STANDARD DETAIL: T-23.2



(2) TAMPER PROOF  
DRIVE RIVETS OR  
EQUAL AT 90° FROM  
EACH OTHER

10" Ø SONO TUBE  
OR 3/8" EXP.  
JOINT IN SIDEWALK  
APPLICATIONS

18" LONG SLEEVE  
2-1/4" SQ.

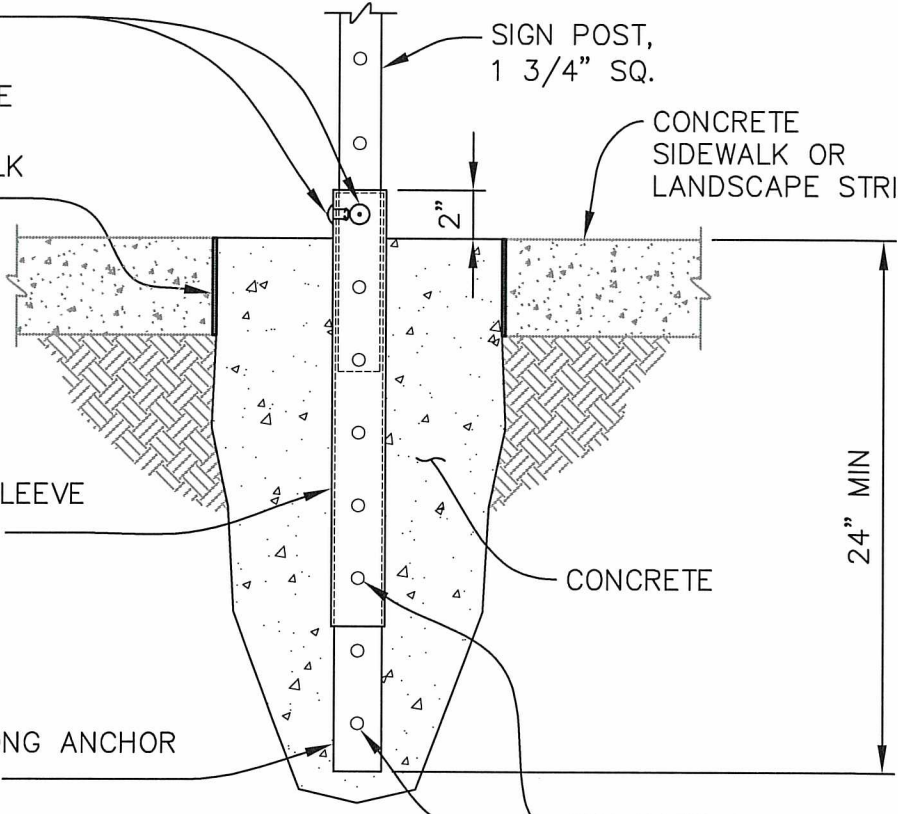
24" LONG ANCHOR  
2" SQ.

SIGN POST,  
1 3/4" SQ.

CONCRETE  
SIDEWALK OR  
LANDSCAPE STRIP

CONCRETE

SEE NOTE 4



**NOTES:**

1. ALL TUBING MATERIAL SHALL BE "UNISTRUT TELESPEAR" TYPE GALVANIZED STEEL (ASTM A570 GRADE 33) OR ENGINEER APPROVED EQUIVALENT.
2. SIDEWALKS AND PAVED AREAS SHALL BE CORE DRILLED BEFORE SIGN INSTALLATION.
3. SIGNS SHALL HAVE A MIN. HEIGHT OF 7 FT. FROM THE LOWER EDGE OF THE SIGN TO SIDEWALK GRADE, AND A 2 FT. LATERAL OFFSET FROM THE FACE OF CURB TO THE NEAR EDGE OF SIGN. SIGN LOCATION SHALL BE AS SHOWN ON PLANS AND PER MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (M.U.T.C.D).
4. WRAP ANCHOR TUBING WITH TAPE BEFORE PLACING IN CONCRETE.
5. DEMONSTRATE SIGN POST IS REMOVABLE BEFORE RIVETING.

APPROVED BY CITY ENGINEER:

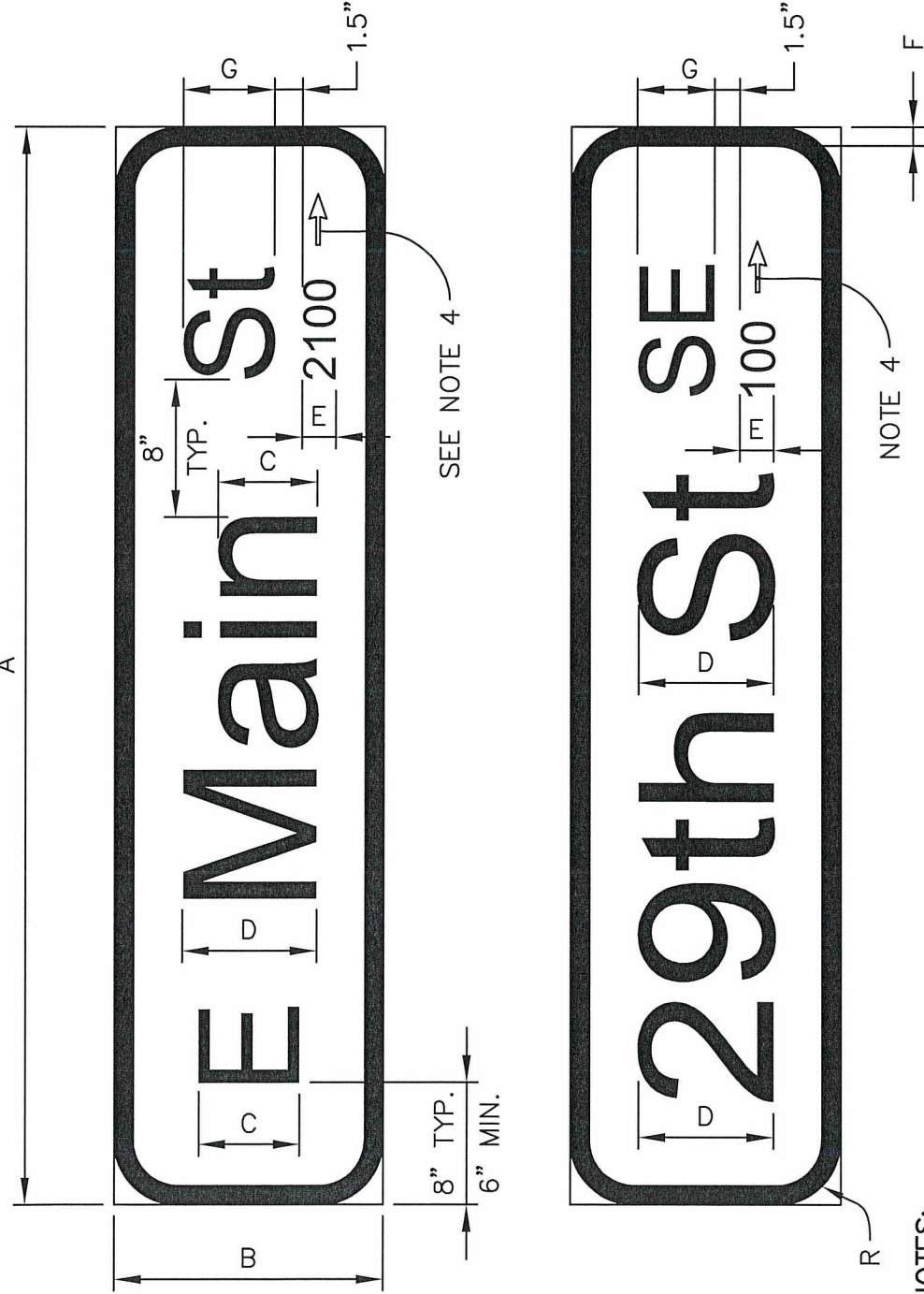
DATE:



TYPICAL SIGN POST  
INSTALLATION

COMMUNITY DEVELOPMENT & PUBLIC WORKS DEPT.

STANDARD DETAIL: T-24.2



| SIGN STANDARDS |        |
|----------------|--------|
| DIMENSION      | INCHES |
| A              | VARIES |
| B              | 16     |
| C              | 6      |
| D              | 8      |
| E              | 2      |
| F              | 1 1/4  |
| G              | 4 1/2  |
| R              | 3      |

**NOTES:**

1. SIGN BLADES SHALL BE 0.125" THICK TEMPERED ALUMINUM ALLOY.
2. BACKGROUND FOR STREET NAME SIGNS SHALL BE GREEN COLOR, ENGINEERING GRADE REFLECTIVE SHEETING.
3. ALL LETTERING AND 1-1/4" BORDER FOR STREET NAME SIGNS SHALL BE WHITE COLOR, REFLECTIVE HIGH INTENSITY GRADE SHEETING.
4. ARROW ON THE RIGHT SIDE OF THE BLOCK NUMBER INDICATES AN INCREASING BLOCK NUMBER IN THE ARROW DIRECTION.
5. FOR GUIDANCE ON LETTERING AND NUMERAL WIDTHS AND SPACING, SEE WSDOT "SIGN FABRICATION MANUAL" APPENDIX C.
6. ENGINEER APPROVAL OF SIGN PROOF(S) REQUIRED BEFORE FABRICATION.

APPROVED BY CITY ENGINEER:

*Paul Sob*

DATE:

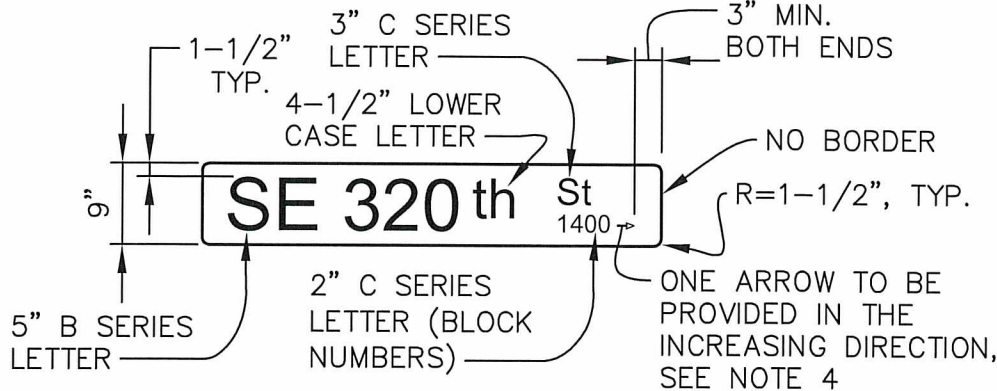
8/5/2016



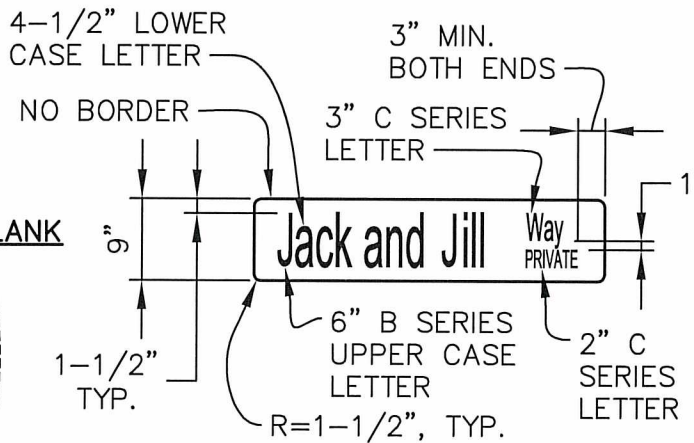
MAST ARM MOUNTED,  
STREET NAME SIGN DETAIL



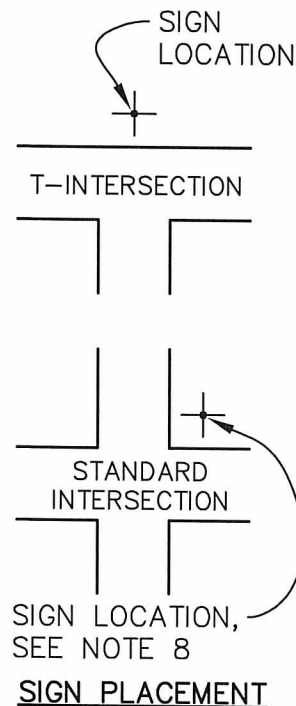
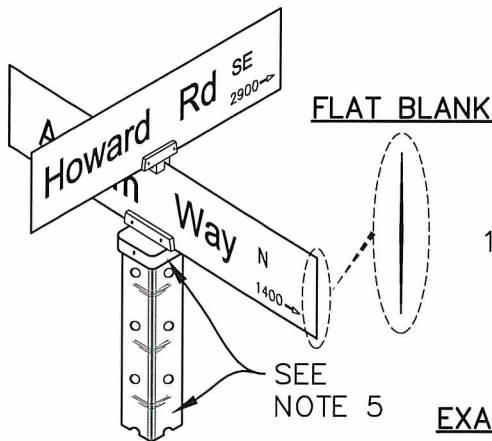
| STREET NAME STANDARD |              |
|----------------------|--------------|
| NAME                 | ABBREVIATION |
| AVENUE               | Ave          |
| BOULEVARD            | Blvd         |
| COURT                | Ct           |
| DRIVE                | Dr           |
| LANE                 | Ln           |
| LOOP                 | Lp           |
| PARKWAY              | Pkwy         |
| PLACE                | Pl           |
| ROAD                 | Rd           |
| STREET               | St           |
| STREET SOUTHEAST     | St SE        |
| WAY                  | Way          |



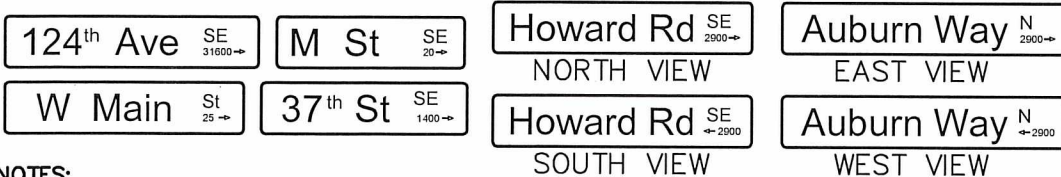
**PUBLIC ROAD SIGN**



**PRIVATE ROAD SIGN**



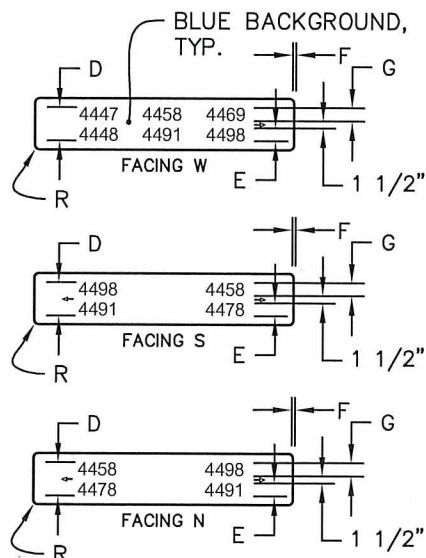
**EXAMPLES:**



**NOTES:**

1. NAME PLATE SHALL BE 9" WIDE X VARIABLE LENGTH OF FLAT BLANK, 0.080 GAUGE ALUMINUM, TREATED WITH ALODINE 1200 CONVERSION COATING, ZUMAR OR APPROVED EQUIVALENT.
2. BACKGROUND FOR PUBLIC ROAD STREET NAME SIGNS SHALL BE GREEN COLOR, ENGINEERING GRADE REFLECTIVE SHEETING.
3. BACKGROUND FOR PRIVATE ROAD STREET NAME SIGNS SHALL BE BLUE COLOR, ENGINEERING GRADE REFLECTIVE SHEETING.
4. ALL LETTERING FOR STREET NAME SIGNS SHALL BE WHITE COLOR, REFLECTIVE HIGH INTENSITY GRADE SHEETING.
5. POST INSTALLATION SHALL CONFORM TO REQUIREMENTS SET BY STANDARD DETAIL T-24.
6. HARDWARE SHALL BE ZUMAR STYLE 850 LONG OR APPROVED EQUIVALENT.
7. MOUNTING HEIGHT SHALL BE 8'-0".
8. WHEN AN INTERSECTION IS STOP SIGN CONTROLLED, THE STREET NAME SIGN SHALL BE PLACED ON THE SAME POST AND ABOVE THE STOP SIGN.
9. ENGINEER APPROVAL OF SIGN PROOF(S) SHALL BE REQUIRED BEFORE FABRICATION.

**PRIVATE TRACT SIGNS:**



| PRIVATE TRACT SIGN STANDARDS |          |
|------------------------------|----------|
| DIMENSION                    | INCHES   |
| A                            | VARIABLE |
| B                            | 16       |
| C                            | 6        |
| D                            | 8        |
| E                            | 2        |
| F                            | 1 1/4    |
| G                            | 4 1/2    |
| R                            | 3        |

APPROVED BY CITY ENGINEER:

DATE:

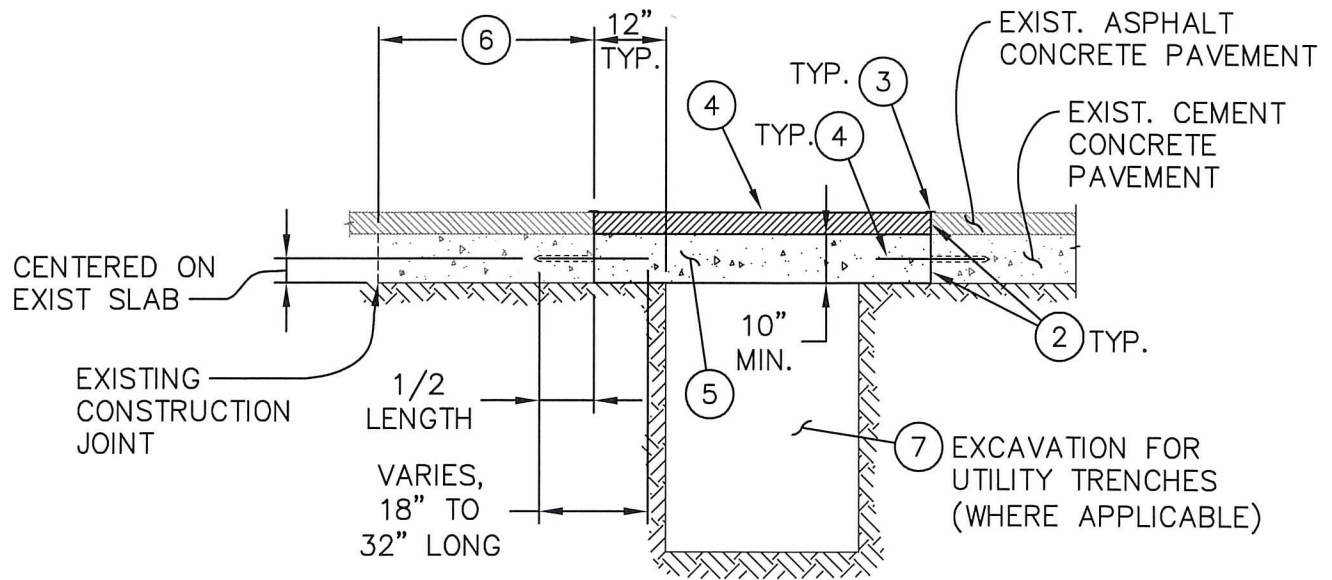
*[Signature]*

2/20/2018



POST MOUNTED, STREET NAME SIGN DETAIL





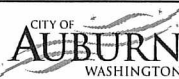
**NOTES:**

- ① FOR TRANSVERSE JOINTS CONSTRUCTION, THE DOWEL BARS SHALL BE 1 1/2" DIA. x 18" LONG AND INSTALLED AT 12" ON CENTER. FOR LONGITUDINAL JOINTS CONSTRUCTION, TIE BARS SHALL BE #5 x 32" LONG AND INSTALLED AT 36" ON CENTER. DRILL HOLES TO EXISTING ADJACENT CONCRETE PANELS AND PARALLEL TO EXISTING GRADE. HOLES SHALL BE BLOWN CLEAN WITH COMPRESSED AIR PRIOR TO APPLYING EPOXY RESIN INTO THE HOLES. THEN INSERT EPOXY RESIN COATED BARS IN THE HOLES SUCH THAT THE BACK OF THE HOLES ARE FILLED FIRST.
- ② APPLY HOT POURED ELASTIC TYPE SEALANT TO ENTIRE EDGE AND FULL DEPTH OF THE JOINTS BEFORE PAVING.
- ③ APPLY SURFACE SEAL WITH ASPHALT CEMENT AR-4000 AT MATCHLINES.
- ④ WHERE REPLACEMENT OF EXISTING ASPHALT CONCRETE PAVEMENT IS REQUIRED, APPLY NEW HMA CL. 1/2" TO MATCH EXISTING THICKNESS.
- ⑤ MATCH THICKNESS OF EXISTING CEMENT CONCRETE PAVEMENT, BUT IN NO CASE SHALL IT BE LESS THAN 10". CEMENT CONCRETE SHALL BE CL. 4000 WITH 5% AIR ENTRAINMENT. TRAFFIC SHALL BE KEPT OFF NEW PAVEMENT FOR 7 DAYS OR UNTIL DESIGN STRENGTH IS ACHIEVED, WHICHEVER COMES FIRST.
- ⑥ WHENEVER A REMAINING CONCRETE PANEL IS 3' WIDE OR LESS IN ANY DIRECTION FROM EXISTING CONSTRUCTION JOINT TO NEW CONSTRUCTION JOINT, IT SHALL BE REMOVED AND REPLACED AS PART OF THE NEW PANEL.
- ⑦ BEDDING/BACKFILL SHALL BE PER STANDARD DETAIL T-01.

APPROVED BY CITY ENGINEER:

DATE:

8/5/2016



REPAIR OF EXISTING CEMENT CONCRETE PANEL IN ROADWAY

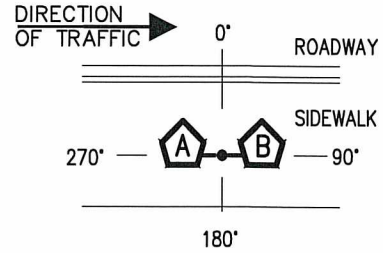
COMMUNITY DEVELOPMENT & PUBLIC WORKS DEPT.

STANDARD DETAIL: T-27.1

Plotted by: Craig Dobyns on 12/31/2018 File location: M:\Construction Standard Details\Traffic\STDDETAIL-T-28.2

**ORIENTATION LOCATIONS:**

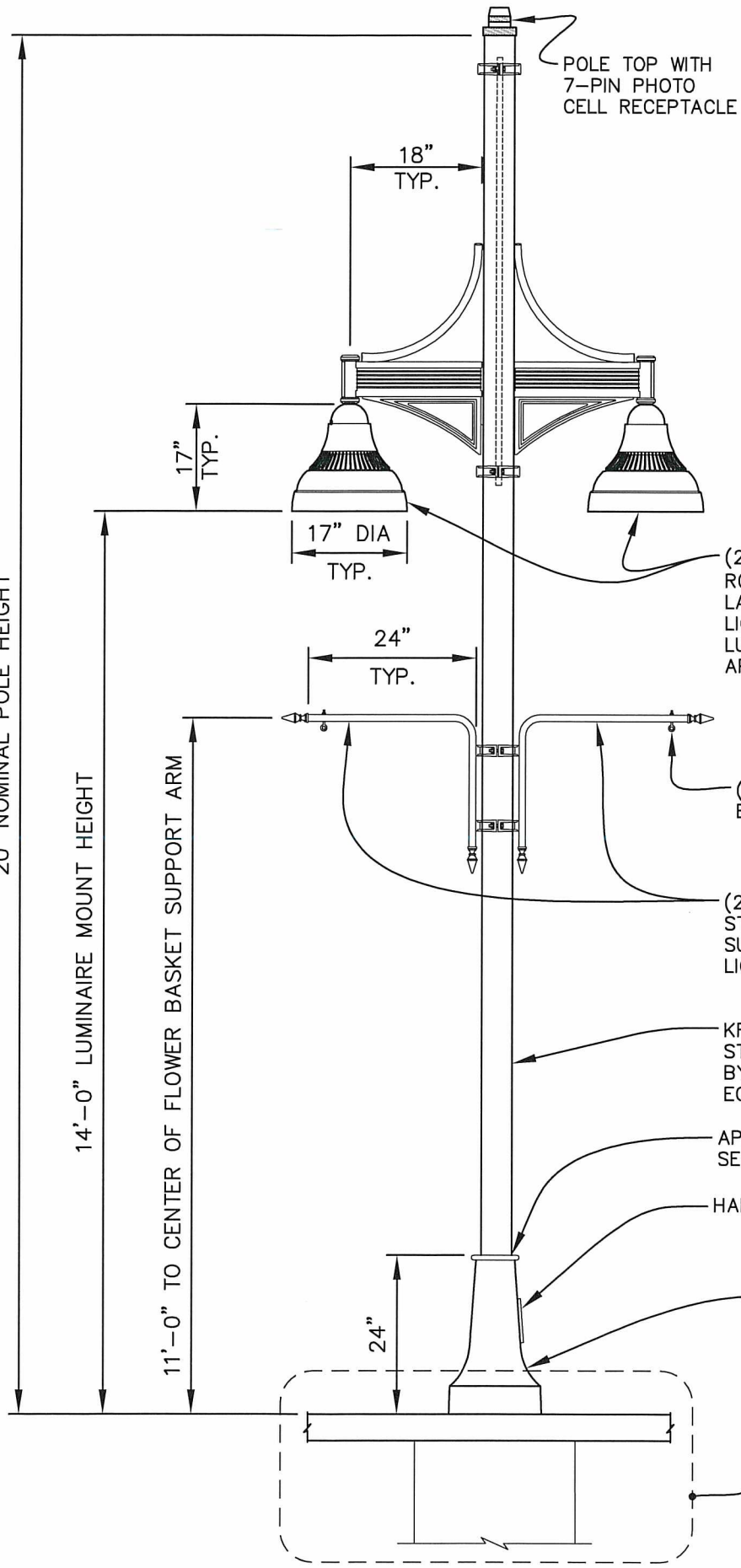
- LUMINAIRES SHALL BE MOUNTED AT 90° AND 270°
- BANNER SUPPORT ARMS SHALL BE MOUNTED AT 0°
- FLOWER BASKET SUPPORT ARMS SHALL BE MOUNTED AT 90° & 270°
- RECEPTACLES SHALL BE MOUNTED AT 180°
- HANDHOLES SHALL BE MOUNTED AT 90°
- STREET NAME SIGNS SHALL BE MOUNTED AT 0° & 90°
- STOP SIGN SHALL BE MOUNTED AT 270°



20' NOMINAL POLE HEIGHT

14'-0" LUMINAIRE MOUNT HEIGHT

11'-0" TO CENTER OF FLOWER BASKET SUPPORT ARM



(2) 17" DIA. ERA BELL, 5200K LED ROTATABLE OPTICAL SYSTEM W/ LABEL TO SHOW ORIENTATION OF LIGHT PATTERN, FLAT LENS LUMINAIRE BY KIM LIGHTING OR APPROVED EQ.

APPROVED BY CITY ENGINEER:

DATE:

*Carol Freeking* 12/31/18



DOWNTOWN PEDESTRIAN POLE MOUNT LIGHTING STANDARD

PUBLIC WORKS DEPARTMENT

STANDARD DETAIL: T-28.2



(RECEPTACLE WIRING & FLEXIBLE CONDUIT NOT SHOWN)

BUSHING FOR RACEWAY SHALL BE PROVIDED BY MANUFACTURER

FACTORY CONDUCTORS

WELDED J-HOOK

LOCKABLE DIE CAST NEMA 3R WEATHERPROOF COVER

RECEPTACLE, FOR LOCATION, SEE STD. DETAIL T-28

WEATHERPROOF "IN-USE" BUBBLE COVER

HOSPITAL GRADE WR DUPLEX GFI, RECEPTACLE 20 AMP, 120V

RECEPTACLE W/ CAST ALUMINUM FRAME

(2)-#12 (RECEPTACLE)

**POLE RECEPTACLE**

NOT TO SCALE

**LUMINAIRE WIRING**

NOT TO SCALE

POLE AND BRACKET WIRE

FOR ILLUMINATION QUICK DISCONNECT DETAILS, SEE STD. DETAIL T-20

GROUND LUG

BARE COPPER STRANDED GROUND (#8)

SIDEWALK

FOR FOUNDATION, REFER TO STD. DETAIL T-28B

RECEPTACLE QUICK DISCONNECT, SEC MODEL 1791, OR APPROVED EQUIVALENT

HANDHOLE, SEE STD. DETAIL T-20

(2)-#8 OR #10 (RECEPTACLE)

RECEPTACLE QUICK DISCONNECT, SEC MODEL 1791-DP (DOUBLE PIN), OR APPROVED EQUIVALENT

FOR ILLUMINATION QUICK DISCONNECT DETAILS SEE STD. DETAIL T-20

STREET LIGHT JUNCTION BOX, SEE STD. DETAIL T-20

6"-8" BELOW LID, TYP.

24" MIN TYP.

GROUND CLAMP, SEE STD. DETAIL T-20

SEE ILLUMINATION PLANS FOR CONDUIT SIZE & WIRING

INSTALL CONDUIT SWEEPS AS NEEDED TO AVOID UNDERGROUND UTILITY CONFLICTS

**TYPICAL LUMINAIRE/ JUNCTION BOX WIRING**

NOT TO SCALE

(3)-#8 (ILL, ONE IS GROUND) (2)-#8 OR #10 (RECEPTACLE)

\* REFER TO STD. DETAIL T-20 FOR INFORMATION NOT SHOWN  
\* SPARE/EMPTY CONDUITS SHALL CONTAIN DETECTABLE PULL TAPE

APPROVED BY CITY ENGINEER:

DATE:

*Charles Swearing* 12/31/18



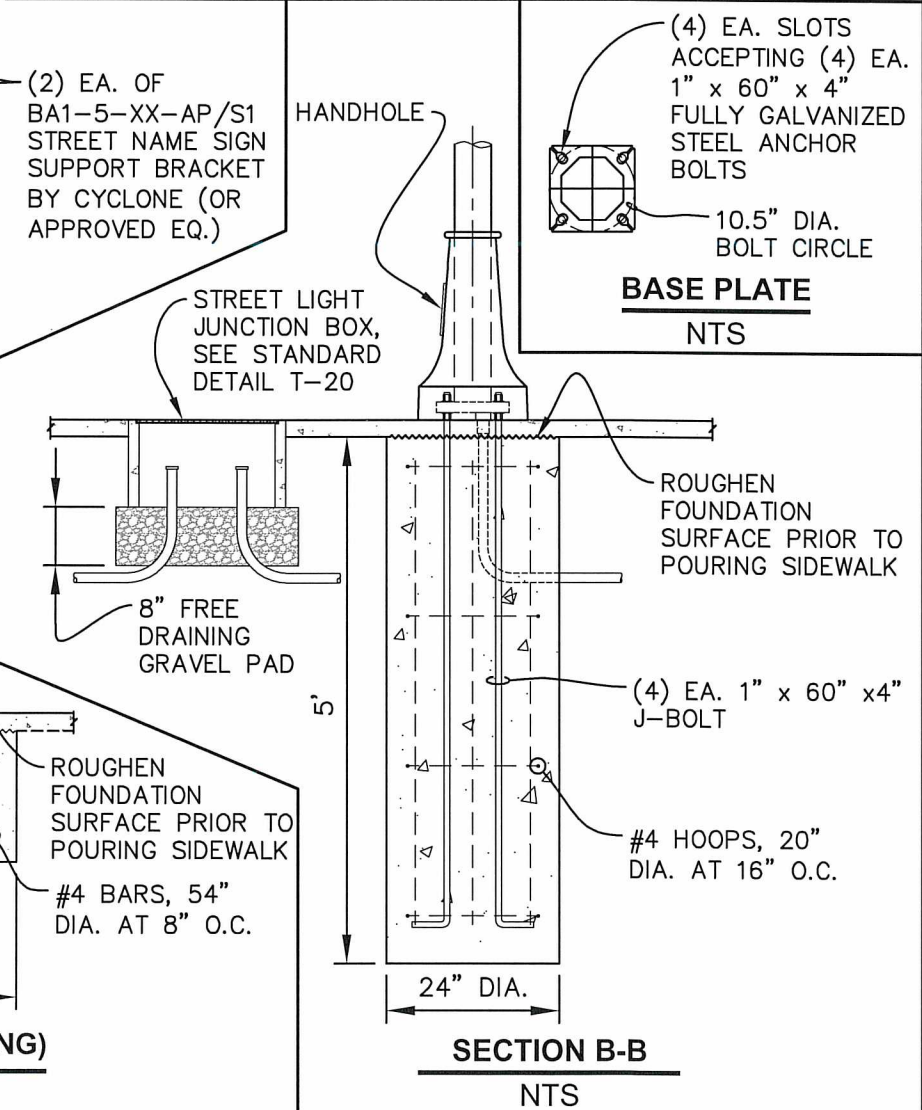
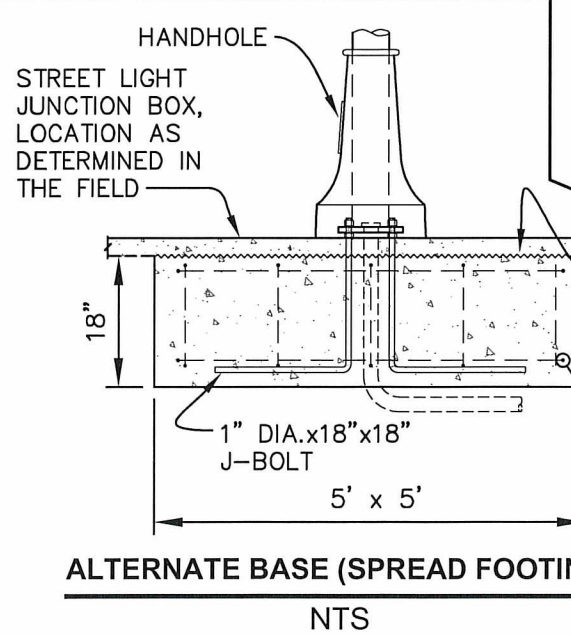
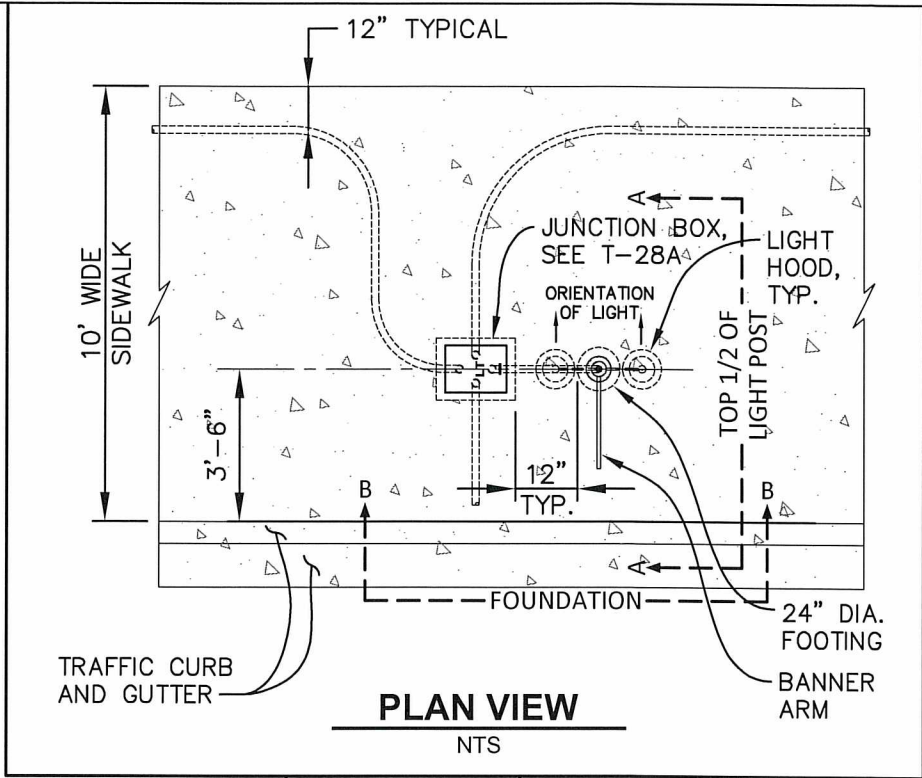
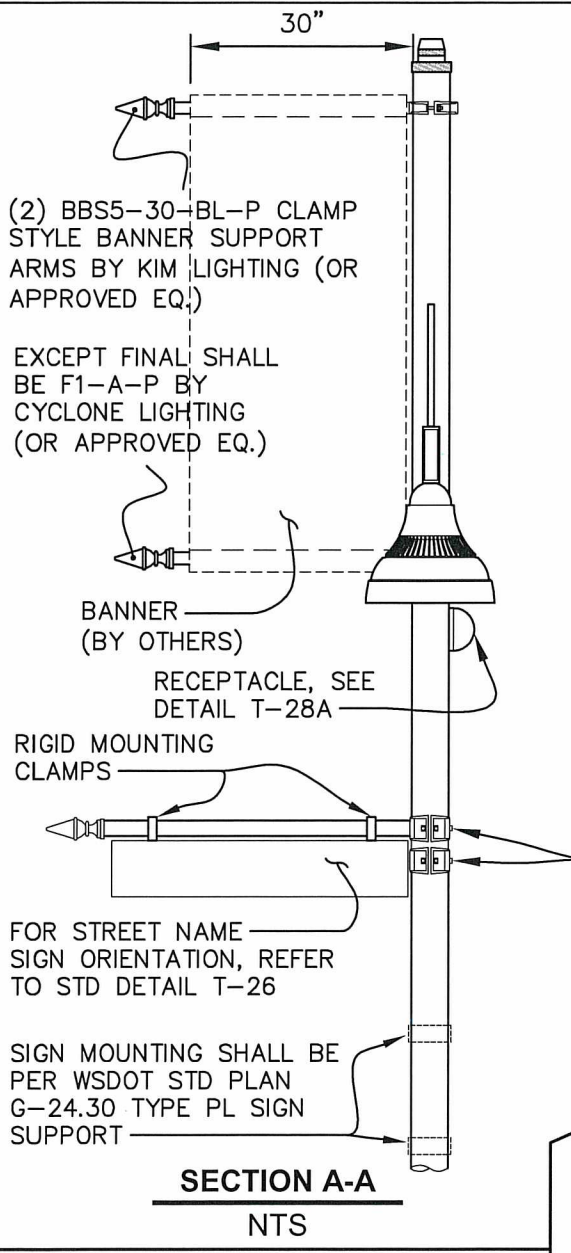
DOWNTOWN PEDESTRIAN POLE MOUNT LIGHTING STANDARD

PUBLIC WORKS DEPARTMENT

STANDARD DETAIL: T-28A.3

Plotted by: Craig Dobyns on 12/31/2018 File location: M:\Construction Standard Details\Current Working DWG\Traffic\STDDET-T-28A.3





APPROVED BY CITY ENGINEER:

DATE:

*Craig Dobyns* 12/31/18



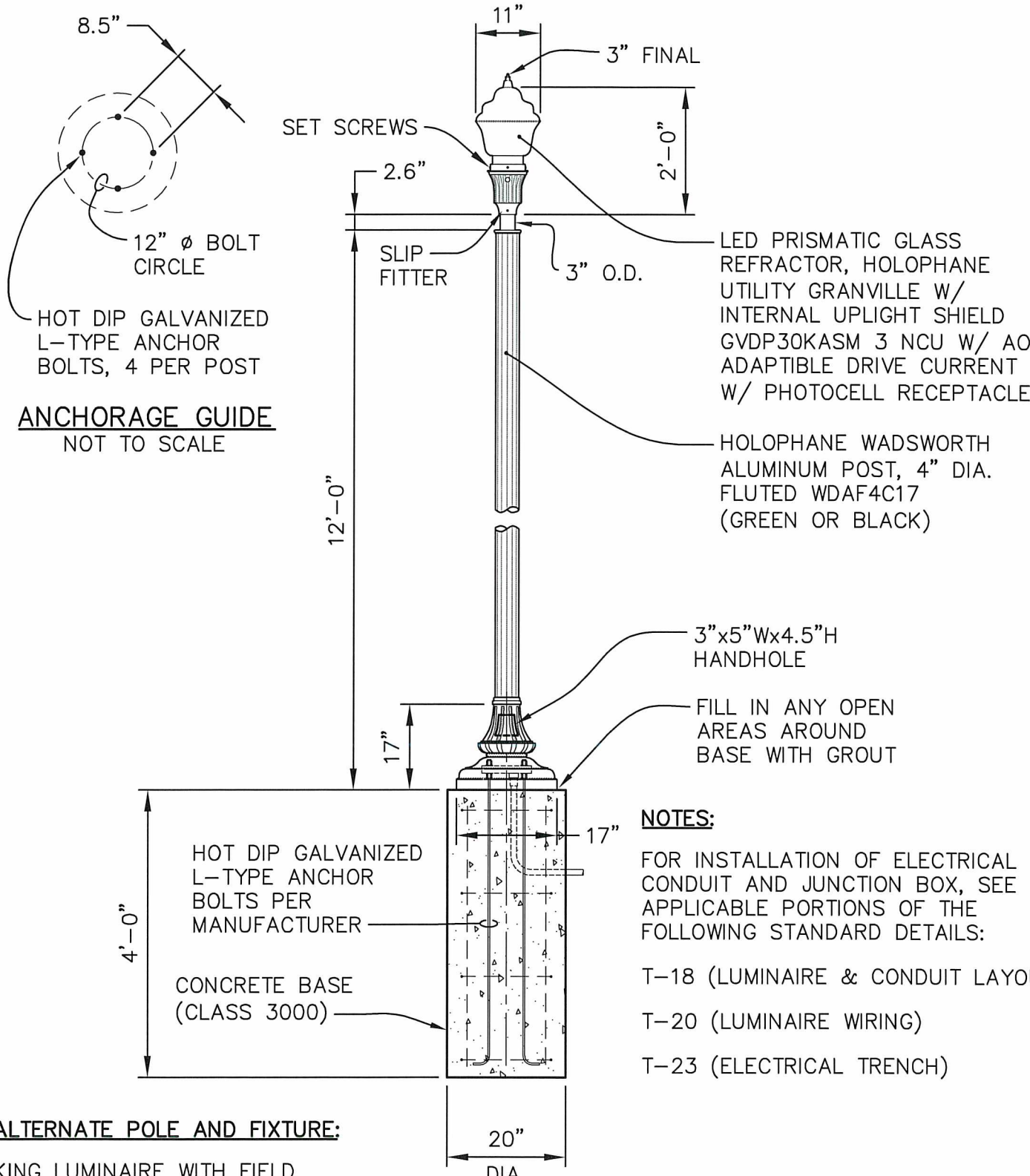
DOWNTOWN PEDESTRIAN  
POLE MOUNT LIGHTING STANDARD

PUBLIC WORKS DEPARTMENT

STANDARD DETAIL: T-28B.2

Plotted by: Craig Dobyns on 12/31/2018 File location: M:\Construction Standard Details\Current Working DWG\Traffic\STDETL-T-28B.2

Plotted by: Craig Dobyns on 12/31/2018 File location: M:\Construction Standard Details\Current Working DWG\Traffic\STDET\_L-T-29.3



**NOTES:**

- FOR INSTALLATION OF ELECTRICAL CONDUIT AND JUNCTION BOX, SEE APPLICABLE PORTIONS OF THE FOLLOWING STANDARD DETAILS:
- T-18 (LUMINAIRE & CONDUIT LAYOUT)
- T-20 (LUMINAIRE WIRING)
- T-23 (ELECTRICAL TRENCH)

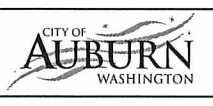
**ALTERNATE POLE AND FIXTURE:**

KING LUMINAIRE WITH FIELD SWITCHABLE DIMABLE DRIVER:  
K445R-T1GR-V-XX W/ PHOTOCELL RECEPTACLE (SSL)-4006-120: 277-K24-3K-WS

HAPCO ARLEN LIGHT POLE:  
37936-012 (GREEN OR BLACK)

**ELEVATION**  
NOT TO SCALE

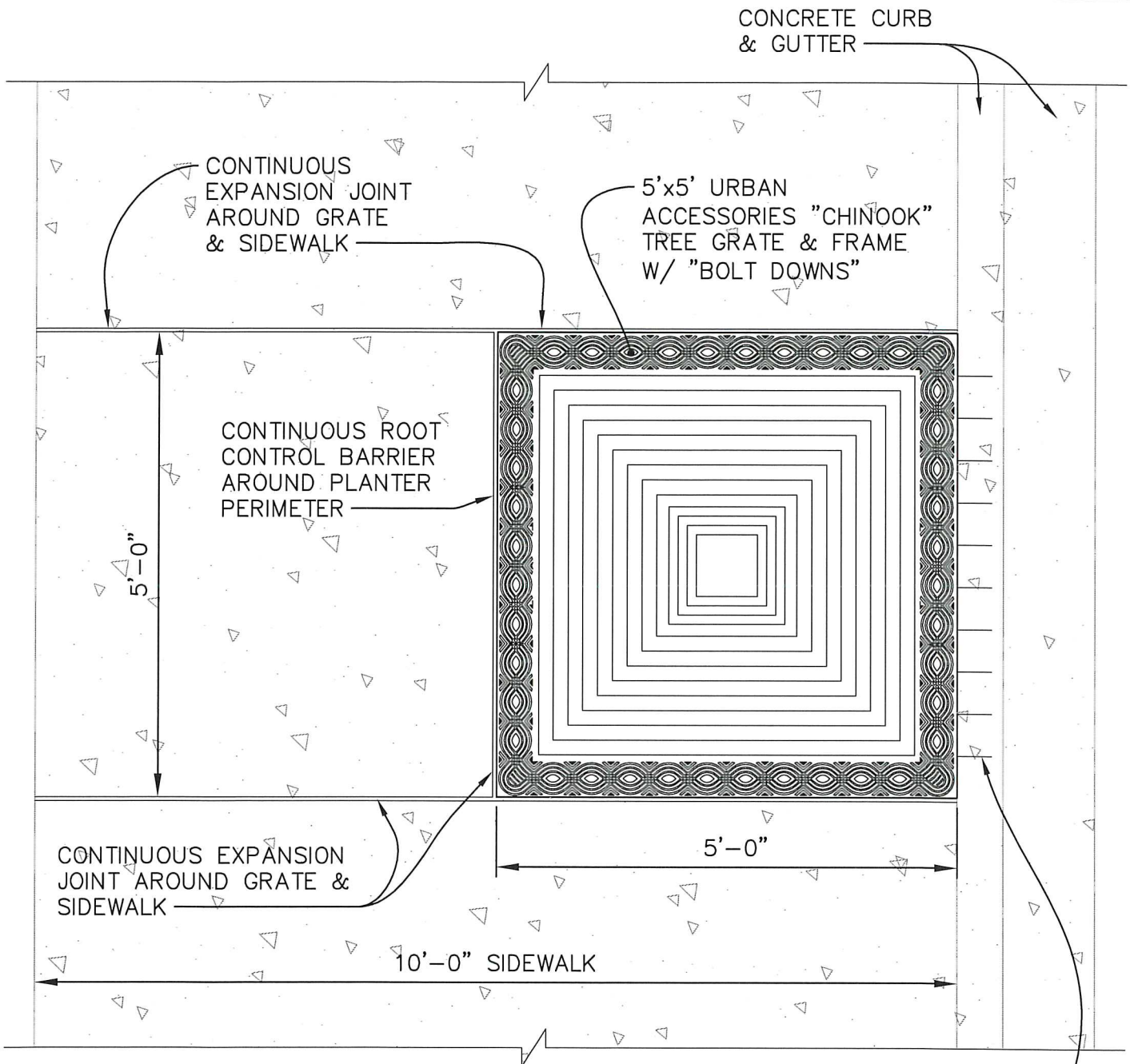
APPROVED BY CITY ENGINEER: *Jacob [Signature]* DATE: 12/31/18



LOCAL RESIDENTIAL ORNAMENTAL STREET LIGHTING STANDARD



Plotted by: Craig Dobyne on 7/25/2016 File location: M:\Construction Standard Details\Traffic\STDEL-T-30.1



FOR INSTALLATION AT EXISTING CURBS, CUT FRAME STUBS

ROADWAY

| MATERIAL SCHEDULE       |  |
|-------------------------|--|
| <b>GRATE:</b>           |  |
| MATERIAL                | GREY IRON ASTM A48 CLASS 358 OR BETTER |
| FINISH                  | NATURAL PATINA OF RAW IRON             |
| <b>FRAME:</b>           |  |
| MATERIAL                | MILD STEEL ASTM A36                    |
| FINISH                  | NATURAL PATINA OF RAW STEEL            |
| LOAD RATING: PEDESTRIAN |  |

**NOTE:**  
4' WIDE x 6' LONG TREE GRATES SHALL BE USED WHERE SIDEWALK WIDTH IS LESS THAN 10'.

APPROVED BY CITY ENGINEER:

DATE:

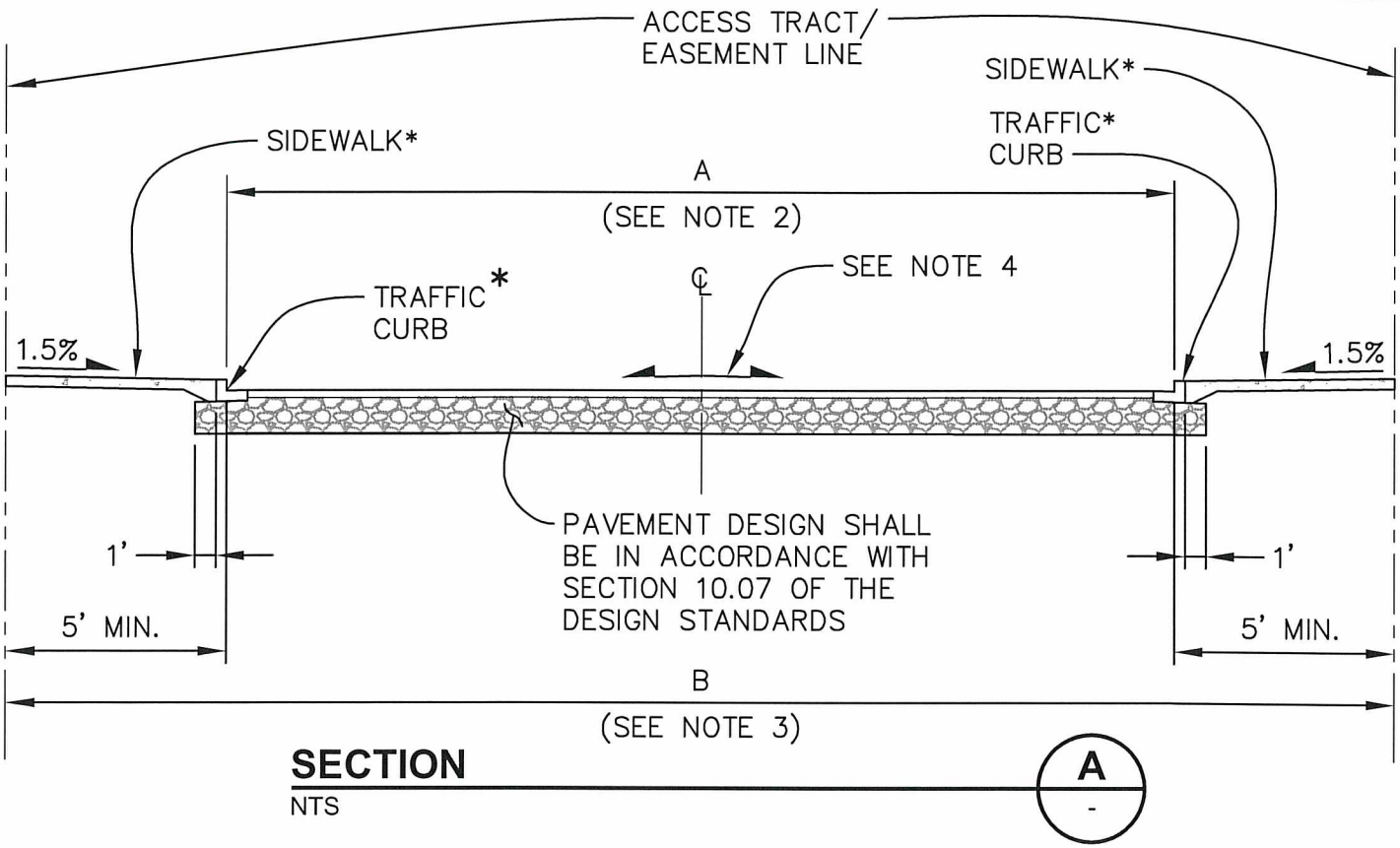
*[Signature]*

*8/5/2016*



TYPICAL PLAN FOR TREE GRATE

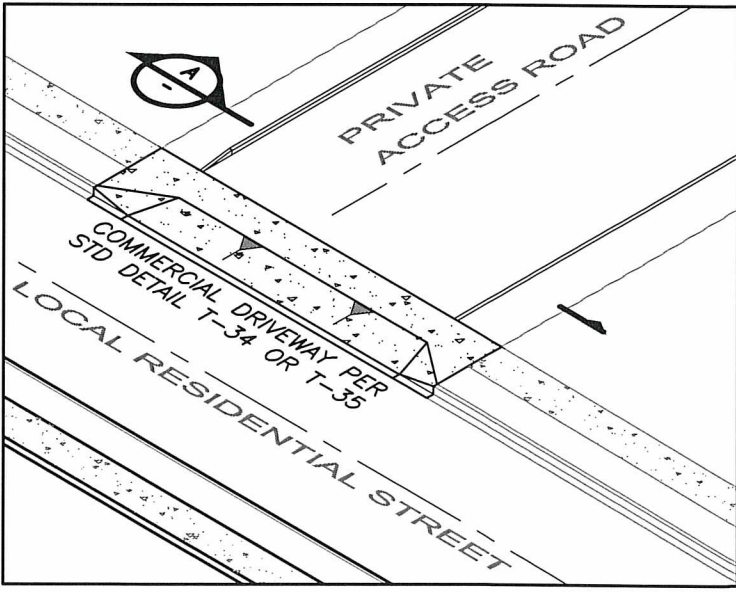




**NOTES:**

1. CEMENT CONCRETE TRAFFIC CURB & GUTTER SHALL BE IN ACCORDANCE W/ WSDOT STANDARD PLAN F-10.12
2. PAVEMENT WIDTHS:  
 A = 30' - INDUSTRIAL  
 A = 24' - COMMERCIAL  
 A = 20' - RESIDENTIAL (EXCLUDES ASPHALT WEDGE CURB AS APPLICABLE)
3. EASEMENT/TRACT WIDTHS  
 B = 41' - INDUSTRIAL  
 B = 35' - COMMERCIAL  
 B = 22' - RESIDENTIAL W/O SIDEWALK  
 B = 26.5' - RESIDENTIAL W/ SIDEWALK
4. SIDEWALK SHALL BE PER STD. DETAIL T-13, T-14, OR T-15.

\* CURB AND SIDEWALK REQUIRED ON BOTH SIDES OF ACCESS ROAD/DRIVEWAY FOR COMMERCIAL AND INDUSTRIAL USE. CURB AND SIDEWALK REQ'D ON ONE SIDE OF ACCESS ROAD/DRIVEWAY FOR RESIDENTIAL (3 OR MORE UNITS). CURB AND SIDEWALK MAY BE OMITTED WHERE ACCESS ROAD/DRIVEWAY SERVES 2 OR LESS RESIDENTIAL UNITS.



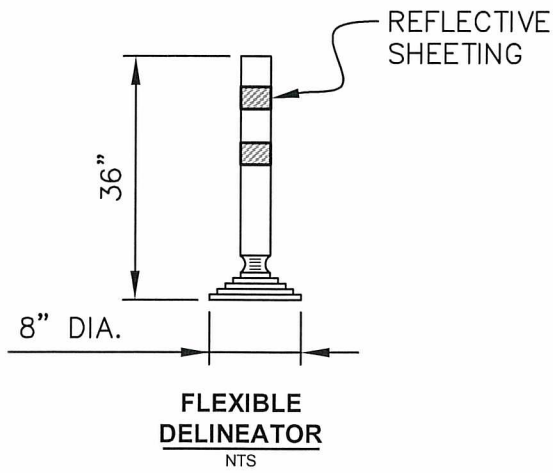
**ISOMETRIC**  
NTS

Plotted by: Craig Dobyns on: 1/3/2019 File location: M:\Construction Standard Details\Current Working DWG\Traffic\STDDET-T-31.4

APPROVED BY CITY ENGINEER: *Craig Dobyns* 1/3/19  
 PUBLIC WORKS DEPARTMENT

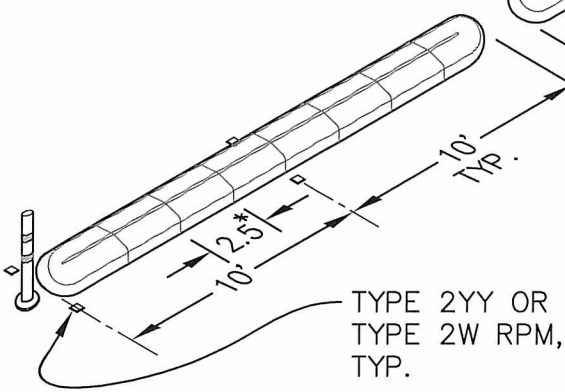
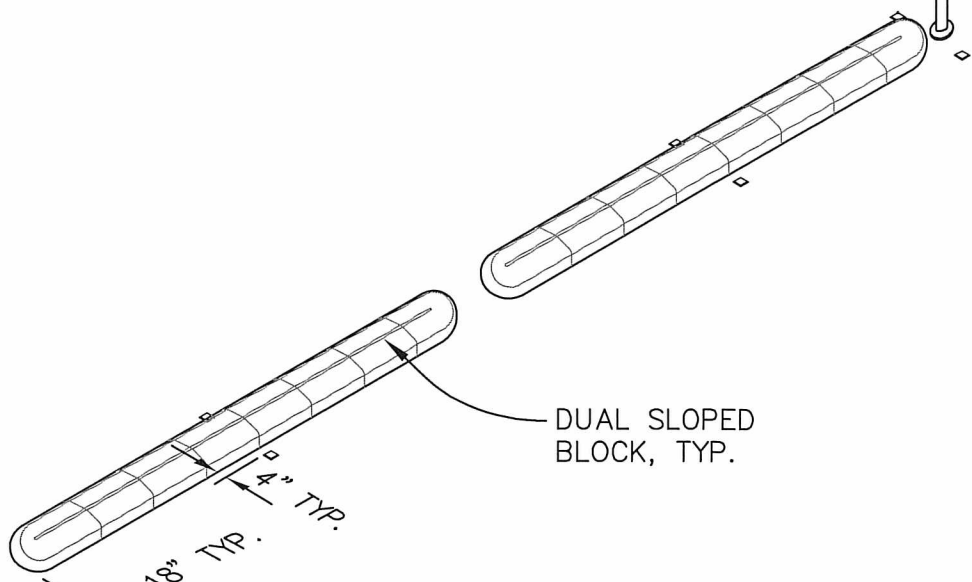


DATE:  
 PRIVATE ACCESS ROAD / SHARED DRIVEWAY  
 STANDARD DETAIL: T-31.4



FLEXIBLE DELINEATOR POST W/ BASE

\* 5' SEGMENTS ALLOWED ON STRAIGHT SECTIONS AS APPROVED BY THE ENGINEER.



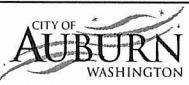
**NOTES:**

1. PRECAST CONCRETE DUAL FACED, SLOPED MOUNTABLE CURB SHALL BE PER WSDOT STANDARD PLAN F-10.64, 12" WIDE.
2. CURB SHALL BE INSTALLED USING EPOXY ADHESIVE PER WSDOT STANDARD SPECIFICATION 9-26.2. EPOXY SHALL BE APPLIED AT A RATE OF ONE GALLON PER SEVEN FEET OF CURBING.
3. CURB SHALL BE INSTALLED IN 20' SEGMENTS, WITH 18" OPENING BETWEEN ENDS, OR MODIFIED TO FIT FIELD DIMENSIONS AS APPROVED BY THE ENGINEER.
4. CURB AND DELINEATOR SHALL BE THE SAME COLOR AS THE CHANNELIZATION STRIPE.
5. FLEXIBLE DELINEATOR POSTS SHALL BE MOUNTED ON BASE WITH SPRING BACK MECHANISM.
6. DELINEATOR BASE SHALL BE AFFIXED TO PAVEMENT WITH FLEXIBLE BITUMINOUS PAVEMENT MARKER ADHESIVE PER WSDOT STANDARD SPECIFICATION 9-02.1(8).
7. RPM'S SHALL BE PLACED AT EACH APPROACH END OF THE CURBING AND CENTERED ON EACH SECTION AS SHOWN. THEY SHALL BE THE SAME COLOR AS THE CHANNELIZATION STRIPE.
8. THIS DETAIL IS USED TO RETRO-FIT EXISTING STREETS. NEW CONSTRUCTION SHALL REQUIRE CAST-IN-PLACE CURBS.

APPROVED BY CITY ENGINEER:

DATE:

2/20/2018

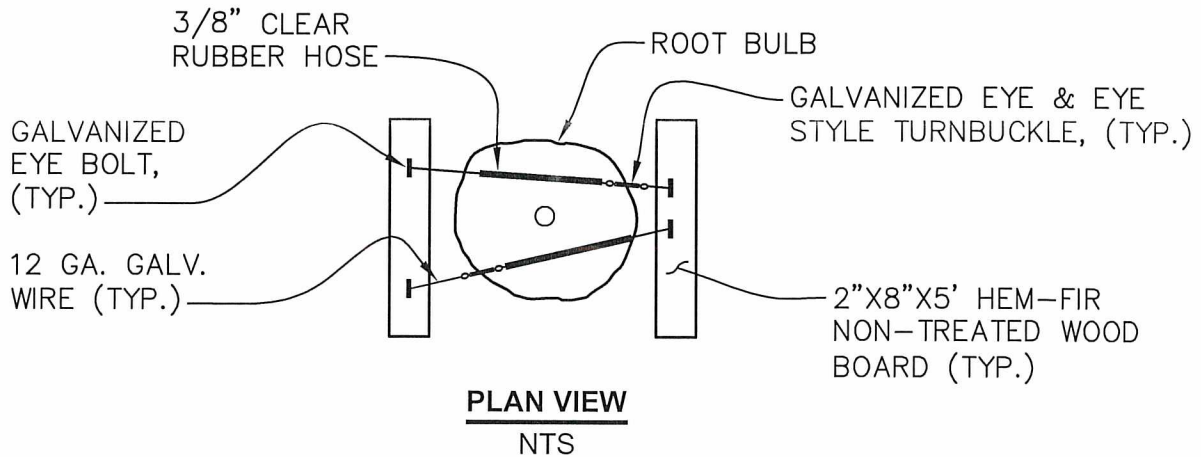
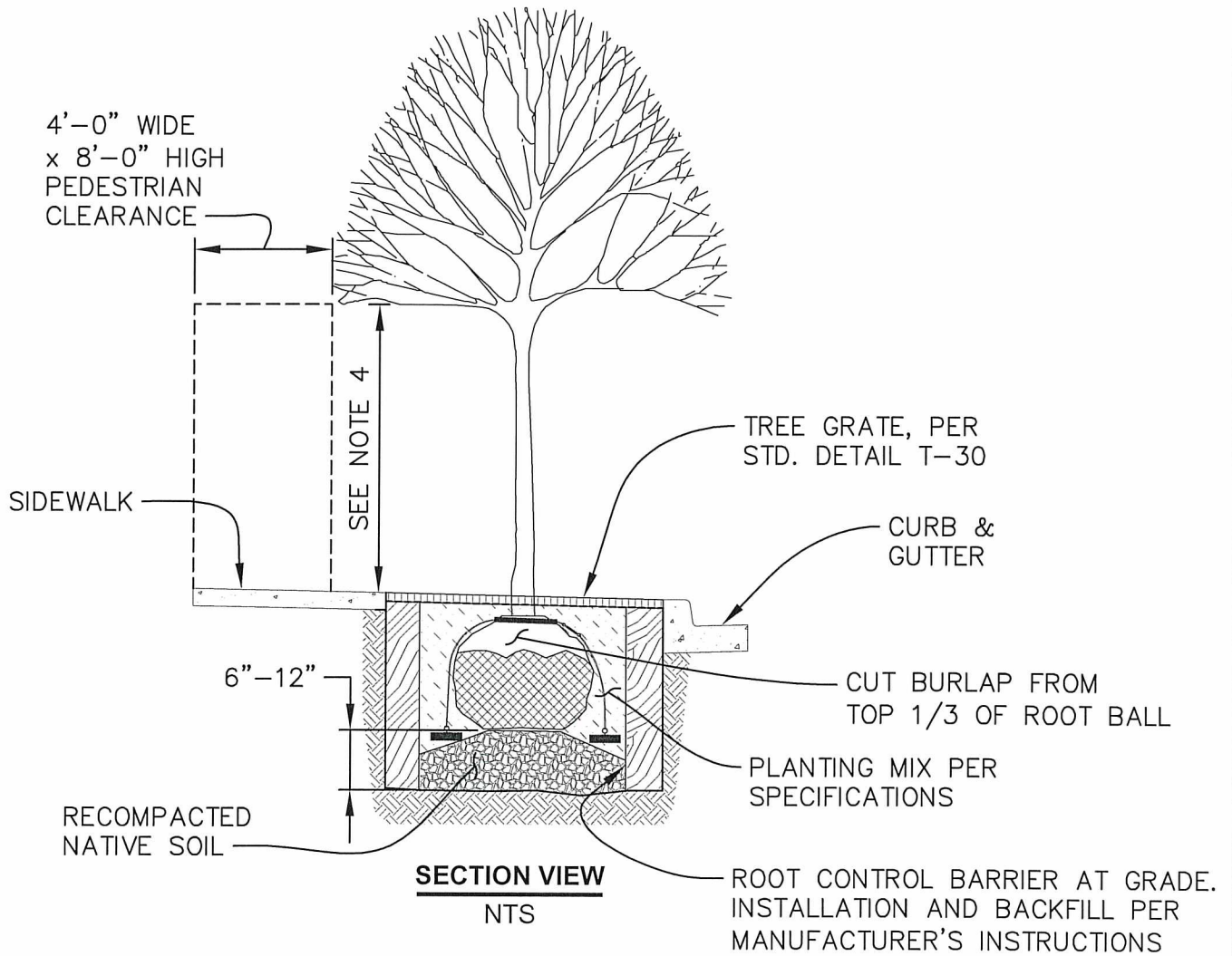


PRECAST CONCRETE DUAL FACED SLOPED MOUNTABLE CURB RETROFIT

COMMUNITY DEVELOPMENT & PUBLIC WORKS DEPT.

STANDARD DETAIL: T-32.2

Plotted by: Craig Dobyne on 2/2/2018 File location: M:\Construction Standard Details\Traffic\STDETL-T-32.2



**NOTES:**

1. PLANT TREES 1" HIGHER THAN GROWN IN NURSERY.
2. TREE PIT SHALL NOT BE LESS THAN 2 TIMES THE ROOT BALL DIAMETER.
3. STREET TREES SHALL NOT BE PLACED WITHIN SIGHT DISTANCE TRIANGLE.
4. AT TIME OF PLANTING, MAINTAIN LOWER BRANCHES OF TREE AT 5' MIN. CLEARANCE ABOVE THE SIDEWALK.
5. STREET TREES SHALL BE SELECTED FROM THE CITY APPROVED LIST OF STREET TREES.

APPROVED BY CITY ENGINEER:

DATE:

*[Handwritten Signature]*

*2/20/2018*

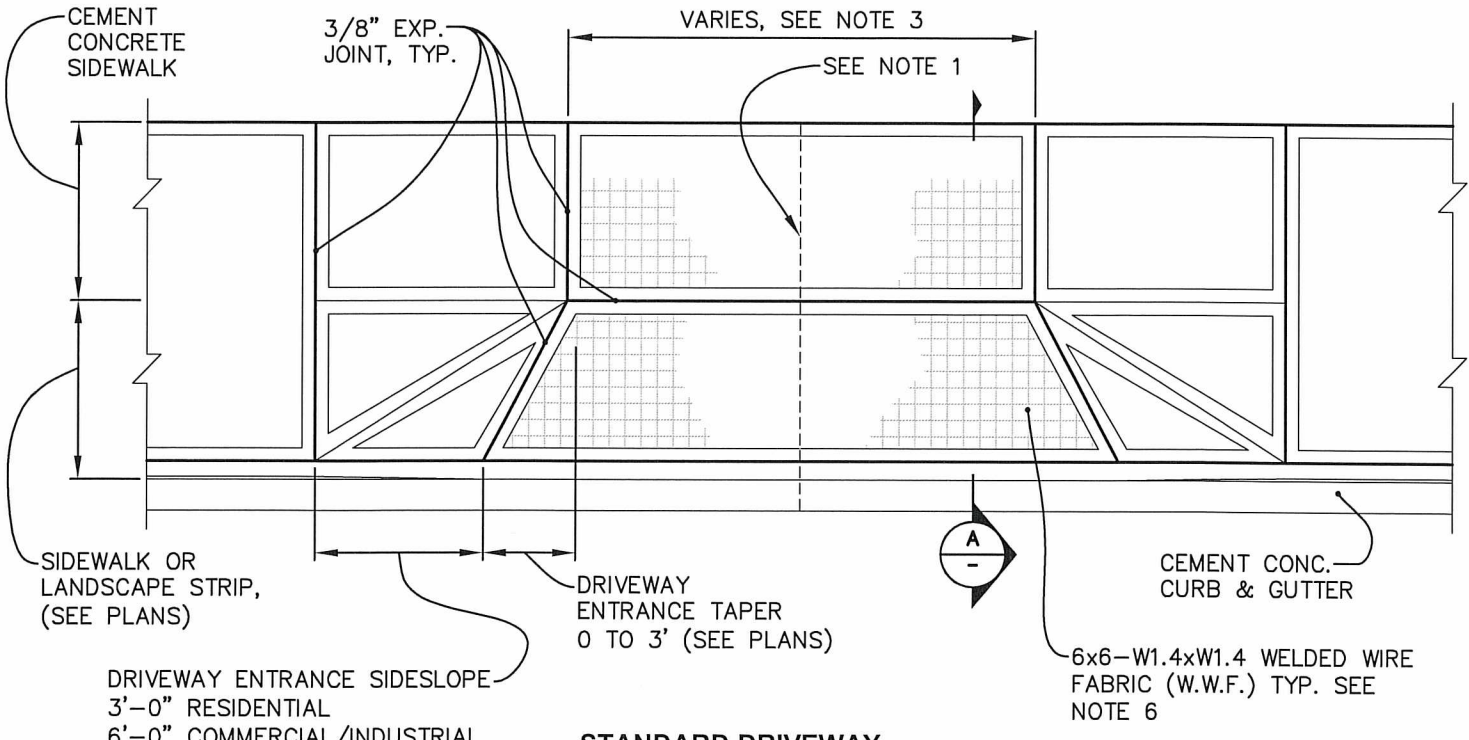


STREET TREE UNDERGROUND STABILIZATION

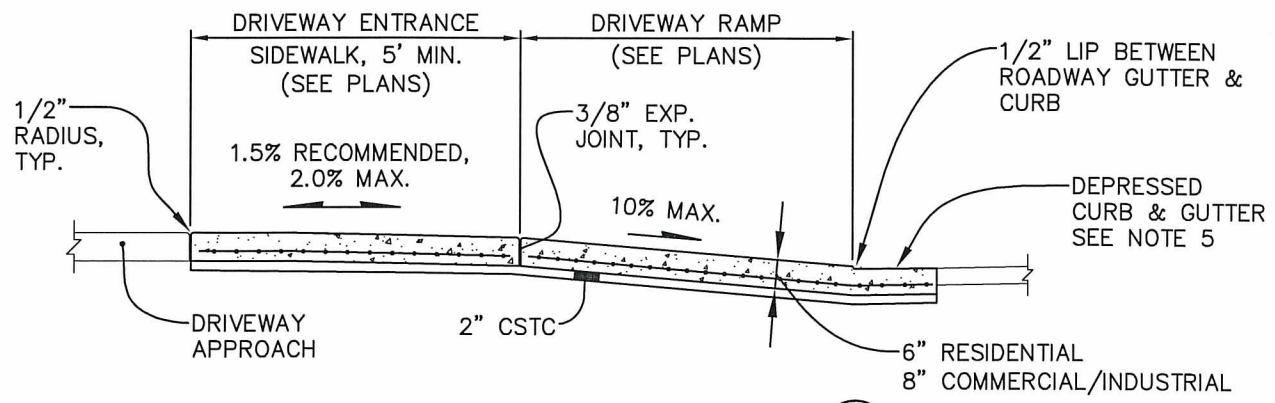
COMMUNITY DEVELOPMENT & PUBLIC WORKS DEPT.

STANDARD DETAIL: T-33.1





**STANDARD DRIVEWAY**  
NTS



**SECTION**  
NTS

**NOTES:**

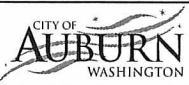
1. WHEN THE DRIVEWAY WIDTH EXCEEDS 15'(FT), CONSTRUCT A FULL DEPTH EXPANSION JOINT WITH 3/8" JOINT FILLER ALONG THE DRIVEWAY CENTERLINE. SEE WSDOT STANDARD PLAN F-30.10. CONSTRUCT EXPANSION JOINTS PARALLEL WITH THE CENTERLINE AS REQUIRED AT 15'(FT) MAXIMUM SPACING WHEN DRIVEWAY WIDTHS EXCEED 30'(FT).
2. RESIDENTIAL DRIVEWAY SERVING 2 OR MORE LIVING UNITS AND/OR THAT CONNECT TO AN ACCESS ROAD SHALL BE CONSTRUCTED AS A COMMERCIAL/INDUSTRIAL DRIVEWAY.
3. SEE STANDARD DETAIL T-04 FOR DRIVEWAY WIDTHS AND LOCATIONS.
4. CONCRETE SHALL BE CLASS 4000 WITH 5% AIR ENTRAINMENT WITH A BROOM FINISH PARALLEL TO CURB LINE.
5. DEPRESSED CURB FOR HEAVY COMMERCIAL/INDUSTRIAL DRIVEWAYS SHALL BE POURED INTEGRAL/MONOLITHIC TO DRIVEWAY.
6. WELDED WIRE FABRIC (W.W.F.) SHALL BE PLACED 3" FROM BOTTOM, AND 2" FROM ALL OTHER LIMITS. WELDED WIRE FABRIC (W.W.F.) NOT REQUIRED FOR RESIDENTIAL DRIVEWAYS.
7. WHEN DRIVEWAY OPENING IS TO BE CONSTRUCTED WHERE CURB EXISTS, THE ENTIRE CURB AND GUTTER SECTION SHALL BE REMOVED TO THE NEAREST EXPANSION JOINT ON EACH SIDE OF THE OPENING AND REPLACED.

APPROVED BY CITY ENGINEER:

DATE:

*[Signature]*

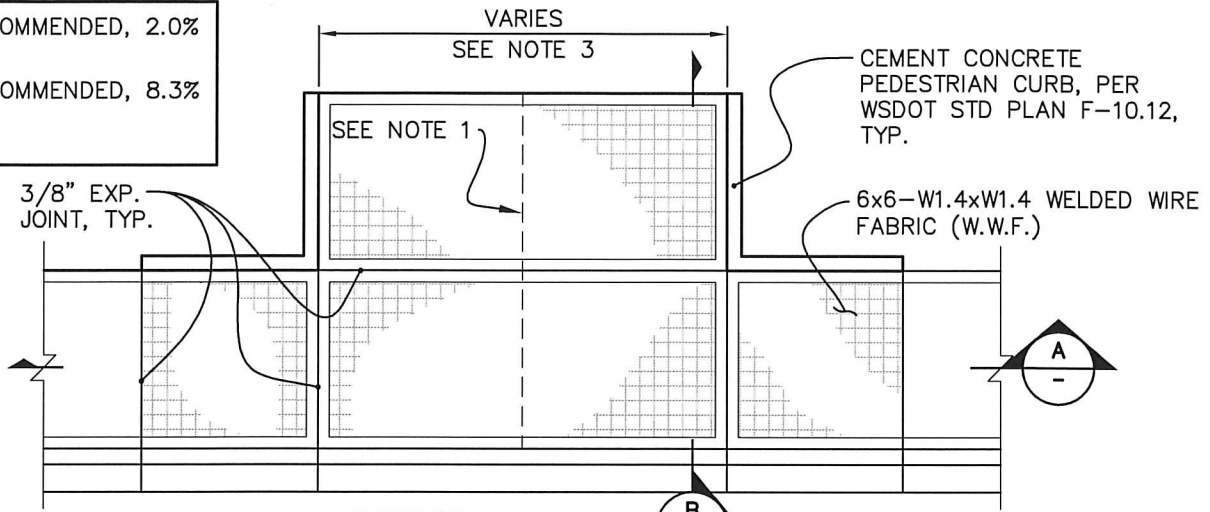
2/23/2018



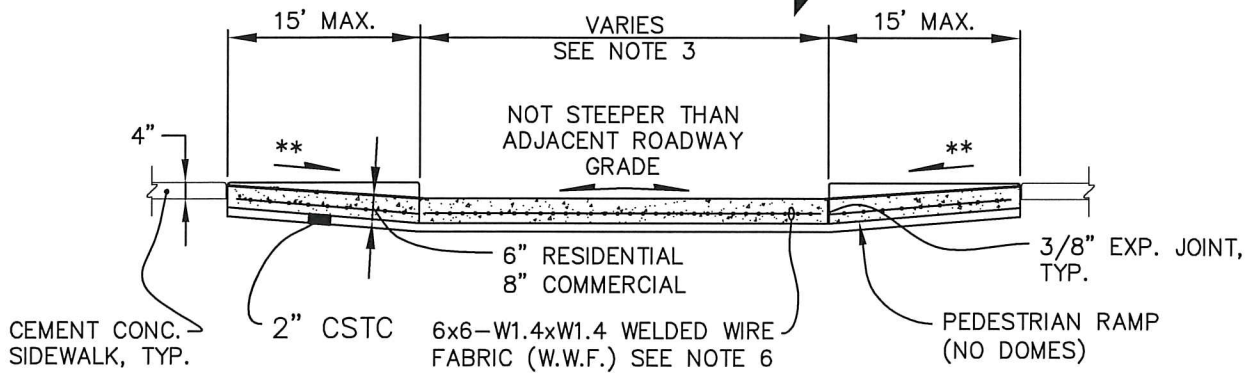
STANDARD DRIVEWAY -  
OFFSET APRON

Plotted by: Craig Dobyns on 2/22/2018 File location: M:\Construction Standard Details\Current Working DWG\Traffic\STDETL-T-34.1

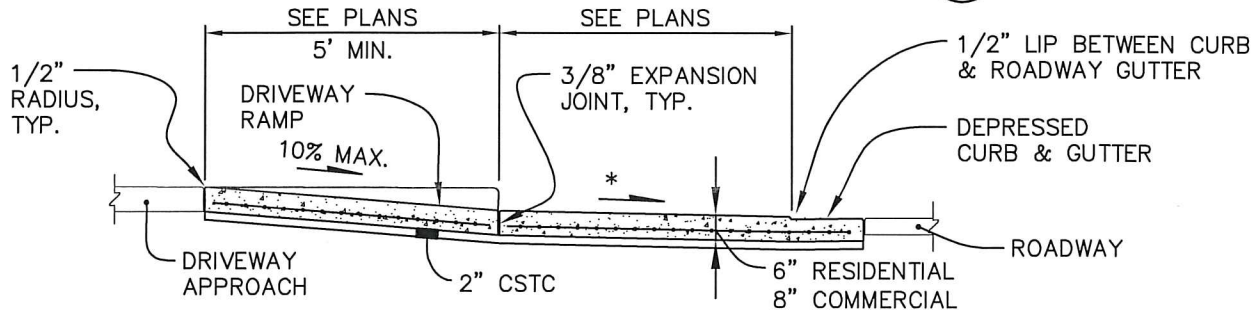
\* 1.5% RECOMMENDED, 2.0% MAX.  
 \*\* 7.5% RECOMMENDED, 8.3% MAX.



**ALTERNATE DRIVEWAY**  
NTS



**SECTION**  
NTS



**SECTION**  
NTS

- NOTES:**
1. WHEN THE DRIVEWAY WIDTH EXCEEDS 15'(FT), CONSTRUCT A FULL DEPTH EXPANSION JOINT WITH 3/8" JOINT FILLER ALONG THE DRIVEWAY CENTERLINE. SEE WSDOT STANDARD PLAN F-30.10. CONSTRUCT EXPANSION JOINTS PARALLEL WITH THE CENTERLINE AS REQUIRED AT 15'(FT) MAXIMUM SPACING WHEN DRIVEWAY WIDTHS EXCEED 30'(FT).
  2. RESIDENTIAL DRIVEWAY SERVING 2 OR MORE LIVING UNITS AND/OR THAT CONNECT TO AN ACCESS ROAD SHALL BE CONSTRUCTED AS A COMMERCIAL/INDUSTRIAL DRIVEWAY.
  3. SEE STANDARD DETAIL T-04 FOR DRIVEWAY WIDTHS AND LOCATIONS.
  4. CONCRETE SHALL BE CLASS 4000 WITH 5% AIR ENTRAINMENT WITH A BROOM FINISH PARALLEL TO CURB LINE.
  5. DEPRESSED CURB FOR HEAVY COMMERCIAL/INDUSTRIAL DRIVEWAYS SHALL BE POURED INTEGRAL/MONOLITHIC TO DRIVEWAY.
  6. WELDED WIRE FABRIC (W.W.F.) SHALL BE PLACED 3" FROM BOTTOM, AND 2" FROM ALL OTHER LIMITS. WELDED WIRE FABRIC (W.W.F.) NOT REQUIRED FOR RESIDENTIAL DRIVEWAYS.
  7. WHEN DRIVEWAY OPENING IS TO BE CONSTRUCTED WHERE CURB EXISTS, THE ENTIRE CURB AND GUTTER SECTION SHALL BE REMOVED TO THE NEAREST EXPANSION JOINT ON EACH SIDE OF THE OPENING AND REPLACED.

APPROVED BY CITY ENGINEER:

DATE:



ALTERNATE DRIVEWAY -  
INLINE (DROP) APRON



**STREET LIGHTING LAMP SCHEDULE**

| STREET CLASSIFICATION                                  | LAMP TYPE | LAMP PART NO. (LEOTEK)                       | ALTERNATE LAMP PART NO. (AEL AUTOBAHN)* |
|--|-----------|--|---|
| PRINCIPAL ARTERIAL                                     | TYPE A    | GC2-96G-MV-NW-3R-GY-750 S WL<br>(226 Watts)  | ATB2 60BLEDE10 MVOLT R3 HK<br>NL P7 SH  |
| MINOR ARTERIAL   | TYPE B    | GCM2-40H-MV-NW-2R-GY-950 S WL<br>(121 Watts) | ATB0 30BLEDE13 MVOLT R2 NL<br>P7 SH     |
| MINOR ARTERIAL W/ CENTER TURN LANE OR MEDIAN           | TYPE C    | GCL1-60G-MV-NW-2RG Y-700 S WL<br>(137 Watts) | ATB2 40BLEDE10 MVOLT R2 HK<br>NL P7 SH  |
| NON-RESIDENTIAL COLLECTOR                              | TYPE B    | GCM2-40H-MV-NW-2R-GY-950 S WL<br>(121 Watts) | ATB0 30BLEDE13 MVOLT R2 NL<br>P7 SH     |
| RESIDENTIAL COLLECTOR                                  | TYPE D    | GCJ2-20H-MV-NW-2R-GY-1A S WL<br>(68 Watts)   | ATB0 20BLEDE10 MVOLT R2 NL<br>P7 SH     |
| RESIDENTIAL COLLECTOR WITH CENTER TURN LANE OR MEDIAN  | TYPE E    | GCM2-30H-MV-NW-2R-GY-700 S WL<br>(69 Watts)  | ATB0 20BLEDE10 MVOLT R2 NL<br>P7 SH     |
| LOCAL NON-RESIDENTIAL                                  | TYPE D    | GCJ2-20H-MV-NW-2R-GY-1A S WL<br>(68 Watts)   | ATB0 20BLEDE10 MVOLT R2 NL<br>P7 SH     |
| RUSTIC ROADS   |           | N/A  | N/A                                     |
| LOCAL RESIDENTIAL AND LOCAL RESIDENTIAL ALTERNATIVE ** | TYPE F    | GCJ1-20H-MV-NW-2R-GY-580 S WL<br>(39 Watts)  | ATB0 20BLEDE53 MVOLT R2 NL<br>P7 SH     |

\* UNLESS SPECIFIED OTHERWISE SEE TABLE 10-8 IN DESIGN STANDARDS FOR LIGHTING DESIGN CRITERIA.

\*\* SEE STD DETAIL T-29 FOR LOCAL RESIDENTIAL ORNAMENTAL OPTION.

APPROVED BY CITY ENGINEER:

DATE:



6/29/2018



STREET LIGHTING LAMP SCHEDULE

COMMUNITY DEVELOPMENT & PUBLIC WORKS DEPT.

STANDARD DETAIL: T-37.2



FLAT POLE TOP W/ 7-PIN  
PHOTOCELL RECEPTACLE

21" ERA BELL 150 W  
LED (III-S-C, 240V) FLAT  
LENS BY KIM LIGHTING  
(OR APPROVED EQUAL)

5'-6"

HA38L ALUMINUM RIBBON  
LUMINAIRE ARM WITH TOP BRACE  
AND BOTTOM GUSSET BY KIM  
LIGHTING (OR APPROVED EQUAL)

MAST ARM COMPONENTS  
PER SIGNAL PLANS

WHEN  
APPLICABLE

PAINT SPECIFICATIONS: ALL CAST IRON & STEEL POLE PARTS  
SHALL BE GALVANIZED PRIOR TO BEING PRIMED & PAINTED.  
FINISH COLOR: RAL 9004  
"SIGNAL BLACK"

35'-0"

PER MANUFACTURER'S DRAWING

12'-0"

CL22AC (SIGNAL)  
DECORATIVE CAST ALUMINUM  
CLAMSHELL BASE COVER BY  
VALMONT STRUCTURES (OR  
APPROVED EQUAL)

ELEVATION IS TO  
TOP OF FOUNDATION

CURB OR EDGE  
OF SHOULDER

PER SIGNAL PLANS

8'-0"

4'-0"

ROADWAY

10"

APPROVED BY CITY ENGINEER:

DATE:

*Special Services*

12/31/18



DOWNTOWN DECORATIVE TYPE III  
COMBO LIGHTING & MAST ARM SIGNAL

PUBLIC WORKS DEPARTMENT

STANDARD DETAIL: T-38.1

Plotted by: Craig Dobyns on 12/31/2018 File location: M:\Construction Standard Details\Current Working DWG\Traffic\STDETL-T-38.1

LOCKABLE DIE CAST NEMA 3R WEATHERPROOF COVER

WEATHERPROOF "IN-USE" BUBBLE COVER

RECEPTACLE, CAST ALUMINUM FRAME

HOSPITAL GRADE WR DUPLEX GFI, RECEPTACLE 20 AMP, 120V

PAINT SPECIFICATIONS: ALL CAST IRON AND STEEL POLE PARTS SHALL BE GALVANIZED PRIOR TO BEING PRIMED AND PAINTED. FINISH COLOR: RAL 9004 "SIGNAL BLACK"

**POLE RECEPTACLE**  
NOT TO SCALE

HA38L ALUMINUM RIBBON LUMINAIRE ARM WITH TOP BRACE AND BOTTOM GUSSET BY KIM LIGHTING (OR APPROVED EQUAL)

FLAT POLE TOP W/ 7-PIN PHOTOCELL RECEPTACLE

21" ERA BELL 150 W LED (III-S-C, 240V) FLAT LENS BY KIM LIGHTING (OR APPROVED EQUAL)

17" ERA BELL 73 W LED (III-S-C, 240V) FLAT LENS BY KIM LIGHTING (OR APPROVED EQUAL)

RECEPTACLE, SEE DETAIL THIS SHEET

CL22AC (SIGNAL) DECORATIVE CAST ALUMINUM CLAMSHELL BASE COVER BY VALMONT STRUCTURES (OR APPROVED EQUAL)

5'-6"

1'-6"

12'-0"

14'-0"

28'-0"

36'-6"

**TALL DECORATIVE POLE**  
NOT TO SCALE

APPROVED BY CITY ENGINEER:

DATE:

*Craig Debyns* 12/31/18

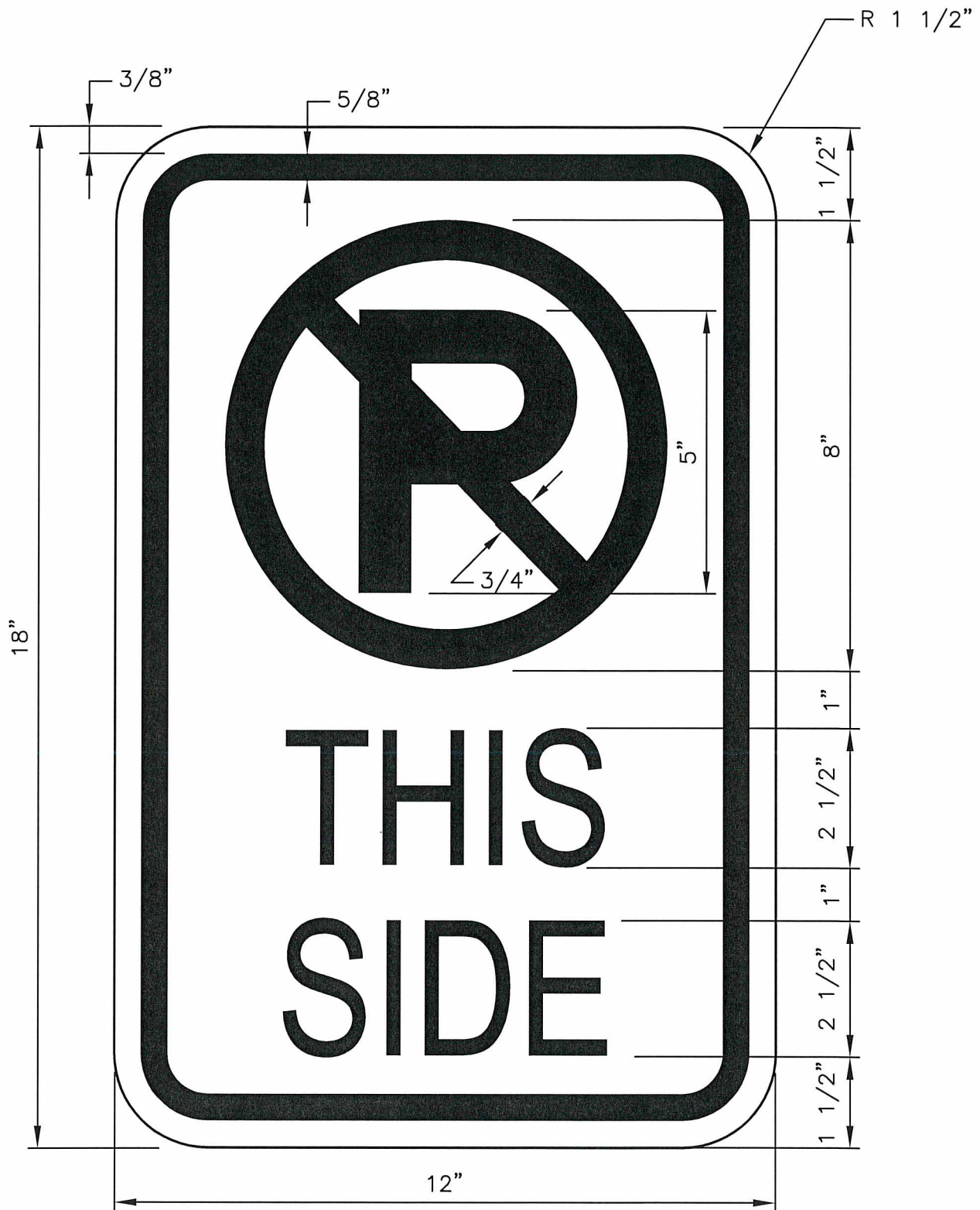


DOWNTOWN DECORATIVE LIGHT POLE

PUBLIC WORKS DEPARTMENT

STANDARD DETAIL: T-39.1

Plotted by: Craig Debyns on 12/31/2018 File location: M:\Construction Standard Details\Current Working DWG\Traffic\STDETL-T-39.1



**"NO PARKING THIS SIDE"**

**COLORS:**  
 LEGEND, CIRCLE, DIAGONAL, BORDER — RED (RETROREFLECTIVE)  
 SYMBOL — BLACK  
 BACKGROUND — WHITE (RETROREFLECTIVE)

Plotted by: Craig Debyns on 12/31/2018 File location: M:\Construction Standard Details\Current Working DWG\Traffic\STDETL-T-40.1

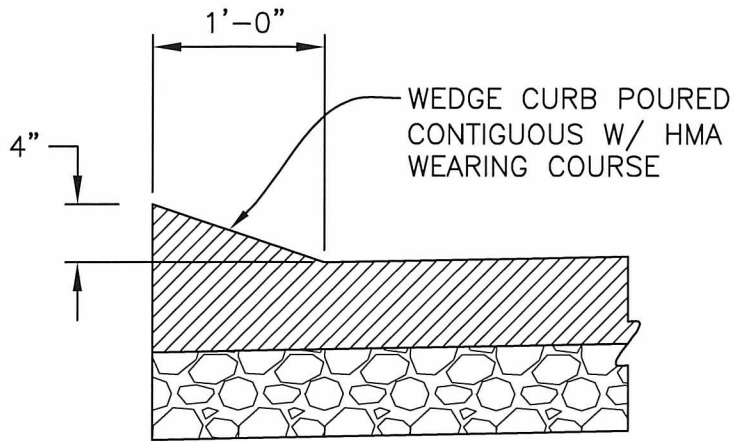
APPROVED BY CITY ENGINEER: *Jacob [Signature]* DATE: *12/31/18*  
 PUBLIC WORKS DEPARTMENT



**"NO PARKING THIS SIDE"**  
SIGN

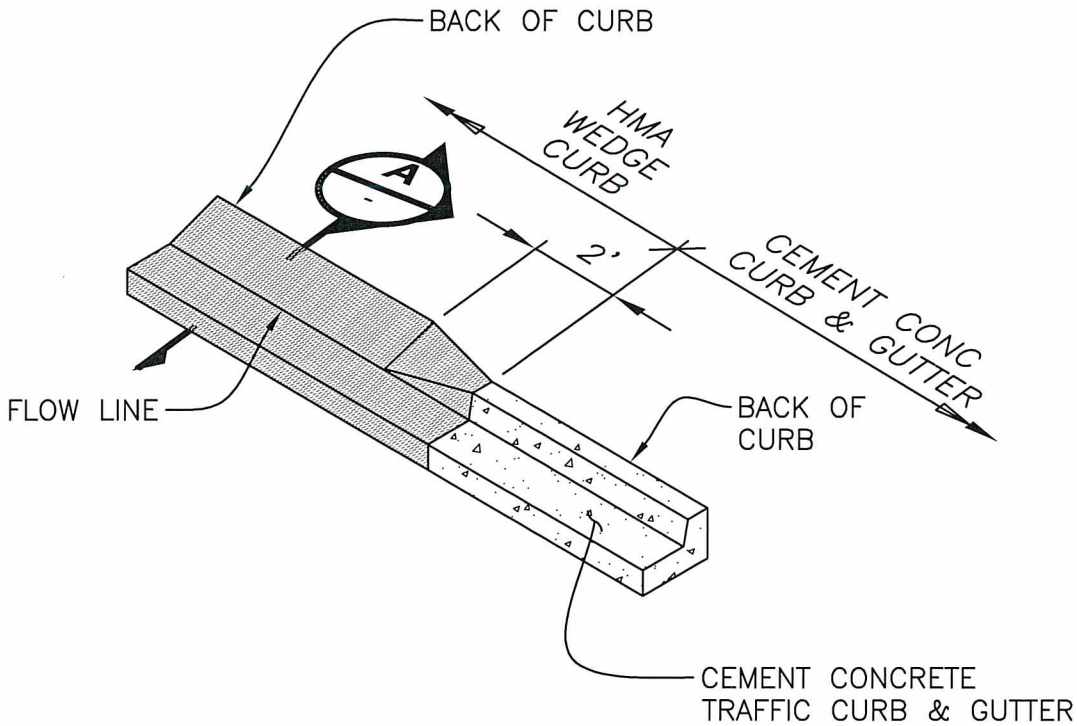
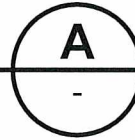
STANDARD DETAIL: T-40.1





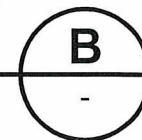
## ASPHALT WEDGE CURB

NTS



## CONCRETE TRAFFIC CURB & GUTTER TO HMA WEDGE CURB TRANSITION

NTS



APPROVED BY CITY ENGINEER:

DATE:

*Carol Sweeting*

12/30/18



CONCRETE TRAFFIC CURB & GUTTER TO HMA WEDGE CURB TRANSITION

PUBLIC WORKS DEPARTMENT

STANDARD DETAIL: T-41.1

PROPERTY LINE, R.O.W., OR  
PUBLIC SEWER EASEMENT

4'X2"X4", PRESSURE TREATED  
TEMPORARY MARKER, WRAP  
WIRE AROUND MARKER

5' OR WIDTH OF  
UTILITY EASEMENT  
(WHICHEVER IS GREATER)

SEWER CLEANOUT,  
REFER TO STD.  
DETAIL S-02

FINISH  
GRADE

**NOTES:**

1. LAY SIDE SEWERS PERPENDICULAR TO THE MAIN. EXTEND SIDE SEWERS FROM THE SEWER MAIN ONLY WITH TEES.
2. BENDS ARE NOT ALLOWED IN THE PUBLIC RIGHT OF WAY (R.O.W.).
3. PORTION OF THE TEMPORARY MARKER EXTENDING OUT OF THE GROUND SHALL HAVE 2" HIGH STENCILED "SS" LETTERS IN BLACK PAINT, DEPTH TO THE STUB SHALL BE NOTED.
4. SIDE SEWERS SHALL BE 6" DIA. UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER, WITH A MINIMUM SLOPE OF 2%.
5. GREATER THAN 25° ANGLE (47% SLOPE) REQUIRES CONCRETE BLOCKING. GREATER THAN 45° REQUIRES EPOXY LINED DUCTILE IRON TEE.

1'x2"x4"  
PRESSURE  
TREATED  
CLEAT

9 GAUGE  
GALV. WIRE

PVC PLUG (TO BE  
REMOVED WHEN  
CONNECTION IS MADE)

GASKETED  
SWEEPING WYE

6" DIA. MIN.,  
2% MIN. SLOPE

TEE

PVC PLUG  
OR CAP AT  
END OF LINE

SEWER MAIN

12"X2"X4" PRESSURE  
TREATED ANCHOR

APPROVED BY CITY ENGINEER:

DATE:

8/5/2016



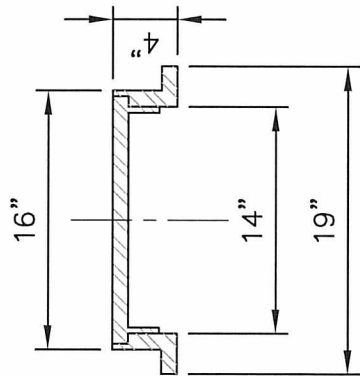
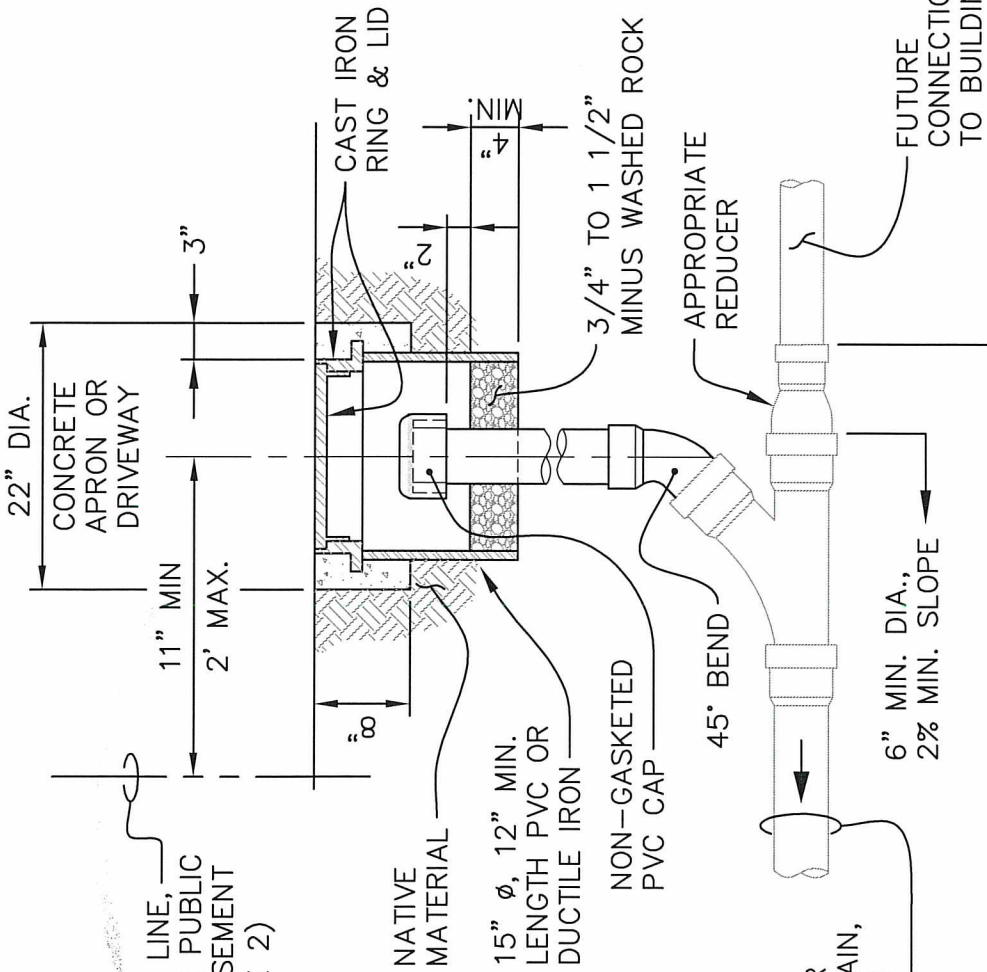
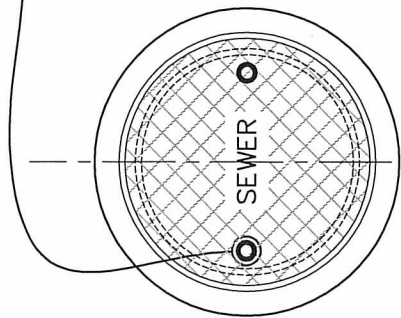
SIDE SEWER  
STUB

COMMUNITY DEVELOPMENT & PUBLIC WORKS DEPT.

STANDARD DETAIL: S-01.1

Plotted by: Craig Dobyms on 7/13/2016 File location: M:\Construction Standard Details\Approved Drawing Files (dwg)\Sewer and Storm\STDDET-S-01.1

5/8"-11 N.C. x1-1/4"  
STAINLESS STEEL COL.,  
HEX DRIVE CAP SCREW  
(2) EA. REQ'D



CAST IRON  
RING & LID

**NOTES:**

1. BENDS IN THE SIDE SEWER LINE ARE NOT ALLOWED WITHIN THE PUBLIC R.O.W.
2. CLEAN OUTS MAY BE ESTABLISHED ON BACKSIDE OF UTILITY EASEMENTS IF APPROVED BY CITY ENGINEER.
3. ADDITIONAL CLEAN OUTS ARE REQUIRED ON SIDE SEWER LINE WITHIN PRIVATE PROPERTY WHEN CUMULATIVE BENDS ON SIDE SEWER LINE EQUALS OR EXCEEDS 135°

APPROVED BY CITY ENGINEER:

*Paul Gals*

DATE:

1/31/2017



PRIVATE SANITARY  
SIDE SEWER CLEAN OUT



LOCKING MANHOLE RING & COVER SHALL CONFORM TO STANDARD DETAIL S-04

NON-GASKETED PVC CAP

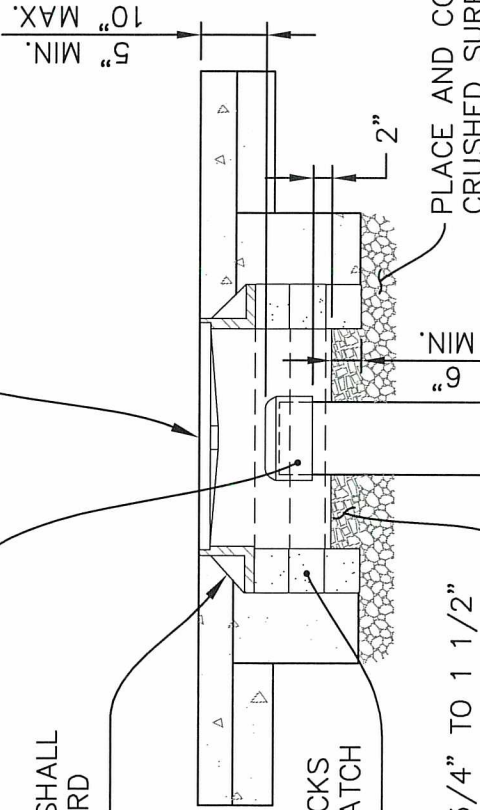
CLEANOUT RING AND COVER ADJUSTMENT SHALL CONFORM TO STANDARD DETAIL T-05

INSTALL PRECAST CONCRETE ADJUSTING RINGS/LEVELLING BLOCKS AS NECESSARY TO MATCH FINAL GRADE

3/4" TO 1 1/2" MINUS WASHED ROCK

PLACE AND COMPACT CRUSHED SURFACING TOP COURSE (TYP) PER WSDOT SPEC. SECTION 9-03.9(3)

**NOTE:**  
MANHOLES ARE REQUIRED AT UPSTREAM END OF ALL SEWER MAINS.



**ALTERNATE INSTALLATION**  
NTS

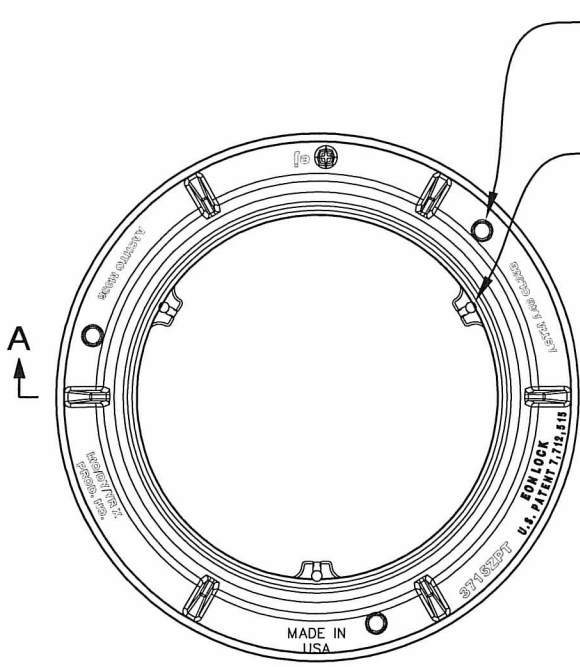
**STANDARD INSTALLATION**  
NTS

APPROVED BY CITY ENGINEER:

DATE:

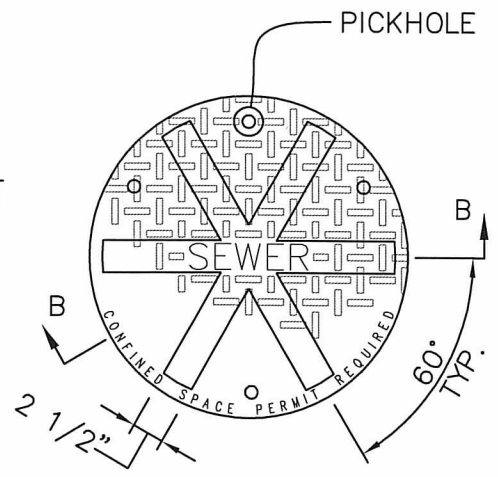


PUBLIC SIDE SEWER CLEANOUT (8" OR LARGER)

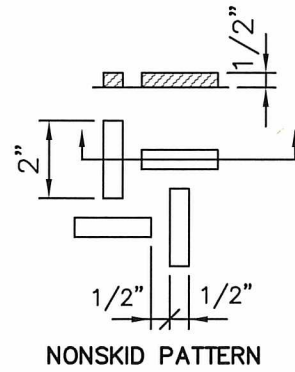


**FRAME - PLAN**  
NTS

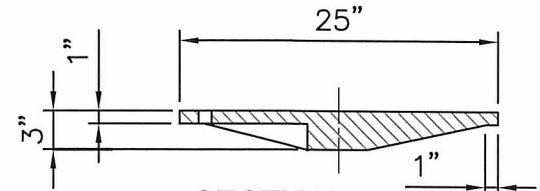
(3) 1"  $\phi$  HOLES EQ. SPACED AT 120° APART ON A 30 1/4"  $\phi$  B.C.  
(3) 5/8" POCKETS EQ. SPACED AT 120° APART ON A 23 1/16"  $\phi$  BOLT CIRCLE



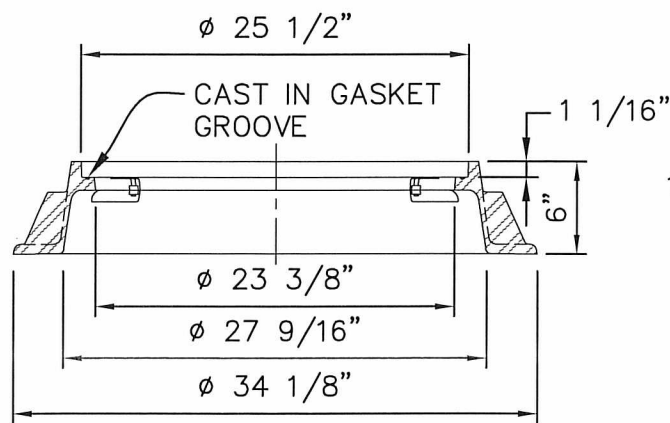
**COVER - PLAN**  
NTS



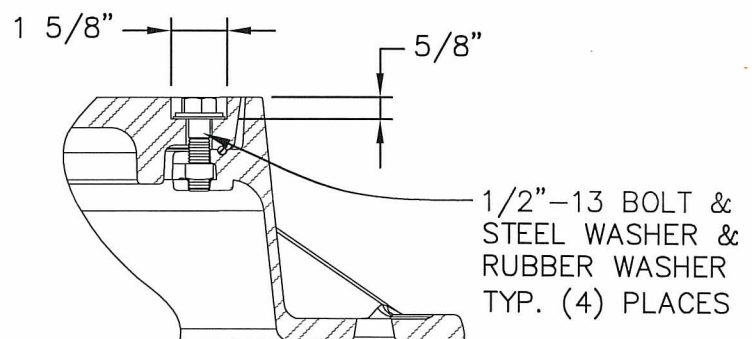
**NONSKID PATTERN**



**SECTION B-B**  
NTS



**SECTION A-A**  
NTS



**BOLT DETAIL**  
NTS

**NOTES:**

- COVERS SHALL HAVE THEIR USE CAST IN 2" RAISED LETTERS: 'SEWER' FOR SANITARY SEWERS, 'DRAIN' FOR STORM SEWERS AND 'WATER' FOR WATER CONVEYANCE. THE WORDS 'CONFINED SPACE PERMIT REQUIRED' SHALL BE CAST IN 1" LETTERS AS SHOWN.
- GRAY OR DUCTILE IRON FRAME AND DUCTILE IRON COVER WITH MINIMUM WEIGHTS AS FOLLOWS:  
FRAME = 210 LBS.  
COVER = 150 LBS.
- PROVIDE SLIP RESISTANT COATING IN PAVED AREAS.

APPROVED BY CITY ENGINEER:

DATE:

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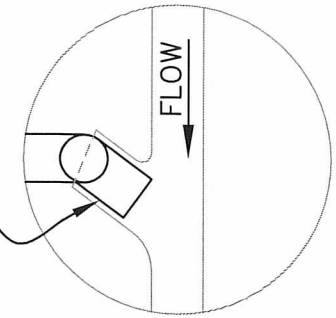
2/20/2018



24" DIA. MANHOLE  
FRAME AND COVER

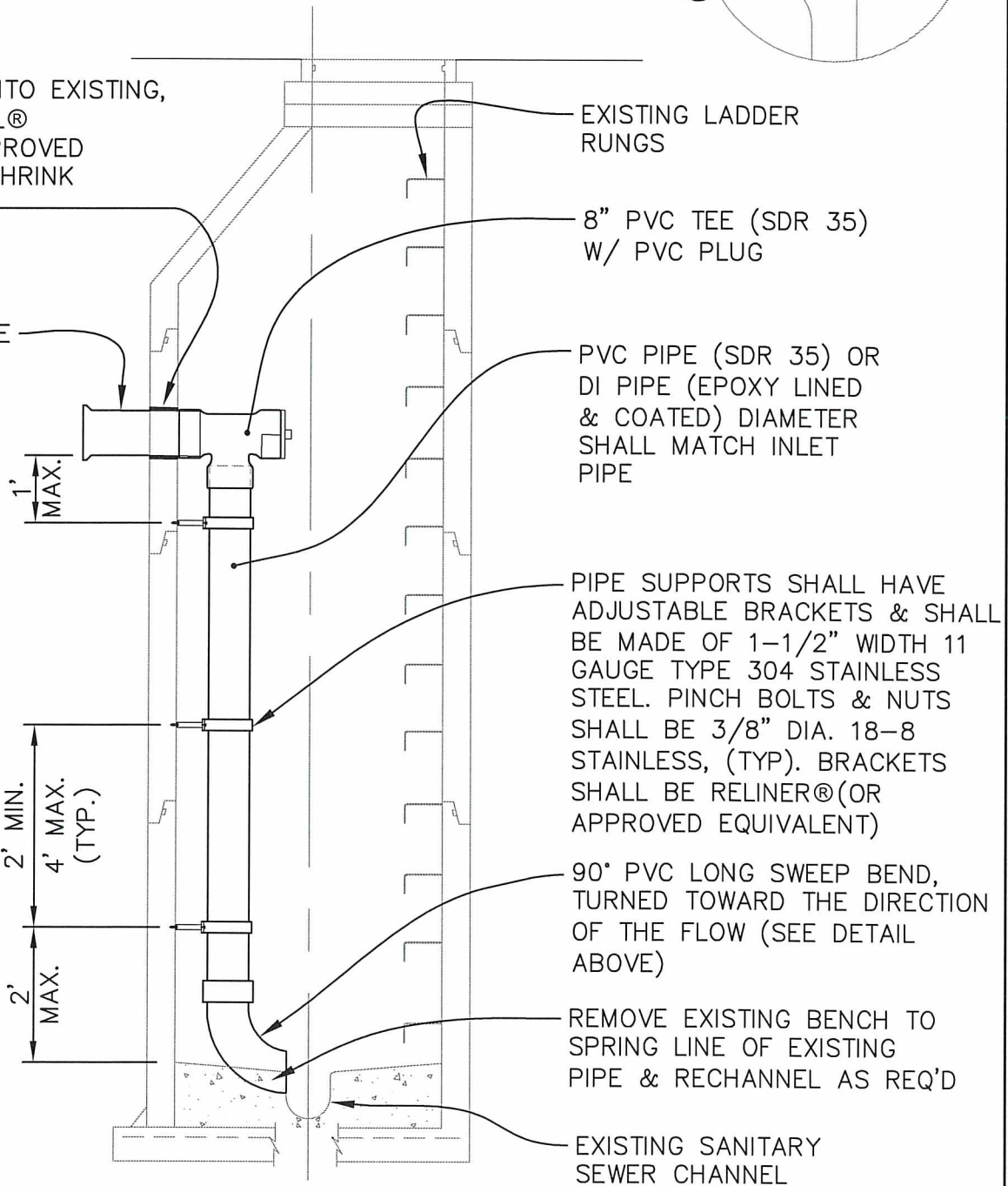
Plotted by: Vlad Rubashka on 1/10/2018 File location: M:\Construction\_Standard\_Details\Current\_Details\Working\_DWG\Sewer and Storm\STDETL-S-04.2

90° PVC LONG SWEEP BEND, TURNED TOWARD THE DIRECTION OF THE FLOW



CORE DRILL HOLE INTO EXISTING, APPLY KOR-N-SEAL® CONNECTOR OR APPROVED EQUIVALENT, NON-SHRINK GROUT AS REQ'D

12" MIN. 18" MAX. INLET SANITARY LINE



EXISTING LADDER RUNGS

8" PVC TEE (SDR 35) W/ PVC PLUG

PVC PIPE (SDR 35) OR DI PIPE (EPOXY LINED & COATED) DIAMETER SHALL MATCH INLET PIPE

PIPE SUPPORTS SHALL HAVE ADJUSTABLE BRACKETS & SHALL BE MADE OF 1-1/2" WIDTH 11 GAUGE TYPE 304 STAINLESS STEEL. PINCH BOLTS & NUTS SHALL BE 3/8" DIA. 18-8 STAINLESS, (TYP). BRACKETS SHALL BE RELINER® (OR APPROVED EQUIVALENT)

90° PVC LONG SWEEP BEND, TURNED TOWARD THE DIRECTION OF THE FLOW (SEE DETAIL ABOVE)

REMOVE EXISTING BENCH TO SPRING LINE OF EXISTING PIPE & RECHANNEL AS REQ'D

EXISTING SANITARY SEWER CHANNEL

1' MAX.

2' MIN. 4' MAX. (TYP.)

2' MAX.

**NOTES:**

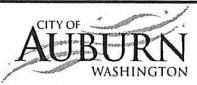
1. TYPE 1 MANHOLE SHOWN FOR ILLUSTRATIVE PURPOSES ONLY. DETAIL MAY ALSO BE APPLIED TO TYPE 2 & 3 MANHOLES.
2. DROP CONNECTIONS TO EXISTING 48" OR LARGER MANHOLES ONLY WITH ENGINEER APPROVAL.

APPROVED BY CITY ENGINEER:

DATE:

*[Handwritten signature]*

*8/5/2016*



RETROFIT EXISTING MANHOLE WITH INSIDE DROP



**NOTE:**

CITY ENGINEER APPROVAL IS  
REQUIRED BEFORE USING THIS  
DETAIL

MANHOLE RING &  
COVER ADJUSTMENT  
SHALL CONFORM TO  
STD DETAIL T-05

LEVELING BRICKS OR GRADE  
RINGS AS REQUIRED. 3000 PSI  
SMALL AGGREGATE CONCRETE  
BETWEEN EACH RING

LOCKING MANHOLE  
RING & COVER SHALL  
CONFORM TO STD  
DETAIL S-04

FINISH  
GRADE

PRECAST CONCENTRIC CONE

FULL DEPTH  
CAHNNEL

HAND HOLD  
12" O.C.  
(1 STEP MIN.)

1/2"/FT.  
(TYP)

5"  
TYP.

18" TO 36"

4"  
TYP.

32" MIN.  
50" MAX.

GROUT  
FILLET (TYP)

FIELD CONSTRUCT 3000  
PSI SMALL AGGREGATE  
CONCRETE CHANNEL  
AND SHELF TO CROWN  
OF THE PIPE

12"  
MIN.

8"-12" DIA.  
PIPE

5'-6" DIA. CEMENT  
CONCRETE BASE, CL.  
3000, CAST IN PLACE

REBAR #4 @ 12" EW

RUBBER GASKET

48" DIA.

**ALTERNATE:**

MANUFACTURED BASE WITH FLAT TOP,  
FRAME AND COVER IS ACCEPTABLE

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8/5/2016

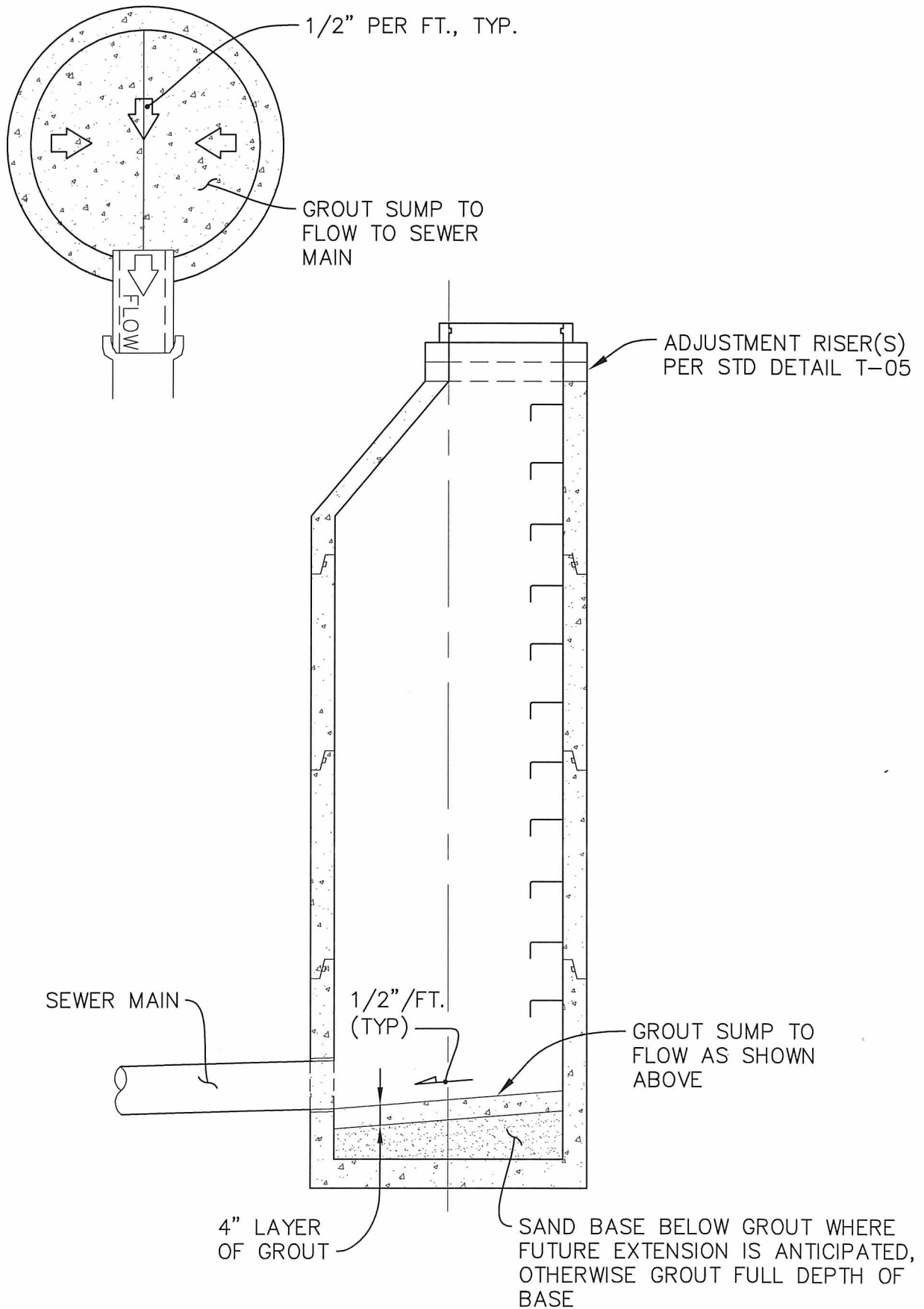


EXTRA SHALLOW  
MANHOLE DETAIL

COMMUNITY DEVELOPMENT & PUBLIC WORKS DEPT.

STANDARD DETAIL: S-06.1

Plotted by: Vlad Rubashka on 1/17/2018 File location: M:\Construction Standard Details\Current Working DWG\Sewer and Storm\STDETL-S-07.2



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DATE:



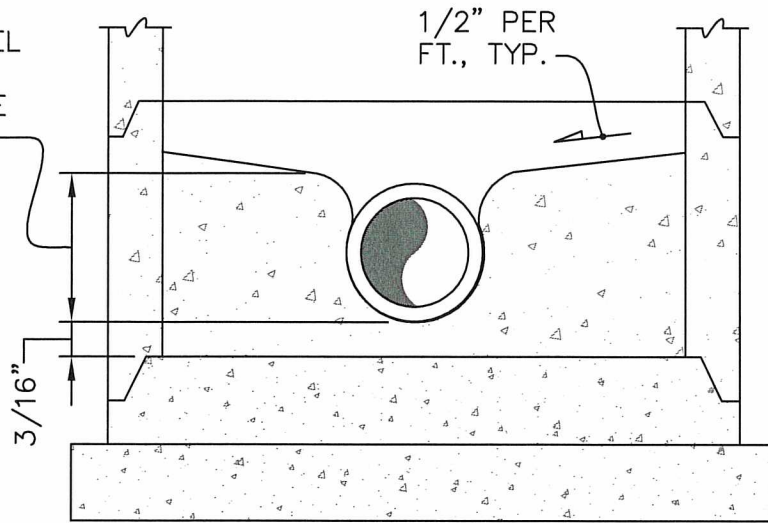
MANHOLE AT END OF  
SANITARY SEWER LINE

COMMUNITY DEVELOPMENT & PUBLIC WORKS DEPT.

STANDARD DETAIL: S-07.2

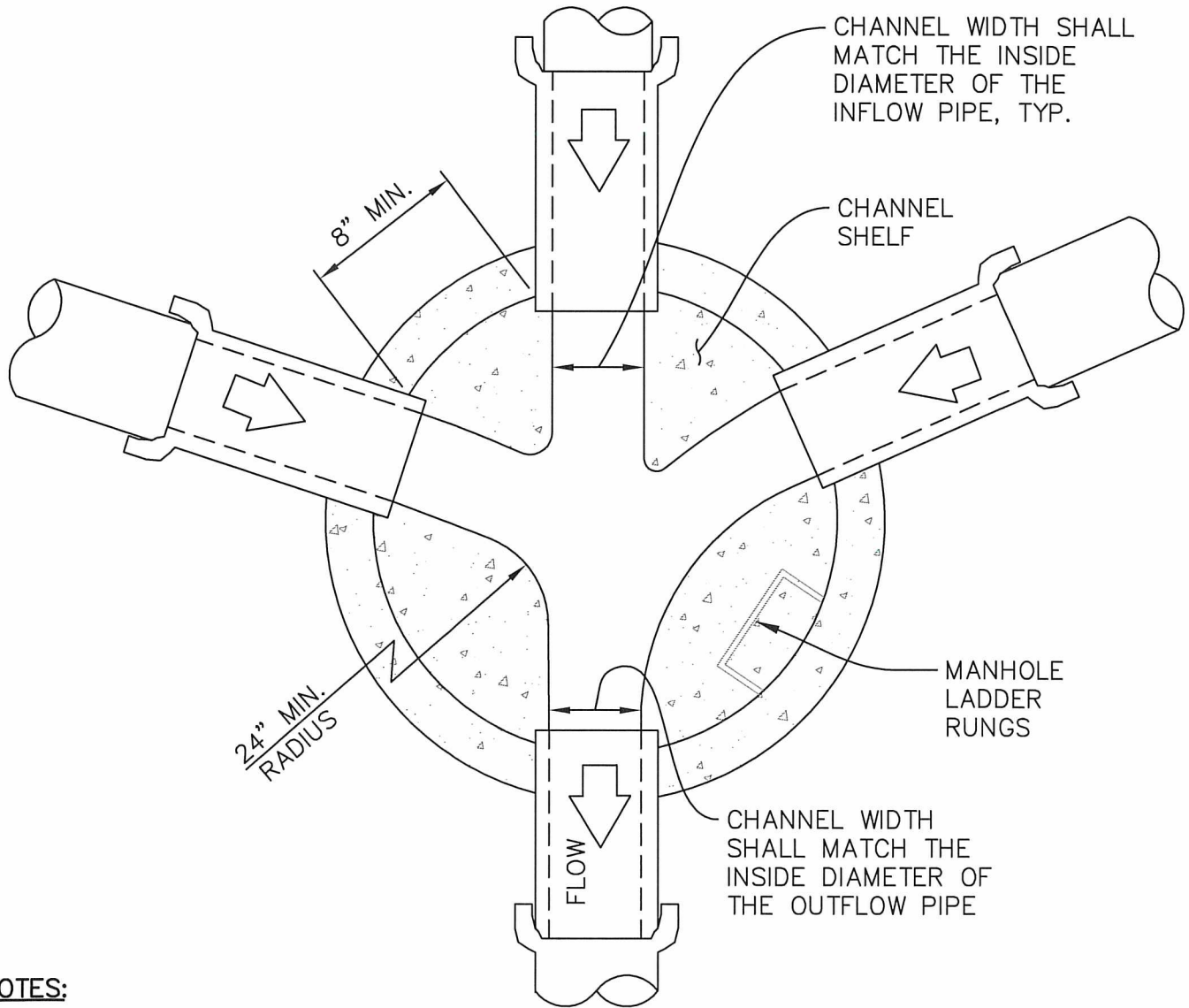
Plotted by: Craig Dobyns on 7/13/2016 File location: M:\Construction Standard Details\Approved Drawing Files (dwg)\Sewer and Storm\STDETL-S-08.1

FULL DEPTH CHANNEL SHALL MATCH THE LARGEST INSIDE PIPE DIAMETER



1/2" PER FT., TYP.

3/16"



CHANNEL WIDTH SHALL MATCH THE INSIDE DIAMETER OF THE INFLOW PIPE, TYP.

CHANNEL SHELF

MANHOLE LADDER RUNGS

CHANNEL WIDTH SHALL MATCH THE INSIDE DIAMETER OF THE OUTFLOW PIPE

24" MIN. RADIUS

8" MIN.

**NOTES:**

1. NO STEPS OVER PIPES OR MANHOLE CHANNELS. WHEN POSSIBLE, STEPS SHALL BE POSITIONED OVER THE LARGEST BENCH AREA.
2. FAST SETTING CONCRETE SHALL NOT BE USED.

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DATE:

8/5/2016

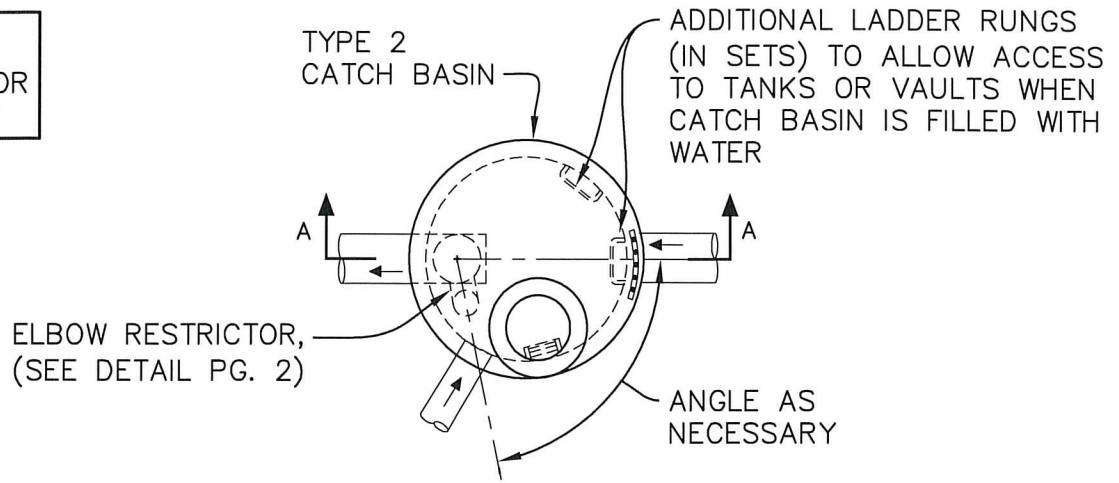


MANHOLE CHANNEL CONSTRUCTION

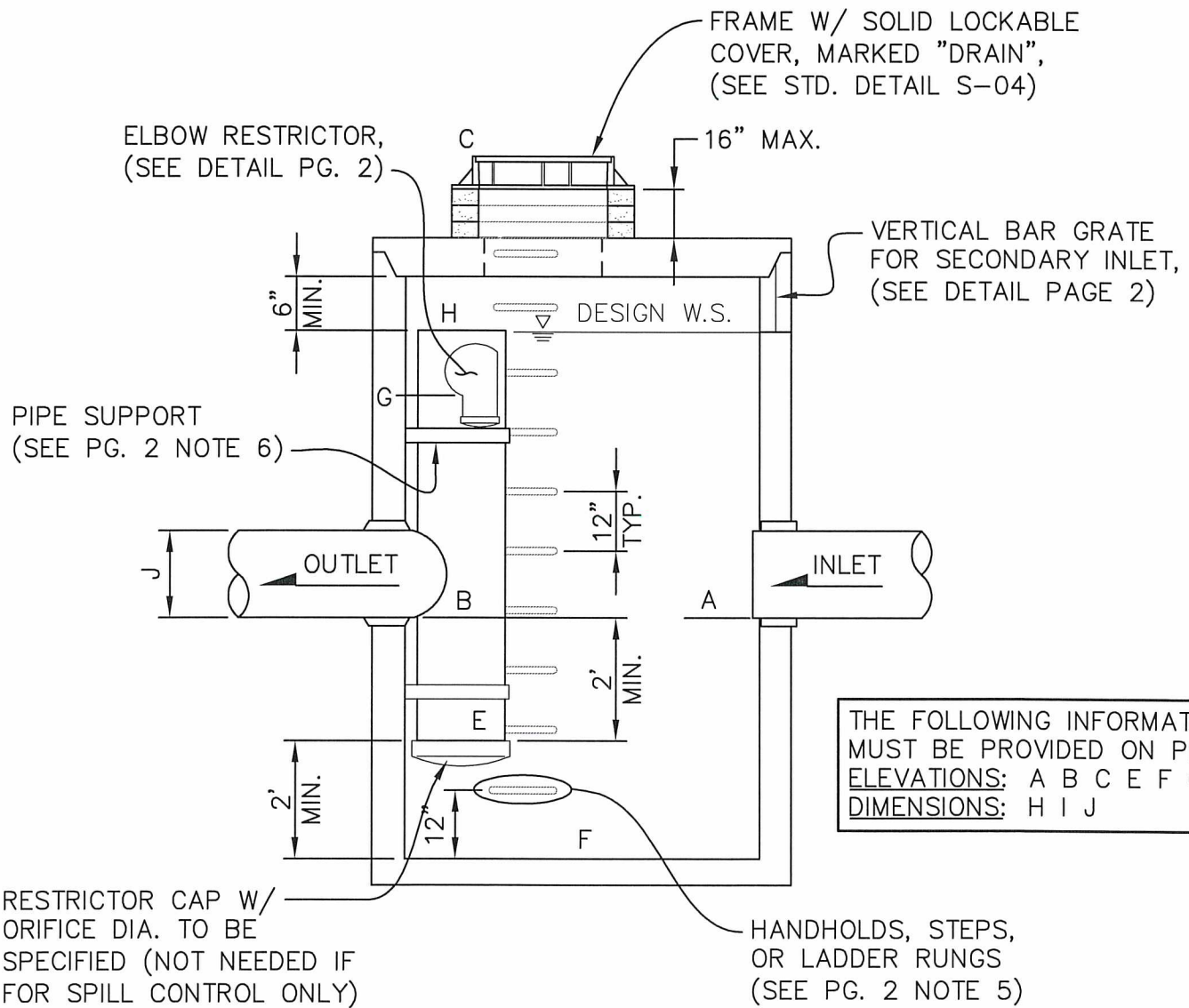


**NOTE:**

THIS DETAIL IS FOR STORM USE ONLY



**PLAN VIEW**  
NTS



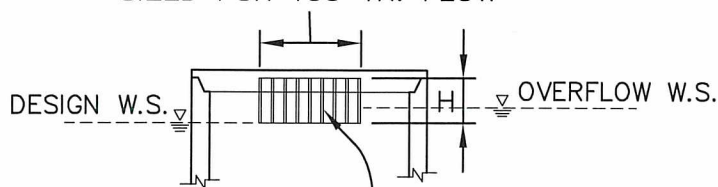
**SECTION A-A**  
NTS

THE FOLLOWING INFORMATION MUST BE PROVIDED ON PLANS:  
ELEVATIONS: A B C E F G  
DIMENSIONS: H I J

**NOTE:**

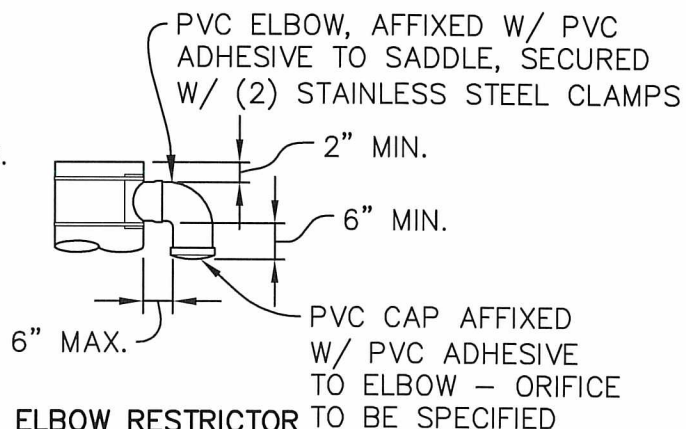
THIS DETAIL IS FOR  
STORM USE ONLY

CIRCUMFERENCE LENGTH  
OF OPENING SHALL BE  
SIZED FOR 100 YR. FLOW



3/4"  $\phi$  VERTICAL BAR  
GRATE @ 4" O.C. FOR  
SECONDARY INLET

**VERTICAL BAR GRATE  
DETAIL**  
NTS



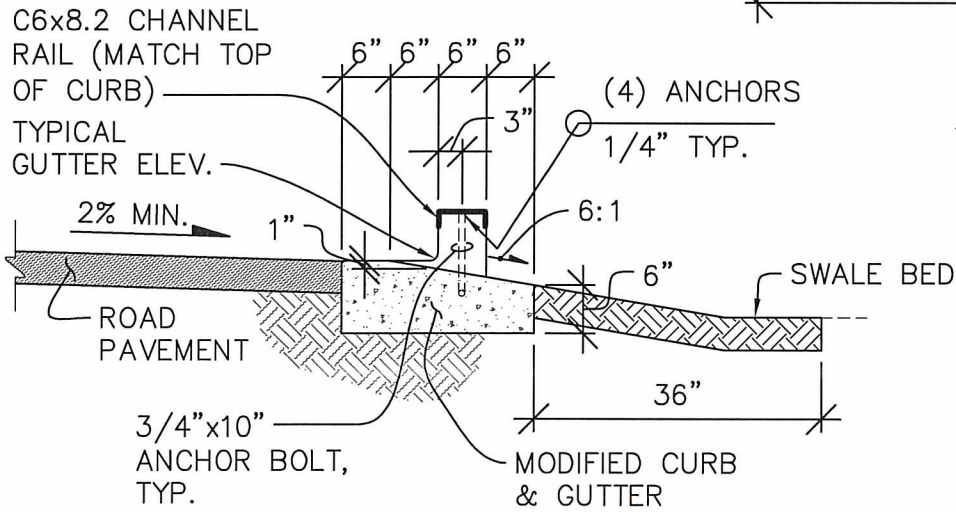
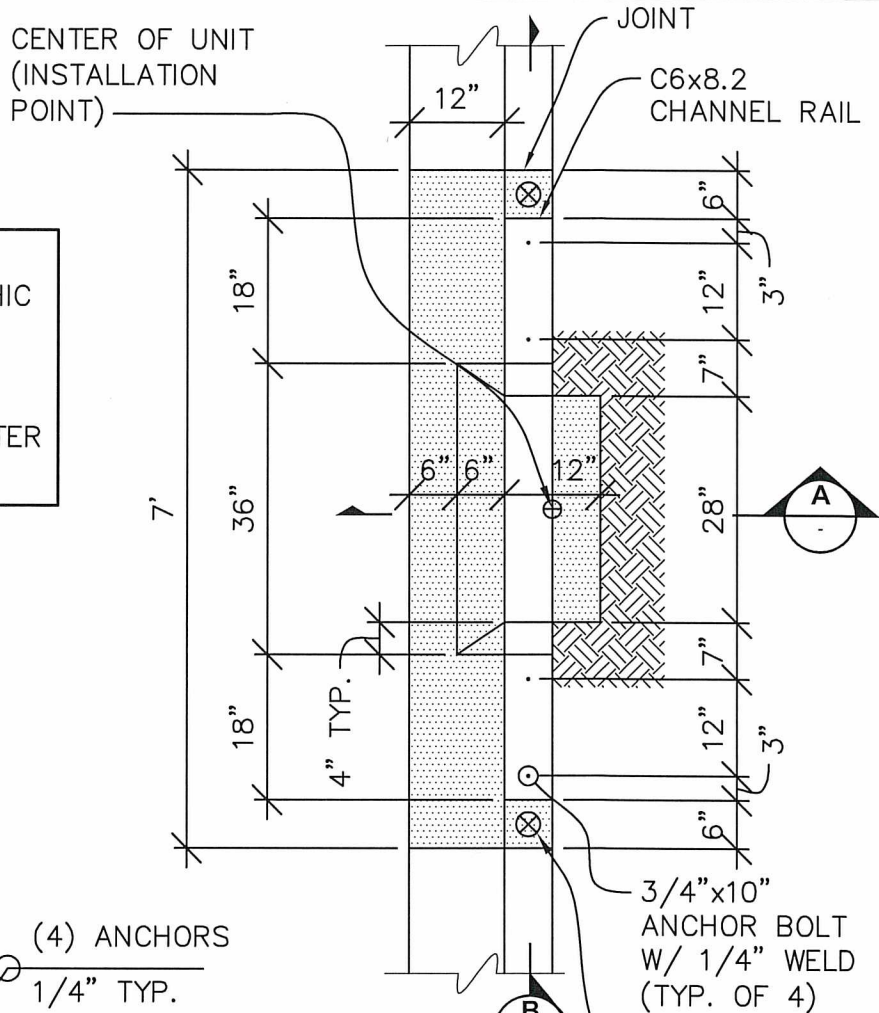
**ELBOW RESTRICTOR  
DETAIL**  
NTS

**NOTES:**

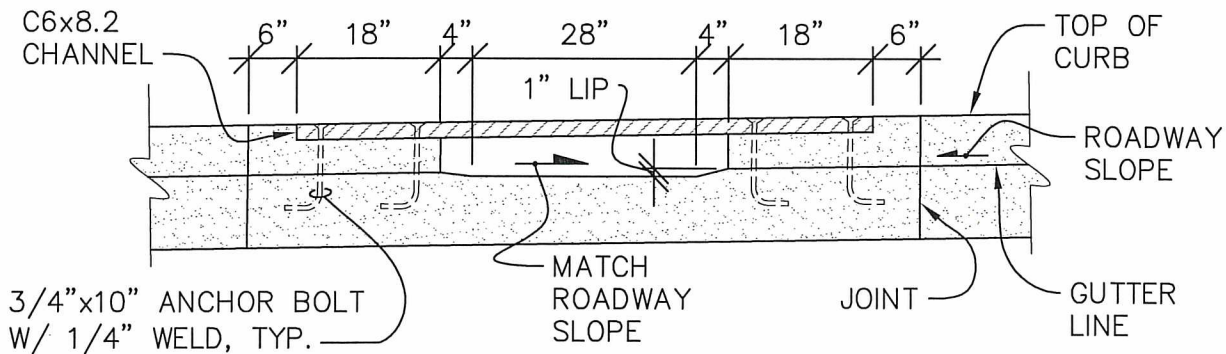
1. USE A MINIMUM OF 54" DIA. TYPE 2 CATCH BASIN.
2. OUTLET CAPACITY SHALL BE 100-YR. DEVELOPED PEAK FLOW.
3. RESTRICTOR TO BE MADE WITH NON-GASKETED PVC, SDR-35.
4. FLOW RESTRICTOR TO BE CONNECTED TO OUTLET PIPE WITH GASKETED CONNECTION OR ROMAC COUPLER.
5. BASIN LID FRAME AND LADDER RUNGS OR STEPS ARE OFFSET SO THAT:
  - A. RESTRICTOR IS VISIBLE FROM TOP.
  - B. ACCESS SPACE IS CLEAR OF RISER AND RESTRICTOR.
  - C. COVER FRAME IS CLEAR OF CURB.
6. PROVIDE AT LEAST TWO 3"x0.090 GAUGE STAINLESS STEEL SUPPORT BRACKET ANCHORED 2" INTO CONCRETE WALL WITH MAX. 3' VERTICAL SPACING.
7. LOCATE ELBOW RESTRICTOR AS NECESSARY TO PROVIDE MINIMUM CLEARANCE AS SHOWN. PIPE SIZES AND SLOPE PER PLAN. SHOW ALLOWABLE DISCHARGE "Q"

Plotted by: Vlad Rubashka on 1/10/2018. File location: M:\Construction Standard Details\Current Working DWG\Sewer and Storm\STDETL-S-10.1

- CURB OPENING INLET NOTES:**
1. STRUCTURE SHALL BE MONOLITHIC AIR-ENTRAINED CLASS 3000 CONCRETE.
  2. HOT DIP GALVANIZE C6x8.2 CHANNEL & ANCHOR BOLTS AFTER FABRICATION.



**SECTION A**  
NTS



**SECTION B**  
NTS

APPROVED BY CITY ENGINEER:

DATE:

*[Signature]*

2/20/2018

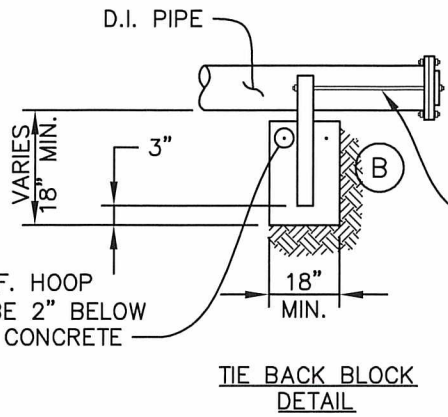
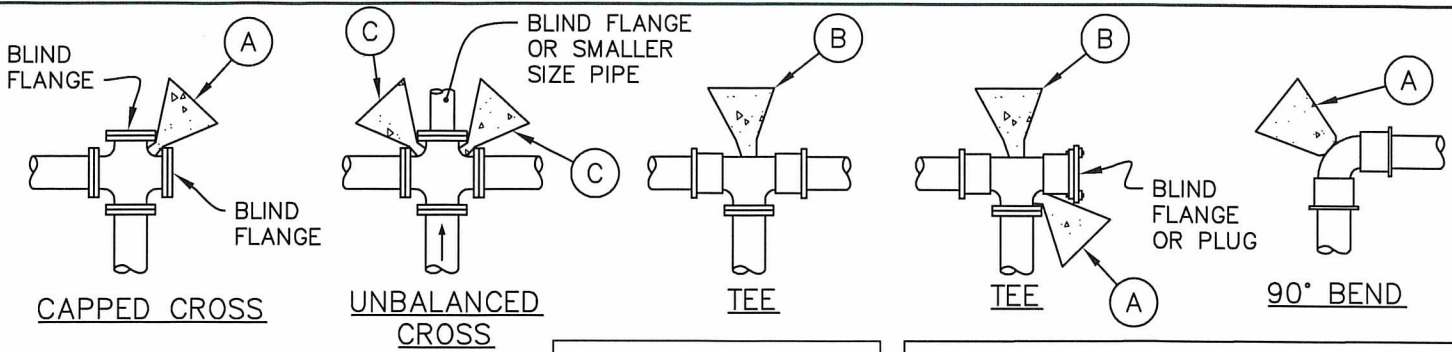


COVERED CURB OPENING INLET

COMMUNITY DEVELOPMENT & PUBLIC WORKS DEPT.

STANDARD DETAIL: S-10.1

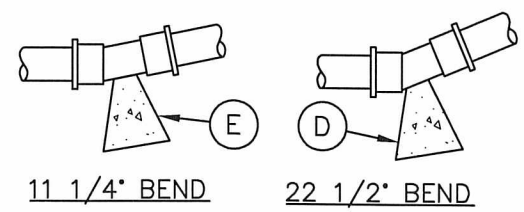




**NOTE:**  
SEE STD. DETAIL W-03 FOR TYPICAL BLOW OFF ASSEMBLY. MAINTAIN 2" CLEARANCE BETWEEN CONCRETE AND PIPE

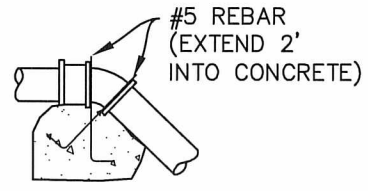
FOR PIPE SIZES UNDER 12" USE 2 3/4" Ø HOT DIPPED GALV. THREADED RODS FOR 12" & 14" USE 4 3/4" Ø HOT DIPPED GALV. RODS

**HORIZ OR UPWARD VERT. BENDS**

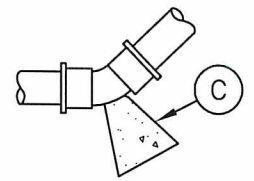


11 1/4° BEND

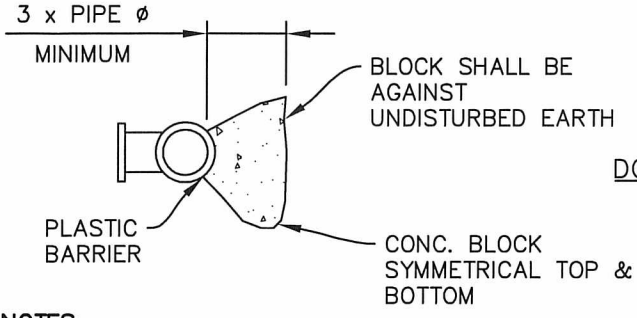
22 1/2° BEND



DOWNWARD VERTICAL BEND



45° BEND



**NOTES:**

1. BEARING AREA OF CONC. THRUST BLOCK IS BASED ON 200 PSI PRESSURE AND SAFE SOIL BEARING LOAD OF 2000 PSF.
2. AREAS MUST BE ADJUSTED FOR OTHER PIPE SIZES, PRESSURES, AND SOIL CONDITIONS.
3. CONCRETE BLOCKING SHALL BE CAST IN PLACE AND HAVE A MINIMUM OF 1/4 SQUARE FOOT BEARING AGAINST THE FITTING.
4. THE BLOCK SHALL BEAR AGAINST THE FITTINGS ONLY AND SHALL BE CLEAR OF JOINTS TO PERMIT TAKING UP AND DISMANTLING OF JOINT.
5. THE CONTRACTOR SHALL INSTALL BLOCKING ADEQUATE TO WITHSTAND FULL TEST PRESSURE AS WELL AS TO CONTINUOUSLY WITHSTAND OPERATING PRESSURE UNDER ALL CONDITIONS OF SERVICE.
6. USE 2" THICK STYROFOAM TO FORM THE CONCRETE BLOCKING. PLASTIC SHALL BE INSTALLED BETWEEN ALL CONCRETE BLOCKING AND FITTINGS.
7. RESTRAINED JOINTS ARE REQUIRED WHERE BEARING SOILS OR FILL MATERIAL ARE DETERMINED BY THE ENGINEER TO BE UNSUITABLE TO PROVIDE ADEQUATE BEARING LOAD, OR THIS SOIL HAS BEEN DISTURBED.

**THRUST BLOCK TABLE  
MIN. BEARING AGAINST UNDISTURBED SOIL**

| PIPE SIZE | (A)<br>SQ. FT. | (B)<br>SQ. FT. | (C)<br>SQ. FT. | (D)<br>SQ. FT. | (E)<br>SQ. FT. |
|-----------|----------------|----------------|----------------|----------------|----------------|
| 4"        | 3              | 3              | 2              | 2              | 2              |
| 6"        | 4              | 3              | 2              | 2              | 2              |
| 8"        | 7              | 5              | 4              | 2              | 2              |
| 10"       | 11             | 8              | 6              | 3              | 2              |
| 12"       | 16             | 11             | 9              | 5              | 3              |
| 14"       | 22             | 15             | 12             | 6              | 3              |
| 16"       | 29             | 20             | 16             | 8              | 4              |
| 18"       | 36             | 25             | 20             | 10             | 5              |
| 20"       | 45             | 32             | 24             | 13             | 6              |
| 22"       | 54             | 38             | 29             | 15             | 8              |
| 24"       | 64             | 45             | 35             | 18             | 9              |
| 28"       | 87             | 62             | 48             | 24             | 12             |
| 30"       | 101            | 71             | 55             | 28             | 14             |
| 36"       | 145            | 102            | 78             | 40             | 20             |
| 42"       | 197            | 139            | 107            | 55             | 27             |
| 48"       | 257            | 181            | 140            | 71             | 36             |

APPROVED BY CITY ENGINEER:

*[Signature]*

DATE:

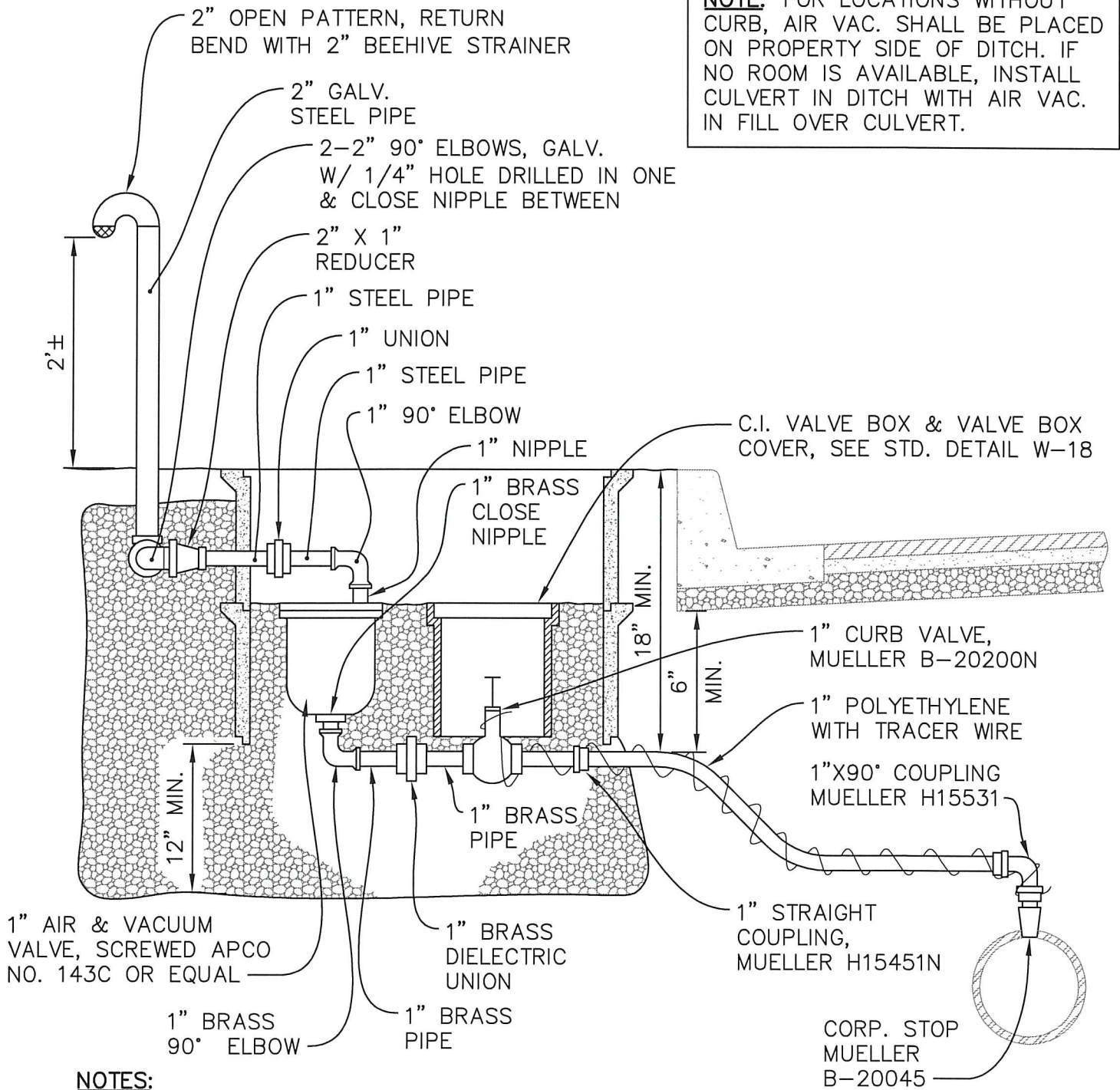
9/8/2016



WATER MAIN  
BLOCKING

Plotted by: Craig Dobyns on 8/10/2016 File location: M:\Construction Standard Details\Approved Drawing Files (dwg)\Water\STDETL-W-01.1

**NOTE:** FOR LOCATIONS WITHOUT CURB, AIR VAC. SHALL BE PLACED ON PROPERTY SIDE OF DITCH. IF NO ROOM IS AVAILABLE, INSTALL CULVERT IN DITCH WITH AIR VAC. IN FILL OVER CULVERT.



**NOTES:**

1. AIR VALVE TO BE INSTALLED IN 17" X 30" HUBBELL QUAZITE METER BOX W/ DUCTILE COVER, EAST JORDAN IRON WORKS OR APPROVED EQUIVALENT.
2. BED WITH 3/4"-1 1/2" WASHED ROCK, PASSING -1/2" AND RETAINED ON 1/4" MESH.
3. POLYETHYLENE PIPE SHALL BE AS SPECIFIED IN SECTION 9-30.6(3) OF THE STANDARD SPECIFICATION.
4. DIELECTRIC UNIONS ARE REQUIRED FOR JOINING DISSIMILAR MATERIAL TYPES.
5. MAINTAIN POSITIVE GRADE FROM MAIN TO VALVE.

Plotted by: Craig Dobyns on 7/13/2016 File location: M:\Construction Standard Details\Water\STDETL-W-02.1

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DATE:

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*8/5/2016*

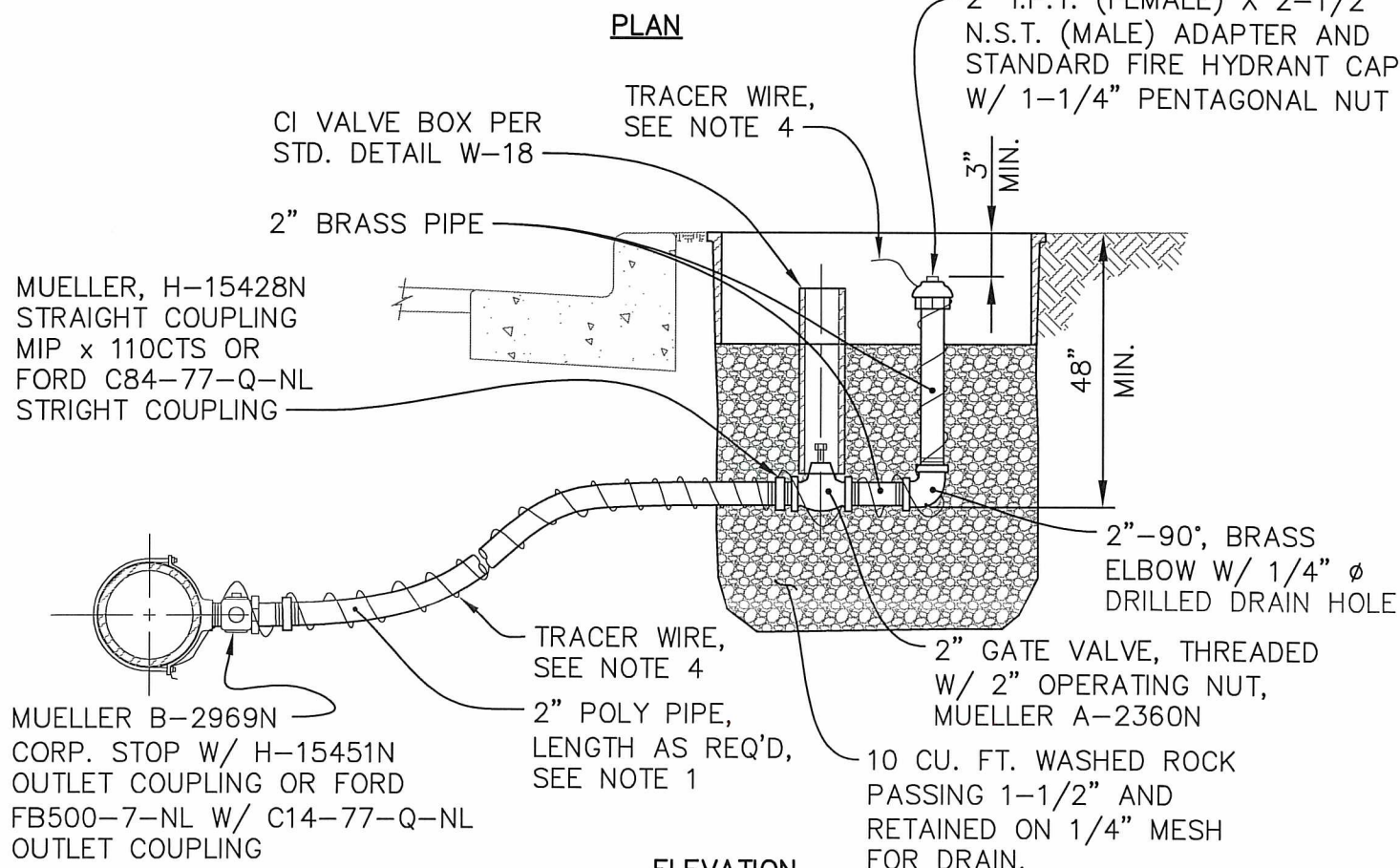
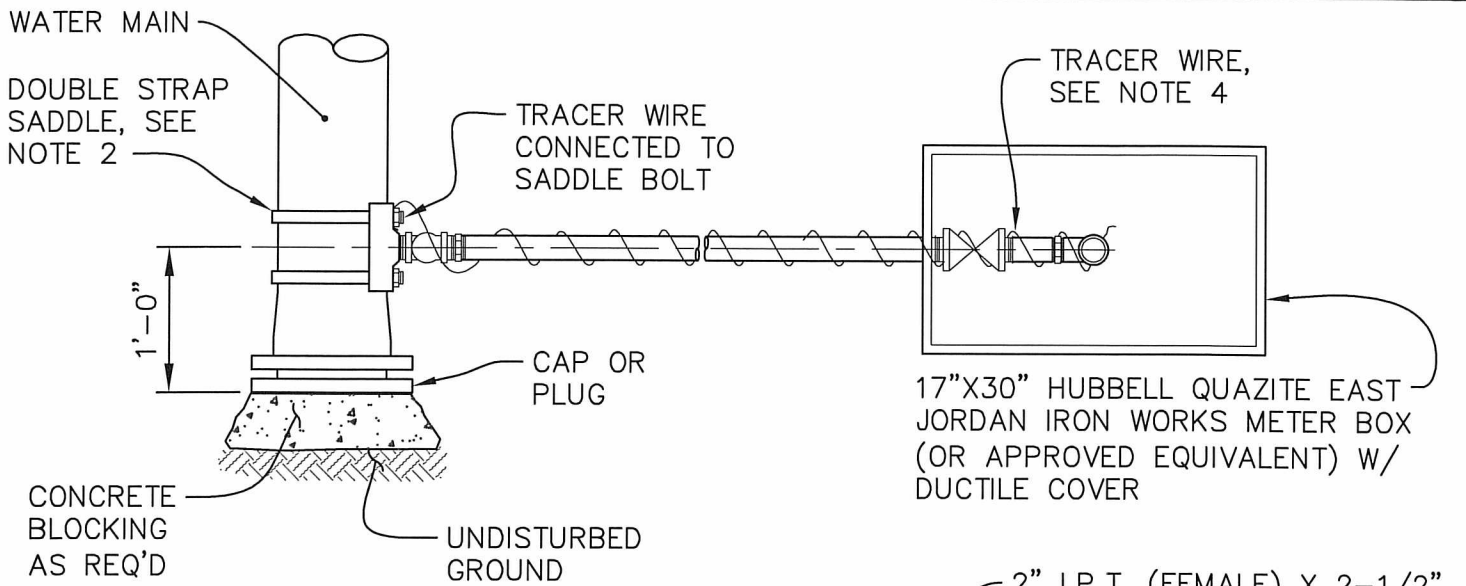


TYPICAL AIR AND VACUUM RELIEF VALVE DETAIL

COMMUNITY DEVELOPMENT & PUBLIC WORKS DEPT.

STANDARD DETAIL: W-02.1



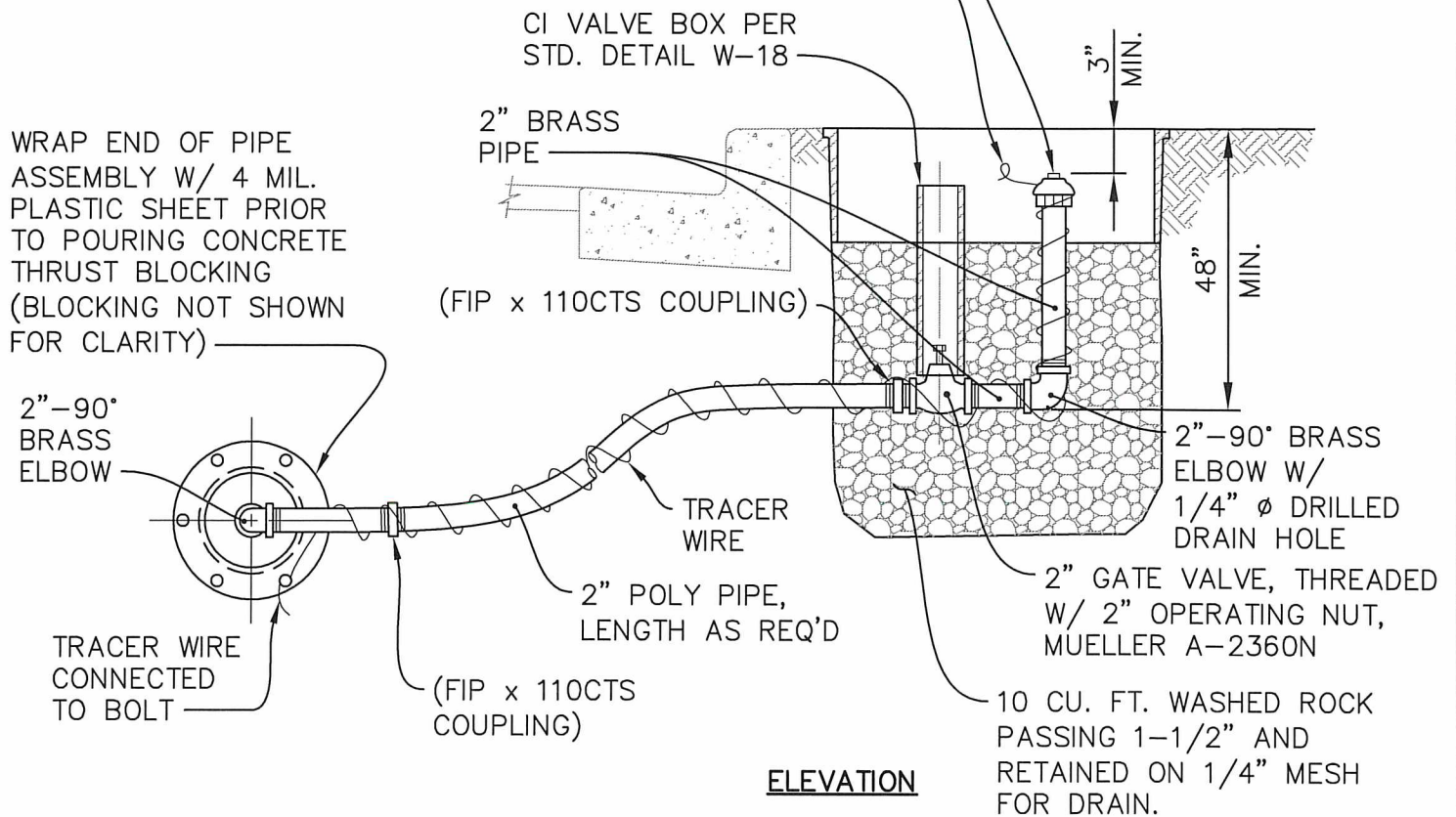
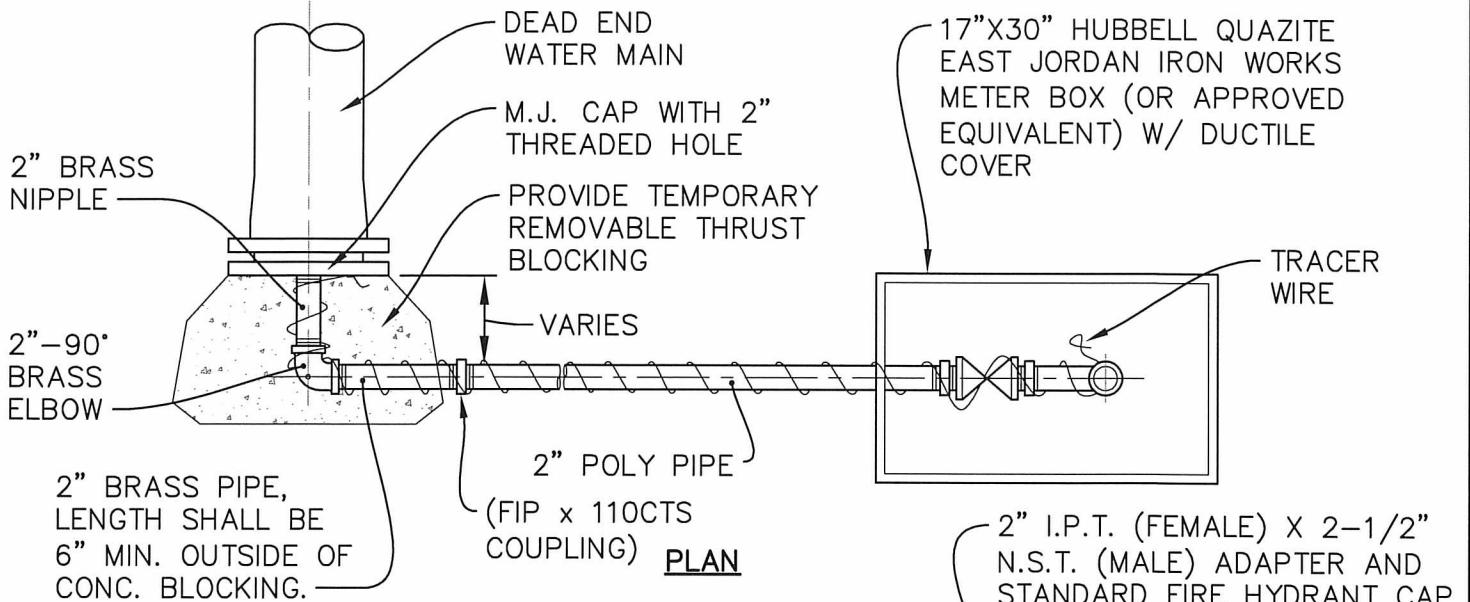


- NOTES:**
1. 2" POLY PIPE SHALL BE AS SPECIFIED IN SECTION 9-30.6(3) OF THE CONSTRUCTION STANDARDS AND THE CONTRACT PROVISIONS.
  2. SADDLE SHALL BE AS SPECIFIED IN SECTION 9-30.6(1) OF THE CONSTRUCTION STANDARDS AND THE CONTRACT PROVISIONS.
  3. FOR LOCATIONS WITHOUT CURB, BLOWOFF SHALL BE PLACED ON PROPERTY SIDE OF THE DITCH. IF NO ROOM IS AVAILABLE, INSTALL CULVERT IN DITCH W/ BLOWOFF IN FILL OVER CULVERT.
  4. TRACER WIRE SHALL BE INSULATED #10 COPPER WIRE, BARED AT ENDS.

Plotted by: Vlad Rubashka on 1/10/2018 File location: M:\Construction Standard Details\Current Working DWG\Water\STDETL-W-03.2

|  |                    |  |                                |
|--|--------------------|--|--------------------------------|
| APPROVED BY CITY ENGINEER:<br>             | DATE:<br>2/20/2018 |  | 2" PERMANENT BLOW OFF ASSEMBLY |
| COMMUNITY DEVELOPMENT & PUBLIC WORKS DEPT. |                    |  | STANDARD DETAIL: W-03.2        |





**NOTES:**

1. 2" POLY PIPE SHALL BE AS SPECIFIED IN SECTION 9-30.6(3) OF THE CONSTRUCTION STANDARDS AND THE CONTRACT PROVISIONS.
2. TEMPORARY BLOWOFFS SHALL BE USED ON ALL DEAD END WATERLINES WITH LOCATION OF BLOWOFF BOX AS SHOWN ON THE PLAN OR WHERE DIRECTED BY THE ENGINEER.
3. TRACER WIRE SHALL BE INSULATED #10 COPPER WIRE, BARED AT ENDS.
4. GATE VALVE SHALL BE AS SPECIFIED IN SECTION 9-30.3(1) OF THE CONSTRUCTION STANDARDS AND THE CONTRACT PROVISIONS.

APPROVED BY CITY ENGINEER:

DATE:

*John Sab*

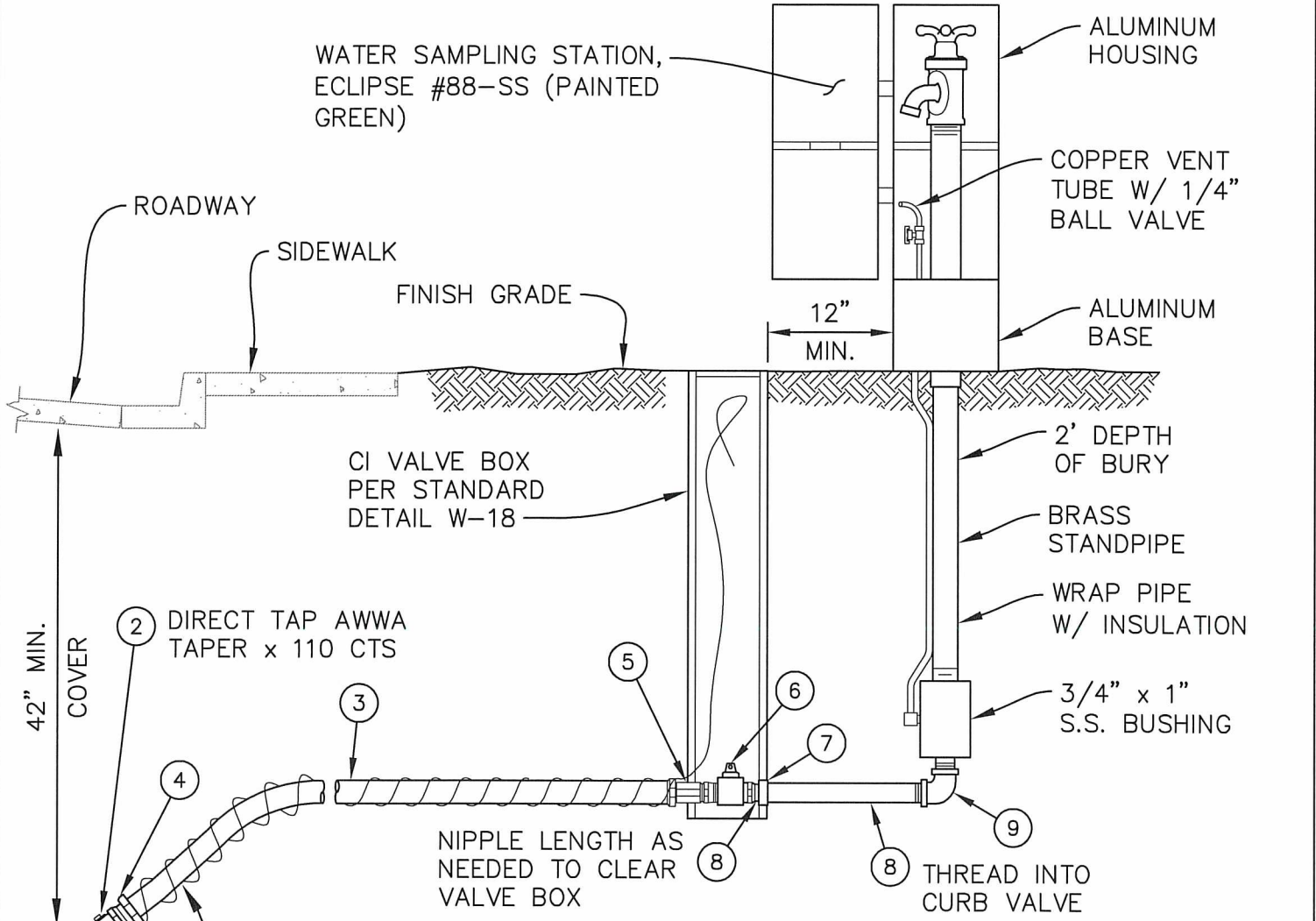
8/5/2016



TEMPORARY BLOW OFF  
DETAIL

COMMUNITY DEVELOPMENT & PUBLIC WORKS DEPT.

STANDARD DETAIL: W-04.1



| MATERIAL LIST |                              |             |                |
|---------------|------------------------------|-------------|----------------|
| ITEM NO.      | DESCRIPTION                  | FORD PART # | MUELLER PART # |
| * (1)         | 1" SADDLE I.P.T. MIPx110 CTS | N/A         | N/A            |
| (2)           | 1" CORPSTOP                  | FB1000-4-Q  | B-25008N       |
| (3)           | 1" TYPE K COPPER             | N/A         | N/A            |
| (4)           | 1" FIP COMPRESSION ADAPTOR   | C14-44-Q-NL | H-15451N       |
| (5)           | 1" COMPRESSION x 1" MIP      | C84-44-Q-NL | H-15428N       |
| (6)           | 1" BALL CURB FIP x FIP       | B11-444W-NL | B-20200N       |
| (7)           | 1" BRASS UNION               | N/A         | N/A            |
| (8)           | 1" BRASS NIPPLE              | N/A         | N/A            |
| (9)           | 1" 90° BRASS STREET ELL      | N/A         | N/A            |

\* SADDLES FOR 1-1/2" OR 2" PIPE TAPS SHALL BE EPOXY COATED OR E-COATED DUCTILE IRON W/ DOUBLE STAINLESS STEEL STRAPS & NEOPRENE GASKETS. SADDLES SHALL HAVE I.P.S. FEMALE THREADS.

**NOTES:**

1. ALL PIPE AND FITTINGS TO BE ASSEMBLED W/ TEFLON AND PIPE DOPE UNLESS OTHERWISE NOTED.
2. SERVICE LINES SHALL BE INSTALLED PERPENDICULAR TO THE WATER MAIN.
3. THE SERVICE LINE SHALL BE INSTALLED TO ALLOW FOR THE FAR SIDE OF THE SAMPLE STATION TO BE INSTALLED IN THE ROW OR EASMENT LINE, UNLESS OTHERWISE DIRECTED BY THE CITY.

APPROVED BY CITY ENGINEER:

DATE:

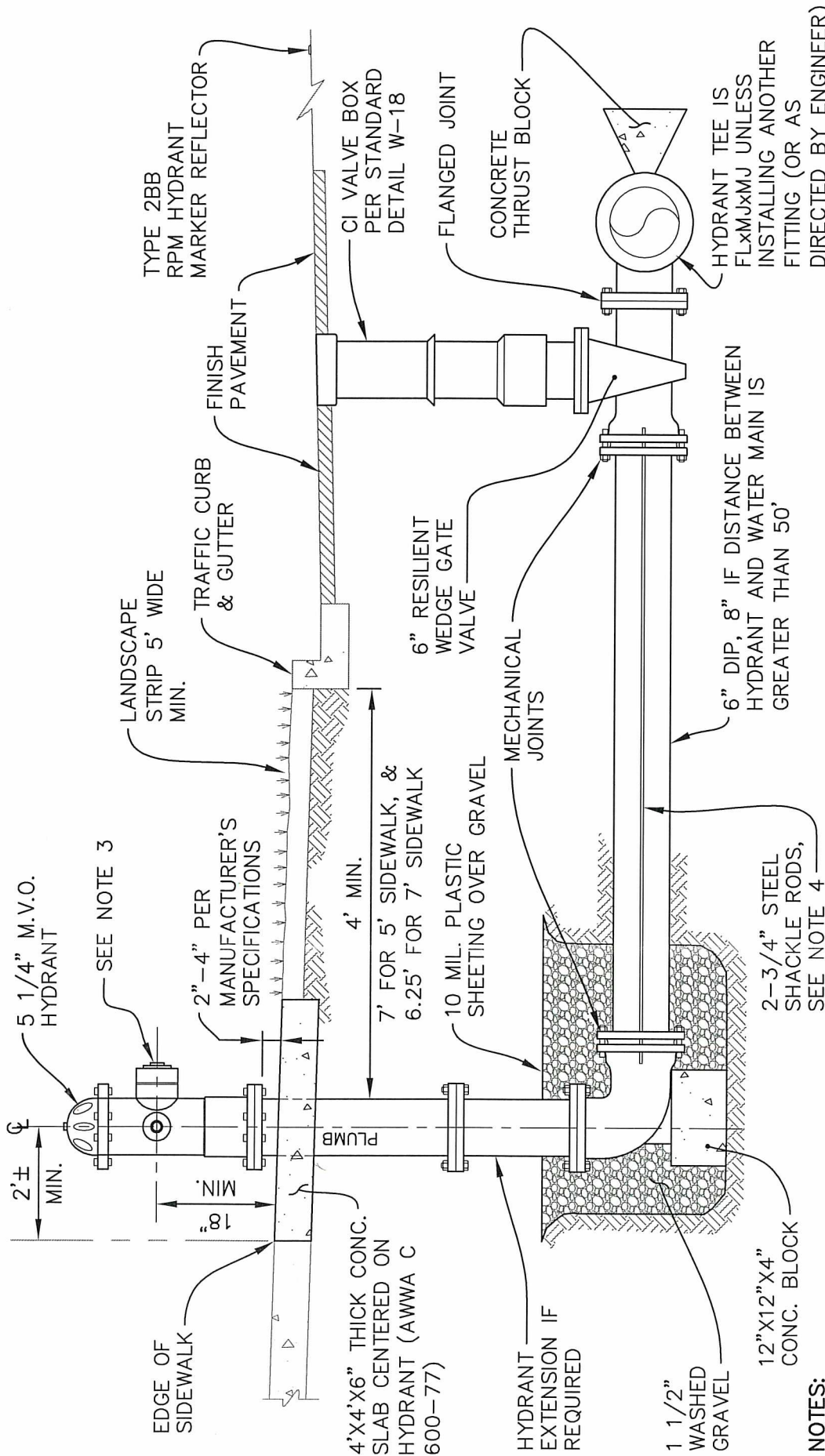


WATER SAMPLING STATIONING DETAIL

Plotted by: Craig Dobyns on 7/13/2016 File location: M:\Construction Standard Details\Approved Drawing Files (dwg)\Water\STDETL-W-05.1







**NOTES:**

1. HYDRANT SHALL BE LOCATED WITHIN THE LANDSCAPE STRIP. WHERE LANDSCAPE STRIP IS NOT PRESENT OR IS LESS THAN 5' WIDE, HYDRANT AND PAD SHALL BE PLACED BEHIND THE SIDEWALK IN R.O.W. OR EASEMENT.
2. WHERE NO CURB & GUTTER IS INSTALLED, FIRE HYDRANT SHALL BE LOCATED (IN RELATION TO STREET CENTER LINE) AS INDICATED ON THE DRAWINGS.
3. HYDRANTS SHALL HAVE 2-2 1/2" NATIONAL STANDARD THREAD (NST) HOSE PORTS & 1-4 1/2" NST WITH 5" STORZ ADAPTER AND CAP.
4. MEGA-LUGS OR PUSH-ON JOINT RESTRAINTS MAY BE USED IN PLACE OF SHACKLE RODS WITH PRIOR ENGINEER APPROVAL.
5. ENSURE 5' MINIMUM CLEARANCE TO OBSTACLES FROM CENTERLINE OF HYDRANT.
6. REMOVE CHAINS.

APPROVED BY CITY ENGINEER:

DATE:



5 1/4" M.V.O. HYDRANT SETTING DETAIL

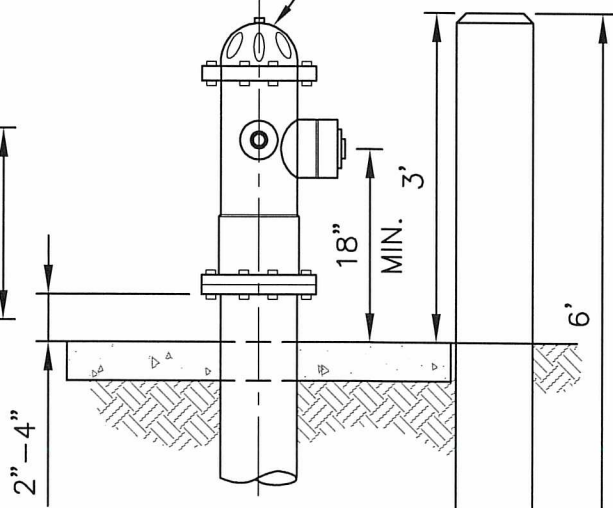
ROCK WALL  
OR OPTIONAL  
KEYSTONE BLOCKS

GUARD POST, 9" ROUND X 6'-0" LONG  
REINFORCED CONCRETE, PER SECTION  
9-30.5(6) OF THE STANDARD  
SPECIFICATIONS TYPICAL OF 2.

MIN. AREA OF LEVEL  
GROUND SURFACE

FIRE HYDRANT SEE  
STD. DETAIL W-07

5' RADIUS,  
CLEAR DISTANCE

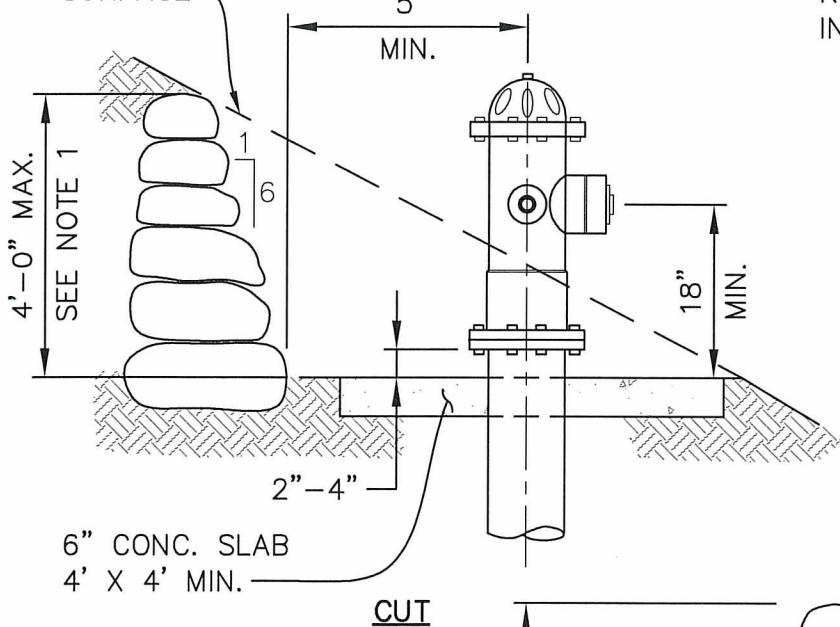


GUARD POST (ONLY  
WHEN SPECIFICALLY  
REQUIRED AS SHOWN  
IN THE PLAN)

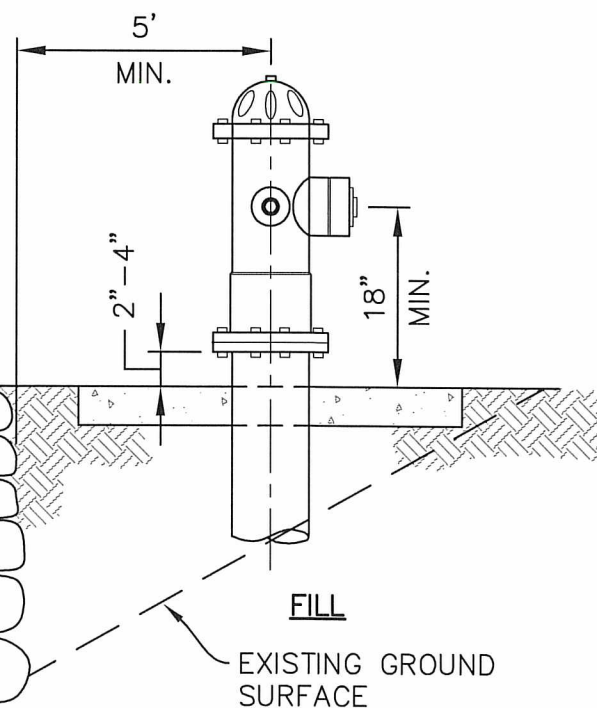
**GUARD POST  
ELEVATION**

EXISTING  
GROUND  
SURFACE

**PLAN**



**CUT**



**FILL**

EXISTING GROUND  
SURFACE

**NOTES:**

1. SEE PLAN FOR WALLS EXCEEDING 4'-0" IN HEIGHT.

APPROVED BY CITY ENGINEER:

DATE:

*Paul Sals*

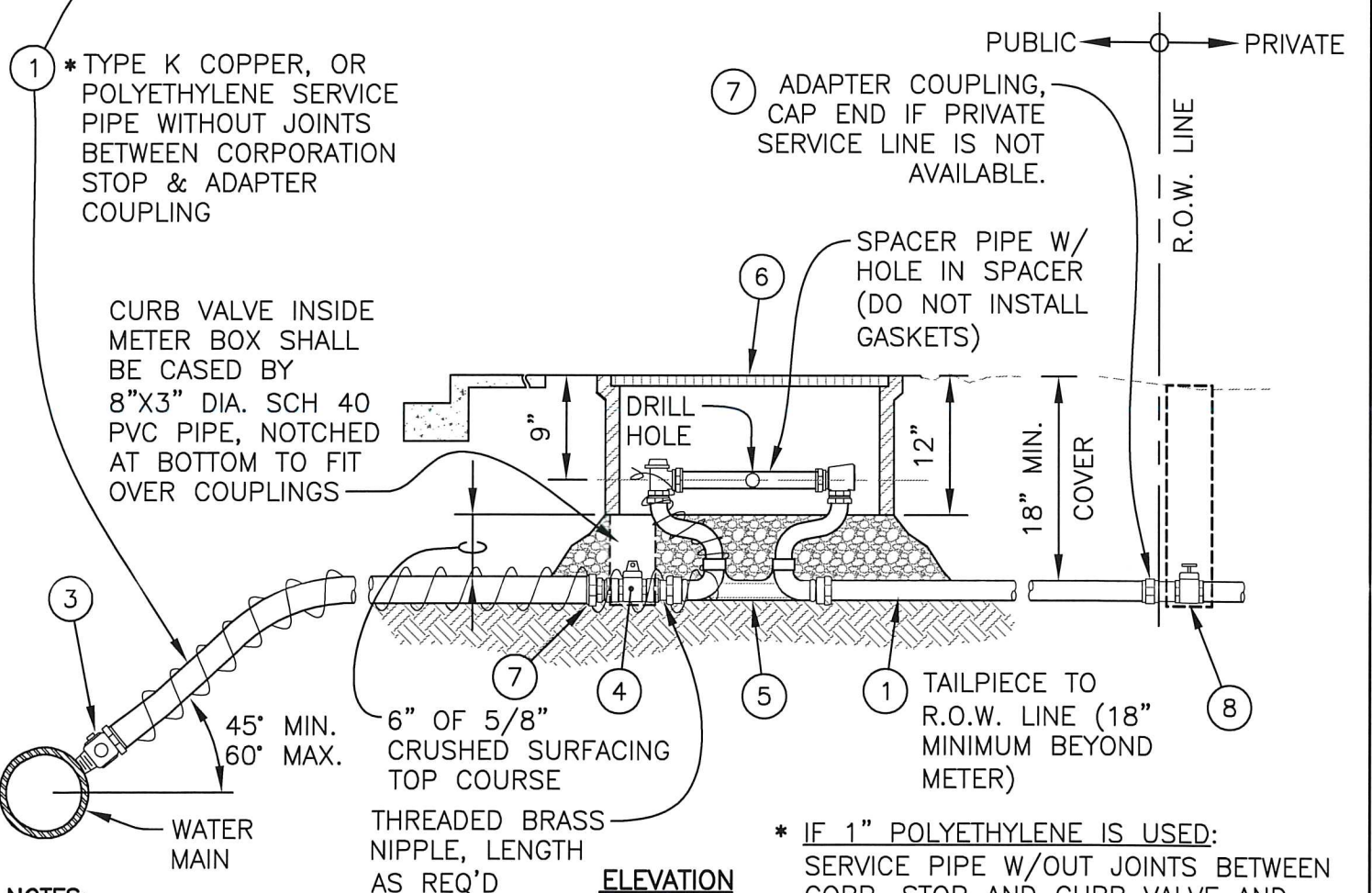
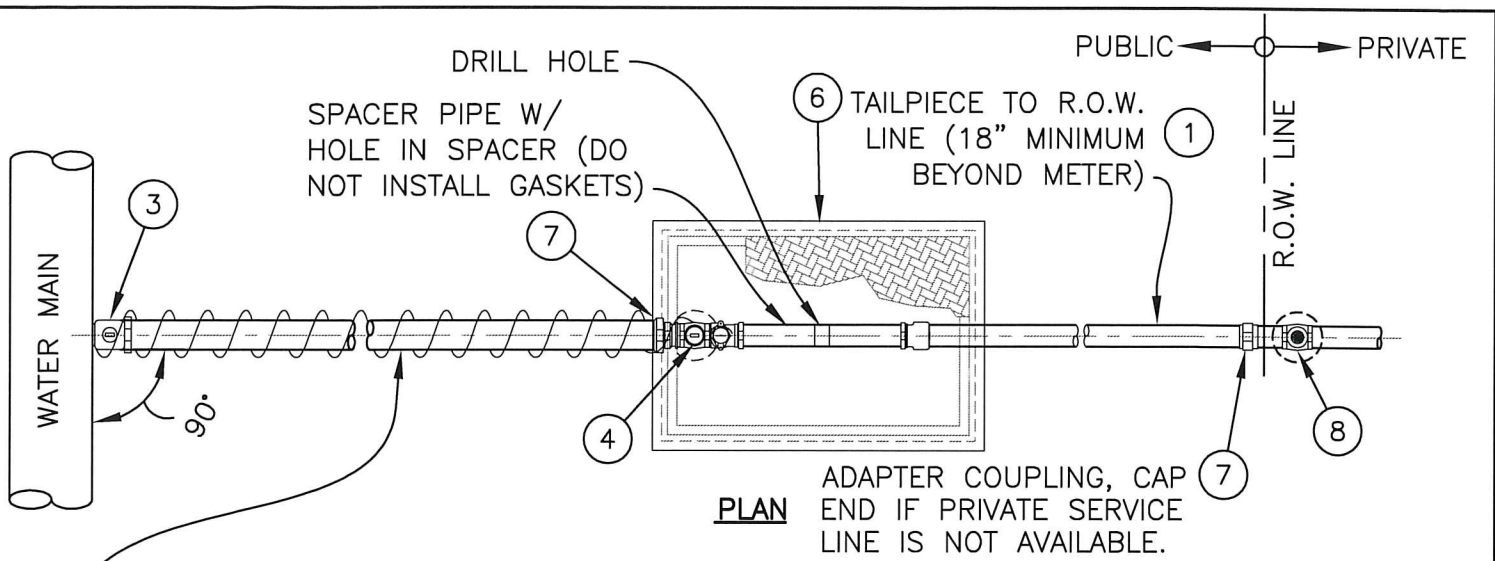
8/5/2016



FIRE HYDRANT LOCATION IN CUT  
OR FILL W/ GUARD POSTS







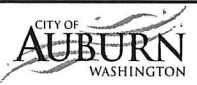
**NOTES:**

1. SEE STANDARD DETAIL W-15 FOR MATERIAL SCHEDULE.
2. ALL DOMESTIC SERVICE LINES FROM THE WATER MAIN TO THE ADAPTER COUPLING, STRAIGHT COUPLING, OR CURB VALVE, SHALL BE A MINIMUM OF 1" IN DIAMETER.
3. METER PROVIDED BY CITY, CONNECTIONS MADE FROM EXISTING WATER MAIN SHALL BE INSTALLED BY THE CITY OF AUBURN AND PAID FOR BY THE APPLICANT OR CONTRACTOR.

\* IF 1" POLYETHYLENE IS USED:  
 SERVICE PIPE W/OUT JOINTS BETWEEN CORP. STOP AND CURB VALVE AND WRAPPED W/ #10 INSULATED COPPER TRACER WIRE. ATTACH BARE TRACER WIRE TO CORP. STOP AND WRAP IT AROUND THE HDPE PIPE AND METER SETTER AS SHOWN W/ HIGH TORQUE SMOOTH STAINLESS STEEL HOSE CLAMPS. A MINIMUM OF 8" BARE WIRE SHALL PROTRUDE PAST CLAMP AT THE METER SETTER

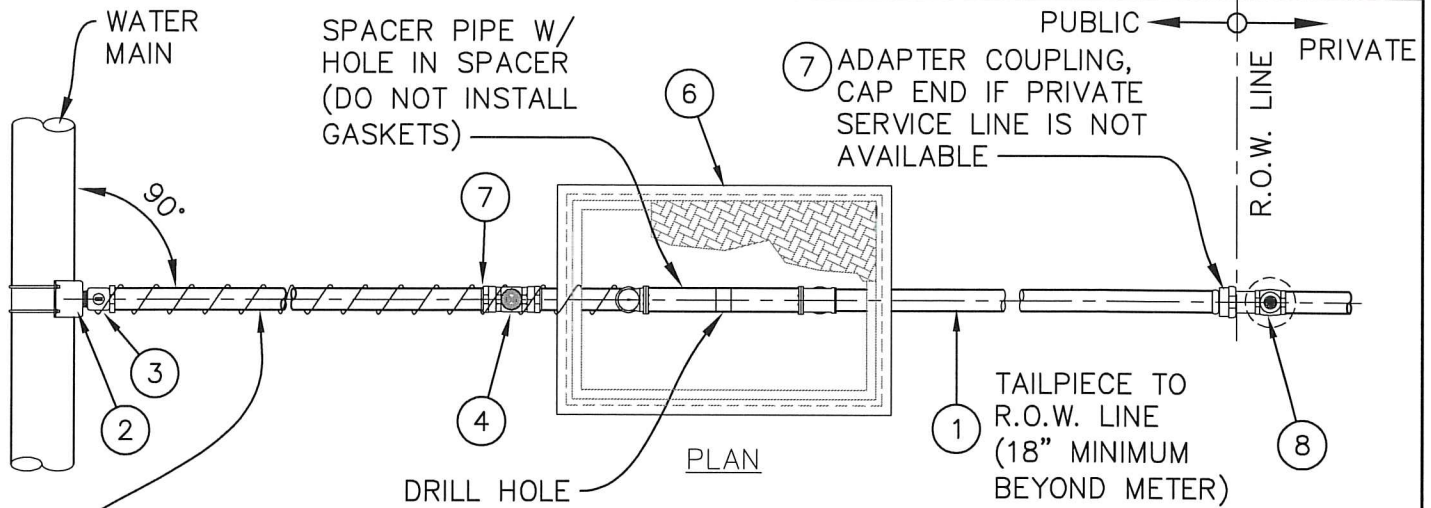
APPROVED BY CITY ENGINEER:

DATE:



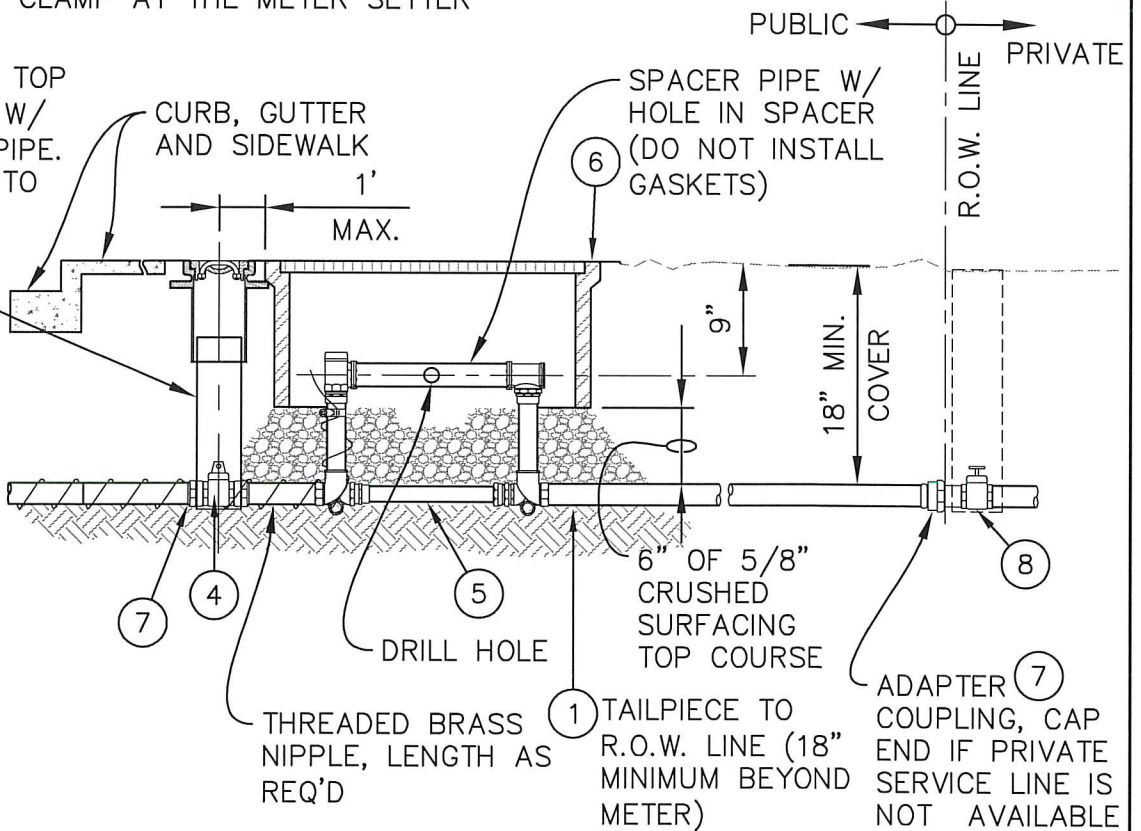
3/4" & 1" WATER METER INSTALLATION

Plotted by: Craig Dobyns on 5/16/2018 File location: M:\Construction Standard Details\Water\STDETAIL-W-13.2



1 SERVICE PIPE W/OUT JOINTS BETWEEN CORP. STOP AND CURB VALVE AND WRAPPED W/ #10 INSULATED COPPER TRACER WIRE. ATTACH BARE TRACER WIRE TO CORP. STOP AND WRAP IT AROUND THE HDPE PIPE AND METER SETTER AS SHOWN W/ HIGH TORQUE SMOOTH STAINLESS STEEL HOSE CLAMPS. A MINIMUM OF 8" BARE WIRE SHALL PROTRUDE PAST CLAMP AT THE METER SETTER

INSTALL CAST IRON VALVE BOX (8" LONG, TOP SECTION AND COVER) W/ 4" DIA. SCH 40 PVC PIPE. NOTCHED AT BOTTOM TO FIT OVER COUPLING



**NOTES:**

1. SEE STANDARD DETAIL W-15 FOR MATERIAL SCHEDULE.
2. ALL DOMESTIC SERVICE LINES FROM THE WATER MAIN TO THE ADAPTER COUPLING, STRAIGHT COUPLING, OR CURB VALVE, SHALL BE A MINIMUM OF 1" IN DIAMETER.
3. METER PROVIDED BY CITY, CONNECTIONS MADE FROM EXISTING WATER MAIN SHALL BE INSTALLED BY THE CITY OF AUBURN AND PAID FOR BY THE APPLICANT OR CONTRACTOR.

APPROVED BY CITY ENGINEER:

DATE:



1 1/2" & 2" WATER METER INSTALLATION



### WATER SERVICE MATERIAL SCHEDULE

- ① THE CITY OF AUBURN ALLOWS 1-1/2" TO 2" POLYETHYLENE SDR-9 (IN COPPER TUBE SIZES) W/ STAINLESS STEEL LINERS IN ALL COUPLINGS & WRAPPED W/ A #10 INSULATED COPPER TRACER WIRE. FOR 1" COPPER, IT SHALL BE TYPE K COPPER TUBING W/OUT TRACER WIRE FOR WATER SERVICE & TAILPIECE CONNECTION, IN ACCORDANCE W/ STANDARD SPECIFICATION SECTION 9-30.6(3). ALL CONNECTIONS TO POLYETHYLENE OR COPPER TUBING SHALL BE W/ MUELLER 110 COMPRESSION CONNECTIONS OR EQUAL. TAILPIECE SHALL EXTEND TO R.O.W. LINE (18" MINIMUM BEYOND METER) & SHALL BE THE SAME SIZE AS THE SERVICE LINE.
- ② SADDLES FOR 1", 1-1/2", OR 2" PIPE TAPS SHALL BE EPOXY COATED OR E-COATED DUCTILE IRON W/ DOUBLE STAINLESS STEEL STRAPS & NEOPRENE GASKETS. SADDLES SHALL HAVE I.P.S. FEMALE THREADS.
- ⑧ CONTRACTOR SHALL FURNISH & INSTALL PRIVATE SERVICE LINE SHUT-OFF VALVE & RISER. FOR CAPITAL PROJECTS, SEE CONTRACT DOCUMENTS, OTHERWISE PROPERTY OWNER TO INSTALL PRIVATE SERVICE LINE SHUT-OFF VALVE AT POINT OF CONNECTION.

**METER LOCATIONS:**

- 1) WHERE LANDSCAPE STRIPS ARE PLANNED OR EXIST, THE METER & METER BOX WILL BE PLACED BETWEEN THE BACK OF THE CURB & THE SIDEWALK, ADJACENT TO THE SIDEWALK IF ROOM PERMITS;
- 2) WHERE THE SIDEWALK IS LOCATED ADJACENT TO THE BACK OF THE CURB OR THE LANDSCAPE STRIP IS TOO NARROW TO ACCOMMODATE THE METER BOX, THE METER & METER BOX WILL BE PLACED ADJACENT TO & AT THE BACK OF SIDEWALK;
- 3) WHERE METERS & METER BOXES ARE LOCATED IN THE STREET OR SIDEWALK OR IN LOCATIONS WHICH ARE SUBJECTED TO VEHICULAR TRAFFIC, INCLUDING DRIVEWAYS, ETC., A TRAFFIC BEARING METER BOX & LID OF APPROPRIATE LOAD RATING SHALL BE PROVIDED AS SPECIFIED (EAST JORDAN IRON WORKS, OR EQUAL).
- 4) LOCATE CURB VALVE IN THE METER BOX WHERE POSSIBLE & 1 FT. OUTSIDE IF NO ROOM INSIDE METER BOX IS AVAILABLE.
- 5) OFF STREET METER LOCATION SHALL BE APPROVED BY THE CITY.

| SCHEDULE NO. & PART | SERVICE LINE SIZE & MUELLER/FORD CATALOG NO. OR APPROVED EQUAL   |   |   |
|---------------------|--|---|---|
|                     | 1"   | 1-1/2"  | 2"  |
| ③ CORP. STOP        | <u>DIRECT TAP OPTION:</u><br>MUELLER B-25008N OR FORD FB1000-4-Q-NL<br><br><u>SADDLE OPTION:</u><br>MUELLER B-20013N W/ H-15451N OUTLET COUPLING OR FORD FB500-4-NL W/ C14-44-Q-NL OUTLET COUPLING | MUELLER B-2969N W/ H-15451N OUTLET COUPLING OR FORD FB500-6-NL W/ C14-66-Q-NL OUTLET COUPLING                                   | MUELLER B-2969N W/ H-15451N OUTLET COUPLING OR FORD FB500-7-NL W/ C14-77-Q-NL OUTLET COUPLING                     |
| ④ CURB VALVE        | MUELLER B-20200N OR FORD B11-444W-NL   | MUELLER B-20200N OR FORD B11-666W-NL  | MUELLER B-20200N OR FORD B11-777W-NL  |
| ⑤ METER YOKE        | MUELLER B-2404R-2N W/ H-14222N INLET & H-14227N OUTLET COUPLINGS, 12" RISER W/ MUELLER H-10879 5/8"x3/4"x1" ADAPTERS FOR 3/4" METERS   | MUELLER B-2423-N W/ H-15428N OUTLET COUPLING OR FORD VBH76-12B-11-66-NL W/ C84-66-Q-NL OUTLET COUPLING, 12" RISER               | MUELLER B-2423-N W/ H-15428N OUTLET COUPLING OR FORD VBH77-12B-11-77-NL W/ C84-77-Q-NL OUTLET COUPLING, 12" RISER |
| ⑥ METER BOX         | HUBBELL QUAZITE 13"x24"x12" POLYMER CONCRETE BOX & COVER W/ READER LID & 2" AMR PORT W/ (2) 2 1/2 x 3 MOUSEHOLES (B03132412M)  | HUBBELL QUAZITE 17"x30"x12" POLYMER CONCRETE BOX & COVER W/ READER LID & 2" AMR PORT & W/ (2) 2 1/2 x 3 MOUSEHOLES (B03173012M) |   |
| ⑦ COUPLING          | MUELLER H-15428N OR FORD C84-44-Q-NL   | MUELLER H-15428N OR FORD C84-66-Q-NL  | MUELLER H-15428N OR FORD C84-77-Q-NL  |
| ⑧ SHUT-OFF VALVE    | MUELLER B-20200N W/ B-20298-99000 LEVER HANDLE, W/ 8" IRRIGATION BOX AND 6" PVC RISER  |   |   |

APPROVED BY CITY ENGINEER:

DATE:

*James Sweeting* 12/31/18



WATER METER LOCATION  
& MATERIAL SCHEDULE

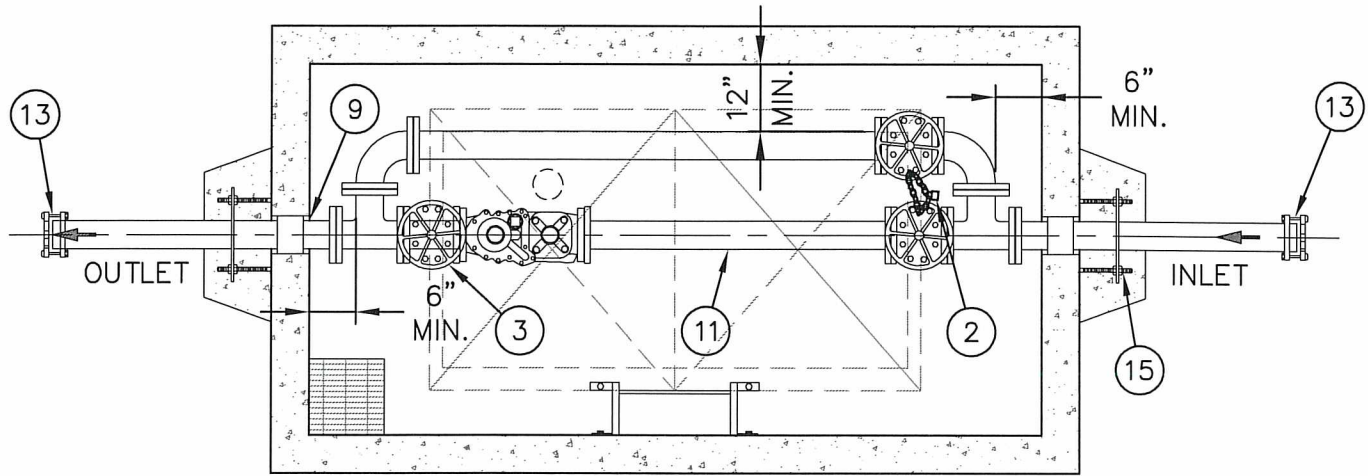
PUBLIC WORKS DEPARTMENT

STANDARD DETAIL: W-15.4

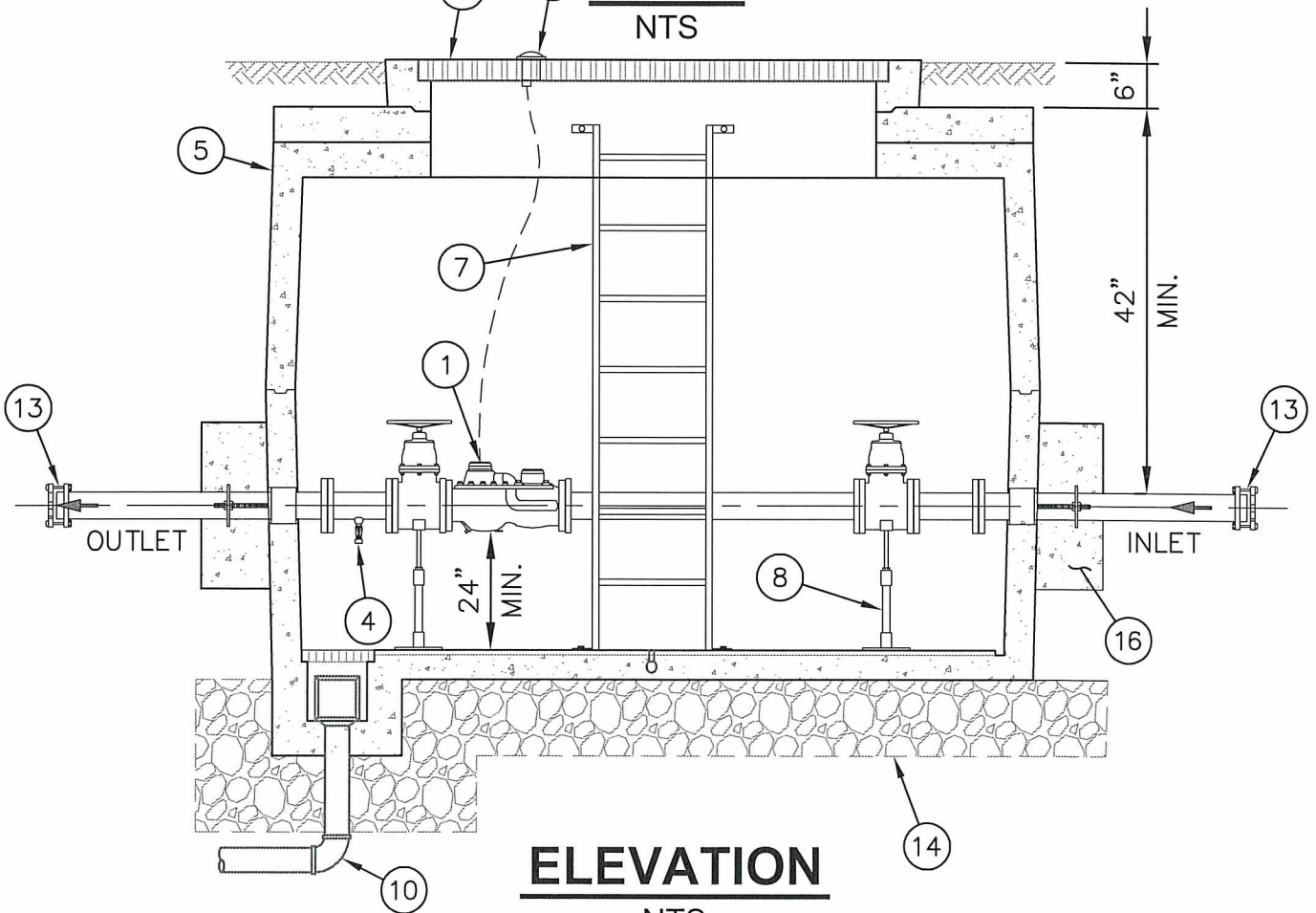
Plotted by: Craig Dobyns on 12/31/2018 File location: M:\Construction Standard Details\Current Working DWG\Water\STD\TEL-W-15.4



| METER SIZE | MAIN LINE  | BYPASS     | METER LENGTH<br>FLG. TO FLG. |
|------------|------------|------------|------------------------------|
| 3"         | 3" D.I.P.  | 3" D.I.P.  | 17"                          |
| 4"         | 4" D.I.P.  | 4" D.I.P.  | 20"                          |
| 6"         | 6" D.I.P.  | 6" D.I.P.  | 24"                          |
| 8"         | 8" D.I.P.  | 8" D.I.P.  | 30 1/8"                      |
| 10"        | 10" D.I.P. | 10" D.I.P. | 41 7/8"                      |



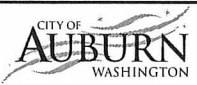
**PLAN**  
NTS



**ELEVATION**  
NTS

APPROVED BY CITY ENGINEER:

DATE:



3" OR LARGER WATER  
METER INSTALLATION

Plotted by: Craig Dobyns on 7/13/2016 File location: M:\Construction Standard Details\Approved Drawing Files (dwg)\Water\STDETL-W-16.1

## BILL OF MATERIALS

| Part Number | Quantity | Description   |
|-------------|----------|---|
| ①           | 1        | METER PROVIDED BY CITY FOR CONTRACTOR INSTALLATION:<br>SENSUS OMNI C2 COMPOUND METER OR APPROVED EQUAL FLANGED WITH BUILT-IN STRAINER AND ENCODERS COMPATIBLE WITH CURRENT SENSUS AMR/AMI SYSTEM. |
| ②           | 1        | LOCK WITH CHAINS.   |
| ③           | 3        | AWWA C-509 OR C-515 GATE VALVE COMPLETE WITH HAND WHEEL.  |
| ④           | 1        | 3/4" HOSE BIB COMPLETE WITH VACUUM BREAKER  |
| ⑤           | 1        | PRECAST CONCRETE VAULT COMPLETE WITH COLLAR,<br>C555 BLACK EXTERIOR DAMPROOFING, C555 WHITE INTERIOR PAINT  |
| ⑥           | 1        | 36"x72" ALUMINUM HATCH H20-44 CLASS B, STATIC LOADING   |
| ⑦           | 1        | O.S.H.A. APPROVED SAFETY LADDER W/ TELESCOPING SAFETY POST (IF VAULT IS OVER 30" DEEP)  |
| ⑧           | 2        | GALVANIZED STEEL ADJUSTABLE PIPE SUPPORT  |
| ⑨           | 2        | PIPE SEAL ASSEMBLY  |
| ⑩           | 1        | SUMP DRAIN, CONNECT TO CITY STORM SYSTEM, IF GRAVITY DRAIN IS NOT FEASIBLE,<br>A SUMP PUMP WITH CHECK VALVE ON DISCHARGE LINE IS REQUIRED   |
| ⑪           | 1        | SPOOL, LENGTH AS REQUIRED AND PER METER MANUFACTURER REQUIREMENTS   |
| ⑫           | 1        | 2" AMR PORT   |
| ⑬           | 2        | SMITH BLAIR OR EBAA TRANSITION COUPLINGS  |
| ⑭           | AS REQ'D | 5/8" MINUS CRUSHED ROCK FOUNDATION WITH COMPACTED DEPTH OF 12" MINIMUM  |
| ⑮           | 2        | THRUST SEAL PLATE C/W ANCHORING BOLTS   |
| ⑯           | 2        | REINFORCED CONCRETE THRUST BLOCKS   |

STANDARD FABRICATION & FINISHING SPECIFICATION

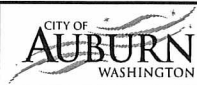
- 1) ALL STEEL PIPE SHALL BE SANDBLASTED, EPOXY LINED AND COATED TO AWWA C-120 AND NSF-61 SPECIFICATIONS. FINISH COATING SHALL BE BLUE ENAMEL.
- 2) GATE VALVE ON THE BYPASS SHALL BE NORMALLY CLOSED AND LOCKED WITH THE GATE VALVE ON THE MAIN LINE AS SHOWN AND KEYS GIVEN TO THE CITY.
- 3) DUCTILE IRON PIPE SHALL BE ACCORDING TO 9-30.1(1) OF THE STANDARD SPECIFICATIONS.

APPROVED BY CITY ENGINEER:

DATE:



6/29/2018



3" OR LARGER WATER  
METER INSTALLATION

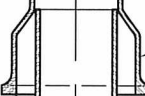
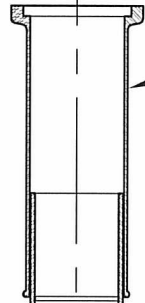
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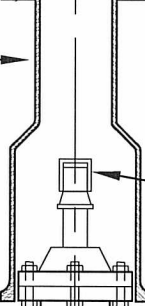
CI VALVE BOX  
DROP COVER, PER  
STD. DETAIL W-18



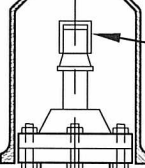
18" CI VALVE BOX  
TOP, PER STD.  
DETAIL W-18



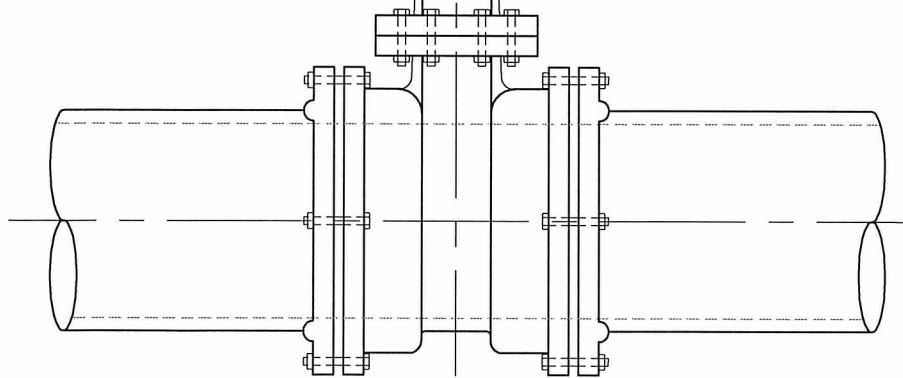
5" DIA. C.I. SOIL PIPE  
(OR APPROVED EQUAL)  
LENGTH AS NEEDED, PER  
STD. DETAIL W-19



C.I. VALVE BOX BOTTOM (OR  
APPROVED EQUAL) LENGTH AS  
NEEDED, PER STD. DETAIL W-19



2" SQUARE  
OPERATING NUT



NOTE:  
IF DEPTH OF NUT IS GREATER  
THAN 7 FEET, CONTRACTOR  
TO PROVIDE NUT EXTENSION

APPROVED BY CITY ENGINEER:

DATE:

8/5/2016



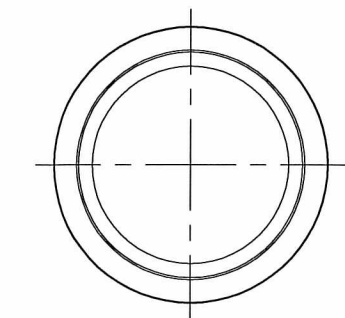
VALVE WRENCH  
EXTENSION BOX

COMMUNITY DEVELOPMENT & PUBLIC WORKS DEPT.

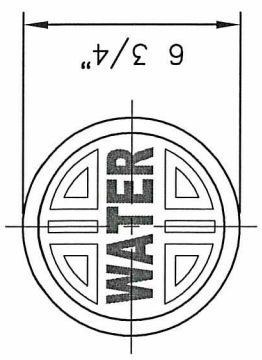
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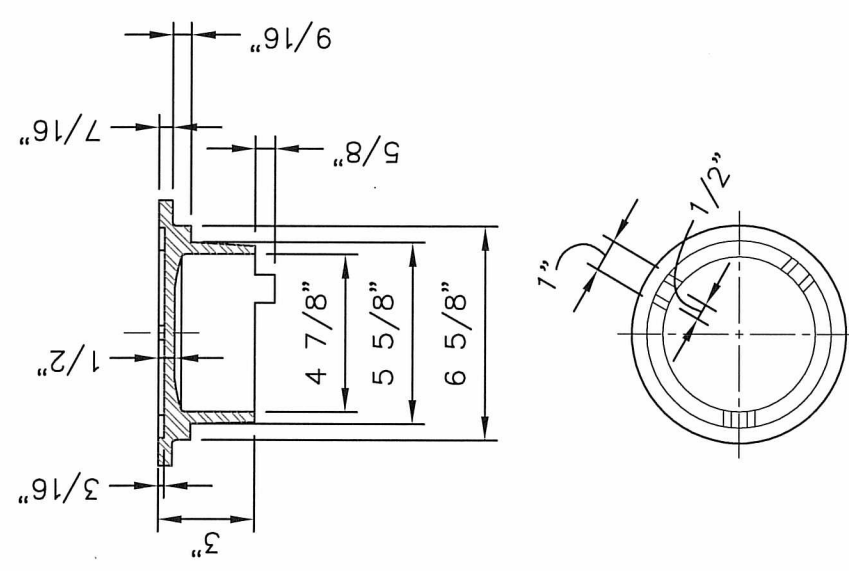
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TOP VIEW

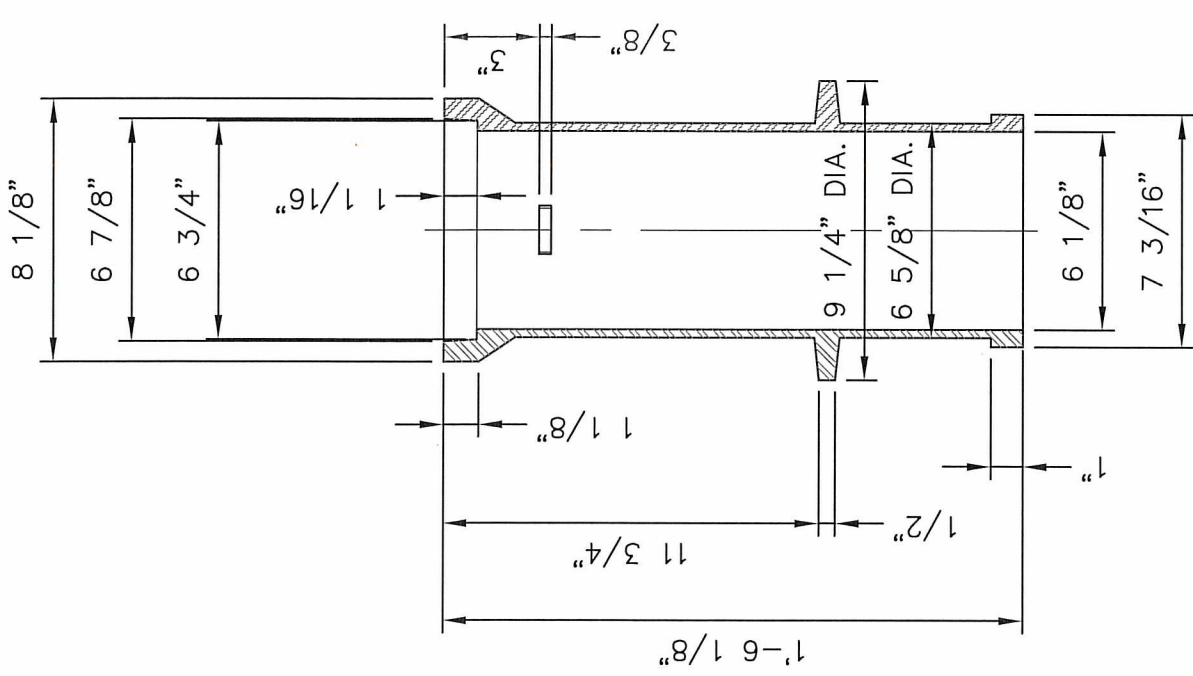


TOP VIEW



BOTTOM VIEW

VALVE BOX DROP  
COVER (DEEP SKIRT)  
NOT TO SCALE



18" CAST IRON VALVE  
BOX TOP & COVER  
NOT TO SCALE

APPROVED BY CITY ENGINEER:

*Bob Gels*

DATE:

2/20/2018

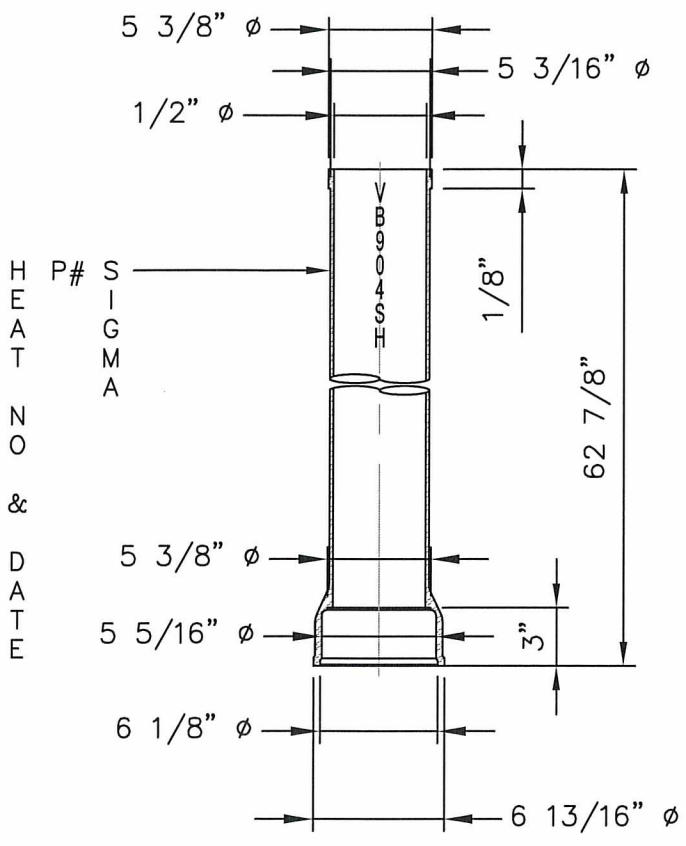


C.I. VALVE BOX TOP &  
VALVE BOX COVER

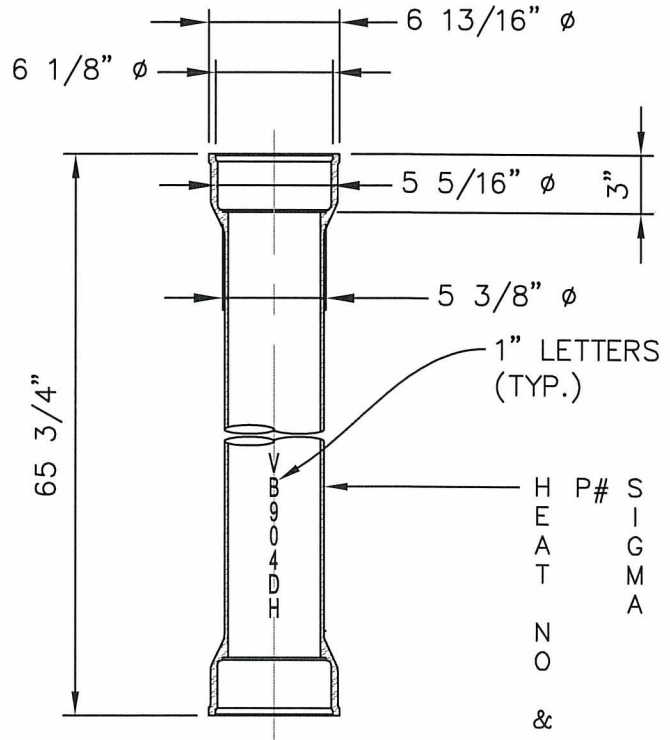
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STANDARD DETAIL: W-18.2

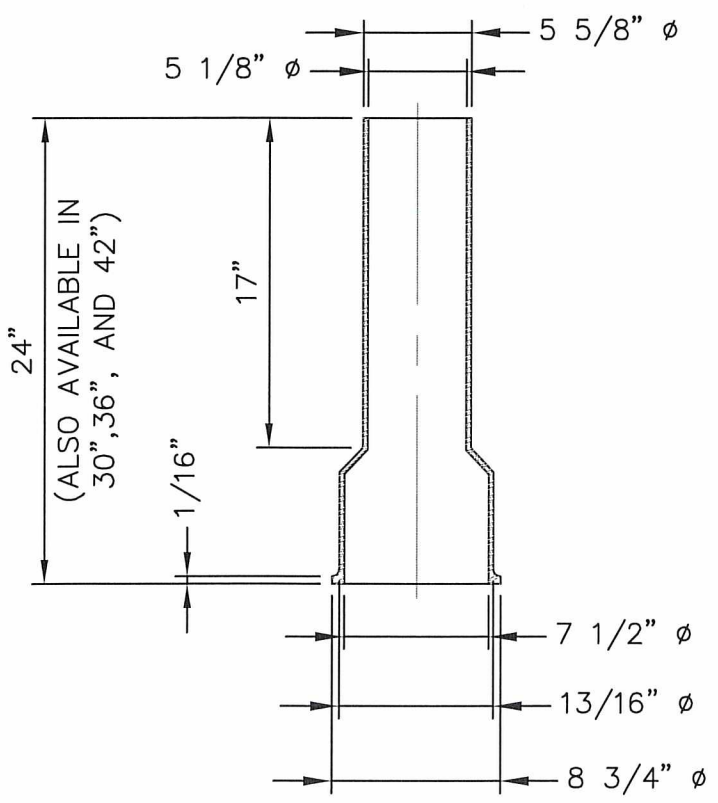
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**SINGLE HUB 5" C.I. SOIL PIPE VALVE BOX EXTENSION**  
NOT TO SCALE



**DOUBLE HUB 5" C.I. SOIL PIPE VALVE BOX EXTENSION**  
NOT TO SCALE



**C.I. VALVE BOX BOTTOM**  
NOT TO SCALE

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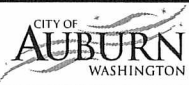
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APPROVED BY CITY ENGINEER:

DATE:

*Paul Sabo*

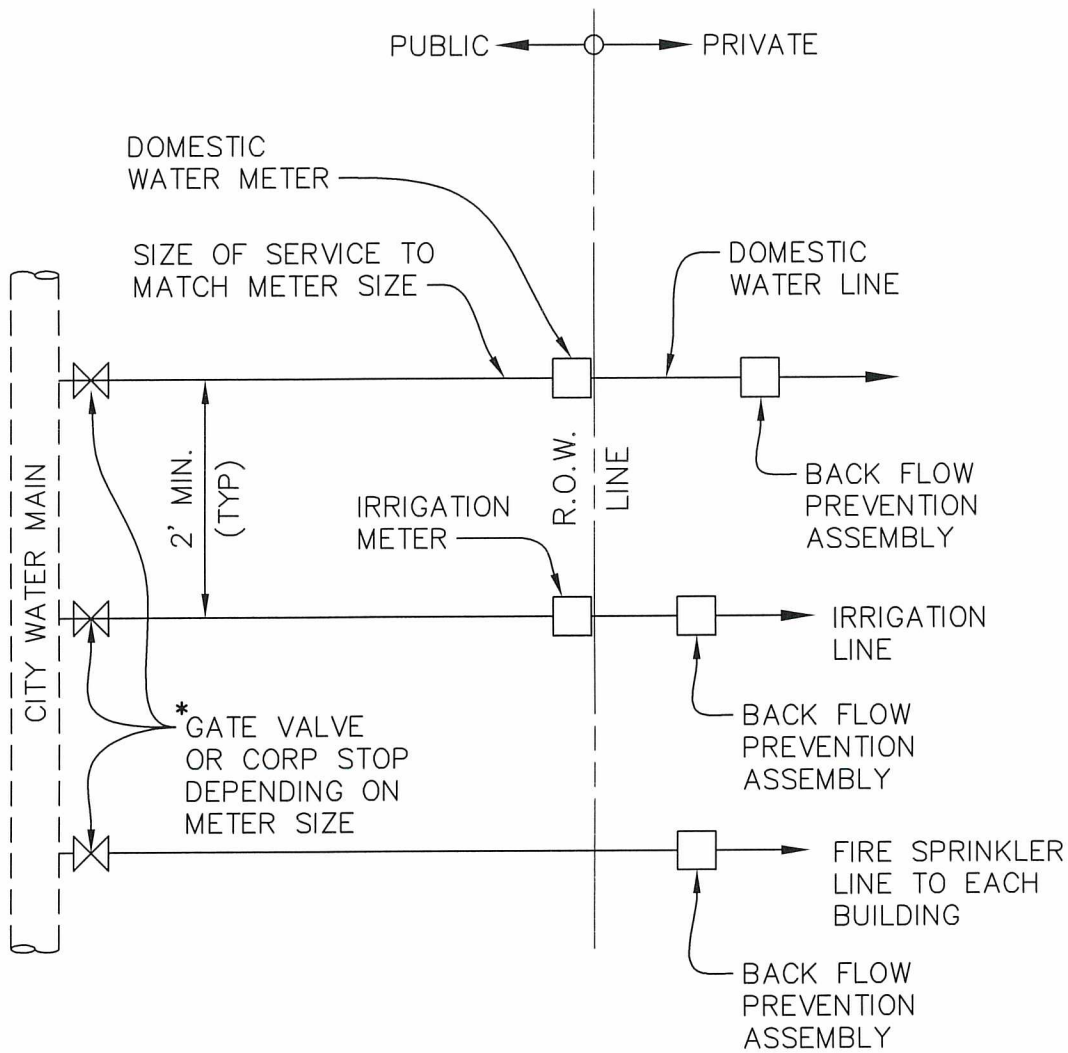
8/5/2016



5" C.I. SOIL PIPE VALVE BOX EXTENSION & C.I. VALVE BOX BOTTOM

COMMUNITY DEVELOPMENT & PUBLIC WORKS DEPT.

STANDARD DETAIL: W-19.1



**NOTES:**

1. CONNECTION TO CITY WATER MAIN PER CITY OF AUBURN REQUIREMENTS.
2. BACK FLOW ASSEMBLY IS REQUIRED ON FIRE SPRINKLER, DOMESTIC, & IRRIGATION LINES. TYPE OF ASSEMBLY SHALL BE PER DESIGN STANDARDS.
3. PLANS FOR SEPARATE FIRE SPRINKLER LINE MUST BE SUBMITTED & APPROVED BY THE FIRE MARSHAL PRIOR TO INSTALLATION, AND SHALL BE DESIGNED BY A FIRE PROTECTION ENGINEER.

\* FOR METERS 2" OR LESS USE CORP STOP & FOR METERS LARGER THAN 2" USE GATE VALVE WITH 2" STANDARD OPERATING NUT & COA VALVE BOX TO SURFACE.

APPROVED BY CITY ENGINEER:

DATE:

*[Handwritten Signature]*

*12/29/2016*

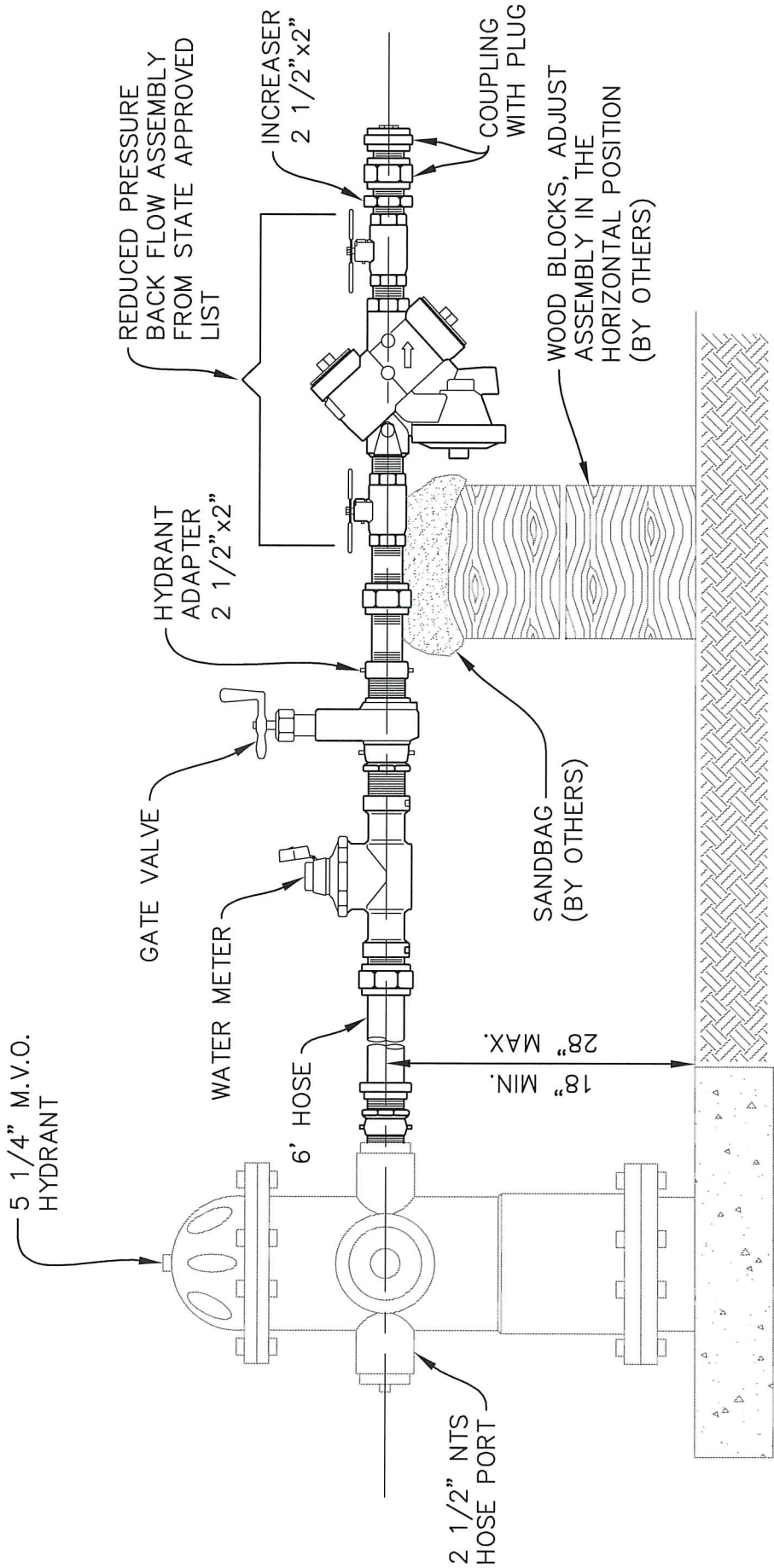


NON-SINGLE FAMILY SERVICE LINES

1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100.



Plotted by: Craig Dobyns on 7/13/2016 File location: M:\Construction Standard Details\Approved Drawing Files (dwg)\Water\STDETL-W-21.1

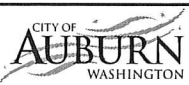


APPROVED BY CITY ENGINEER:

DATE:

*Paul Gals*

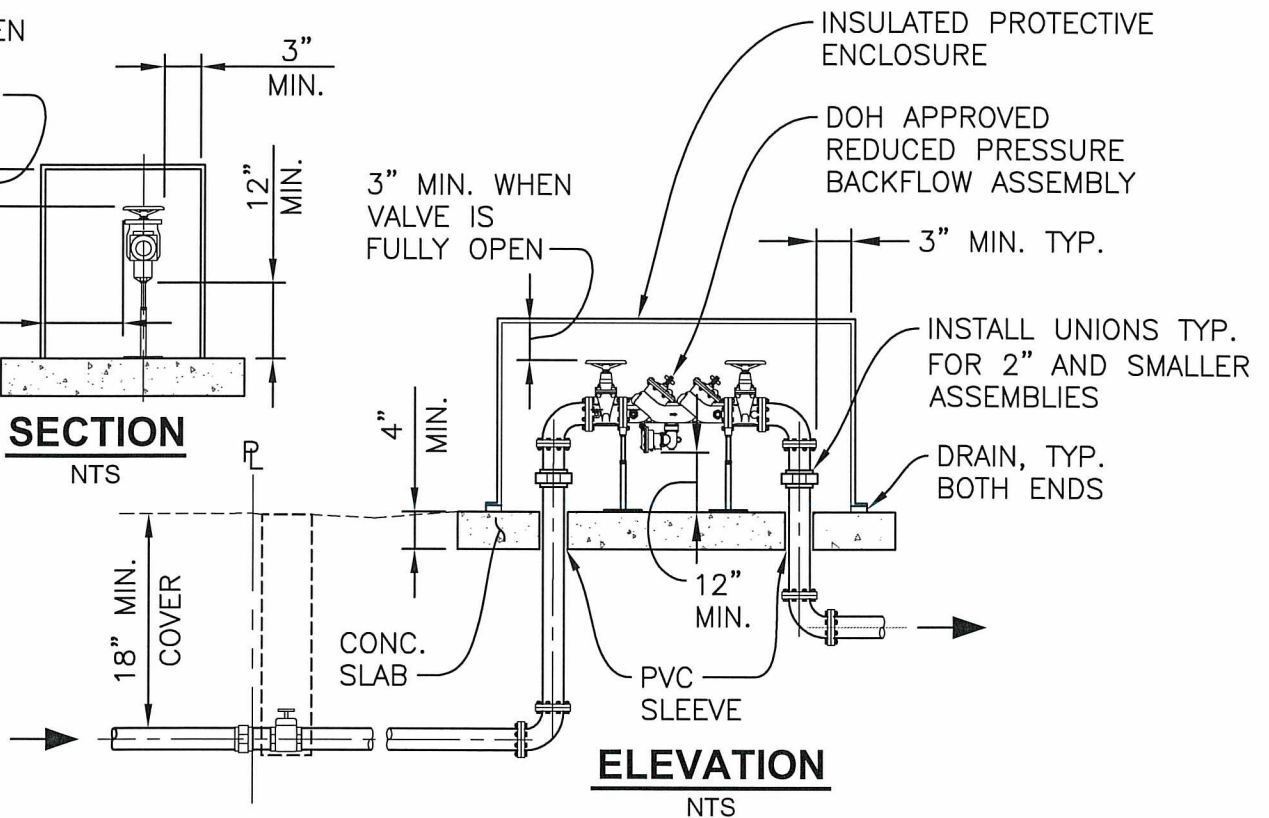
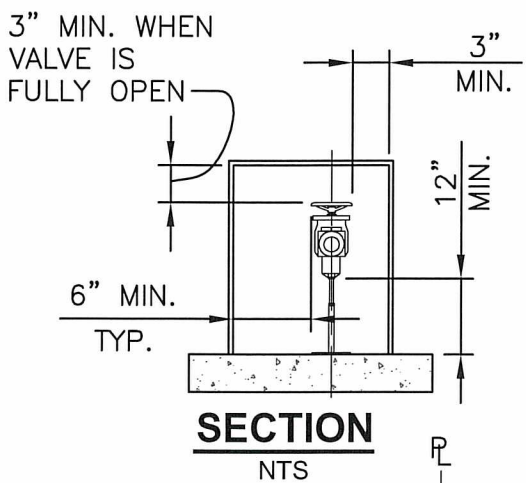
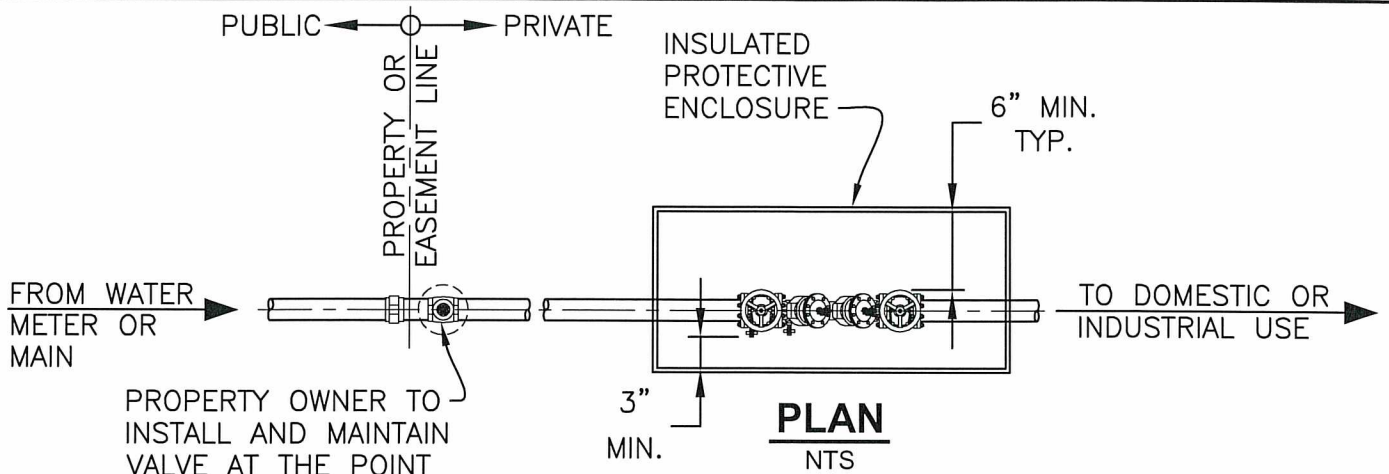
8/5/2016



TEMP. COMBINATION HYDRANT METER/  
REDUCED PRESSURE BACKFLOW ASSY.

COMMUNITY DEVELOPMENT & PUBLIC WORKS DEPT.

STANDARD DETAIL: W-21.1



**NOTES:**

1. INSULATED PROTECTIVE ENCLOSURE MUST COMPLY WITH THE AMERICAN SOCIETY OF SANITARY ENGINEERING (ASSE) 1060 OUTDOOR ENCLOSURES FOR BACKFLOW PREVENTION ASSEMBLIES. IT SHALL BE LOCKABLE WITH A KEY LOCK OR PADLOCK AND SHALL ALLOW FOR MINIMUM CLEARANCES AND PROVIDE ADEQUATE DRAINAGE.
2. RPBA SHALL BE INSTALLED ADJACENT TO THE METER AND HAVE NO BRANCH CONNECTION BETWEEN THE METER AND THE BACKFLOW ASSEMBLY. INSTALL RPBA HORIZONTALLY.
3. BACKFLOW ASSEMBLY MUST BE APPROVED FOR USE IN WASHINGTON STATE BY THE DEPARTMENT OF HEALTH (DOH). IT MUST BE TESTED BY A STATE CERTIFIED "BAT" AT THE TIME OF INSTALLATION, ANNUALLY, AFTER THE ASSEMBLY IS REPAIRED, MOVED OR AFTER AN INCIDENT AT OWNER'S EXPENSE.
4. BACKFLOW ASSEMBLY SHALL BE PURCHASED AND INSTALLED AS A UNIT, AS SHIPPED BY THE MANUFACTURER, WITH NO MODIFICATIONS TO ANY PART OF THE ASSEMBLY.
5. A MINIMUM OF TWO SUPPORTS MUST FIRMLY ANCHOR THE ASSEMBLY.

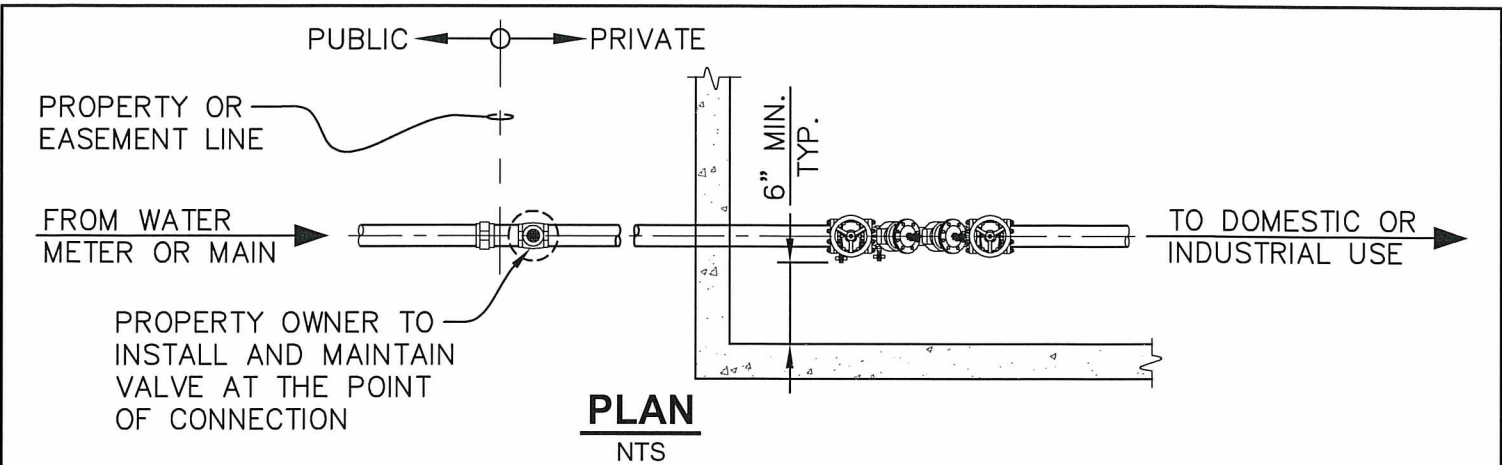
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DATE:

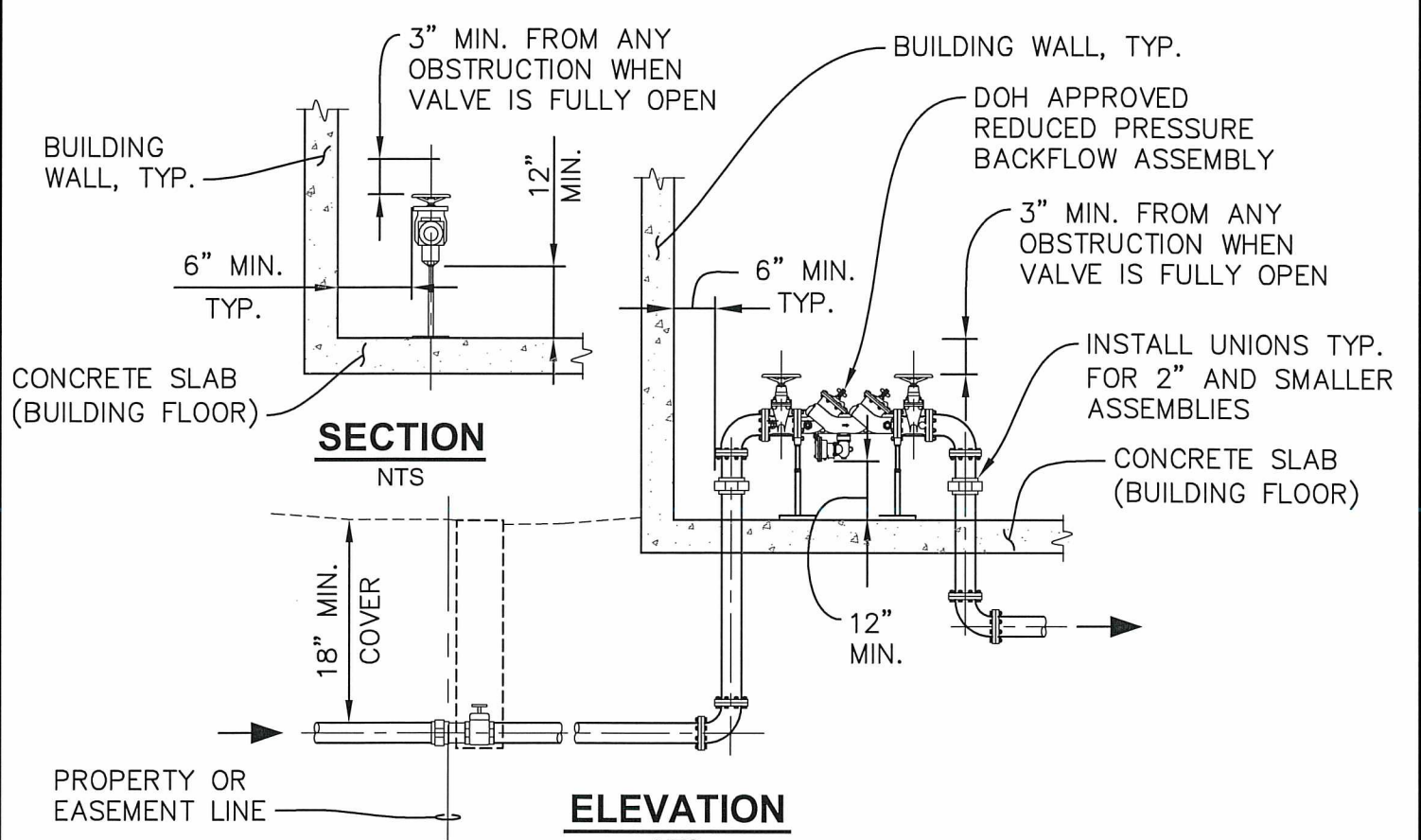
*Jacob [Signature]* 12/31/18



REDUCED PRESSURE BACKFLOW ASSY.  
(OUTSIDE INSTALLATION)



**PLAN**  
NTS



**SECTION**  
NTS

**ELEVATION**  
NTS

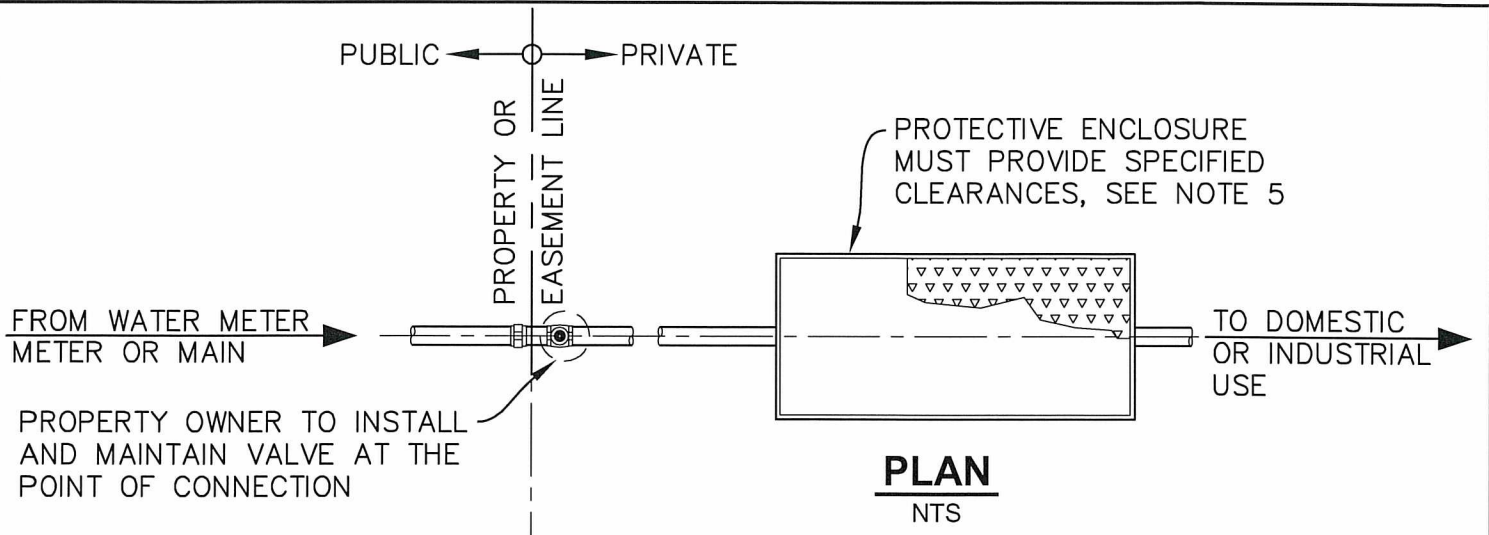
**NOTES:**

1. RPBA INSTALLED INSIDE BUILDING SHALL HAVE NO BRANCH CONNECTIONS BETWEEN THE METER AND THE BACKFLOW ASSEMBLY. INSTALL RPBA HORIZONTALLY.
2. BACKFLOW ASSEMBLY MUST BE APPROVED FOR USE IN WASHINGTON STATE BY THE DEPARTMENT OF HEALTH (DOH). IT MUST BE TESTED BY A STATE CERTIFIED "BAT" AT THE TIME OF INSTALLATION, ANNUALLY, AFTER THE ASSEMBLY IS REPAIRED, MOVED OR AFTER AN INCIDENT AT OWNER'S EXPENSE.
3. BACKFLOW ASSEMBLY SHALL BE PURCHASED AND INSTALLED AS A UNIT, AS SHIPPED BY THE MANUFACTURER, WITH NO MODIFICATIONS TO ANY PART OF THE ASSEMBLY.
4. A MINIMUM OF TWO SUPPORTS MUST FIRMLY ANCHOR THE ASSEMBLY.
5. ADEQUATE DRAINAGE MUST BE PROVIDED.

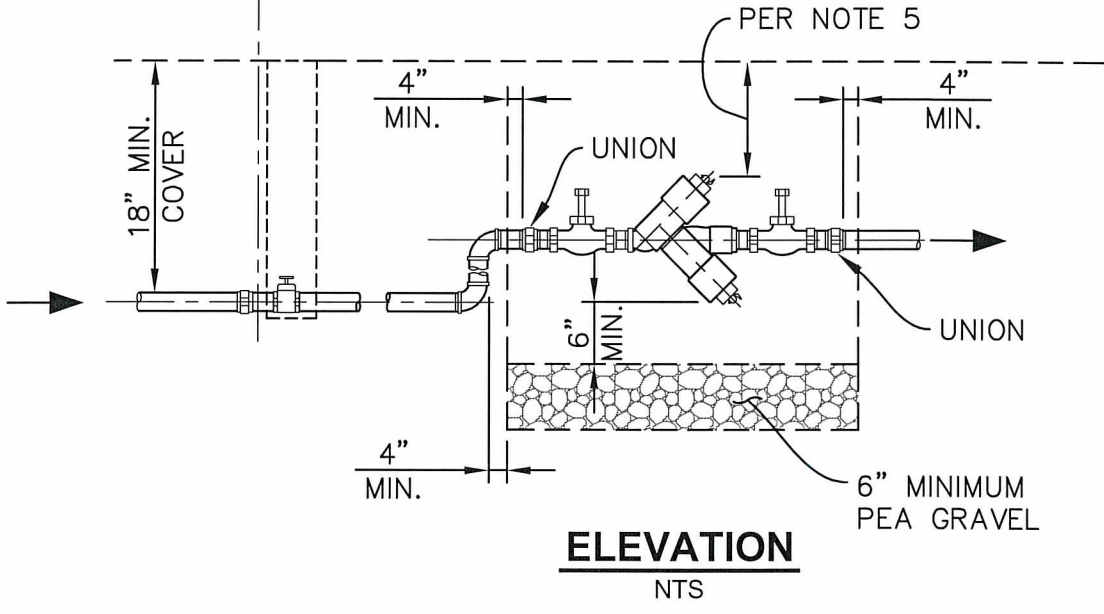
|   |                   |  |   |
|---|-------------------|--|---|
| APPROVED BY CITY ENGINEER:<br><br>PUBLIC WORKS DEPARTMENT | DATE:<br>12/31/10 |  | REDUCED PRESSURE BACKFLOW ASSY.<br>(INSIDE INSTALLATION)<br><br>STANDARD DETAIL: W-23.2 |
|---|-------------------|--|---|

Plotted by: Craig Dobyns on 12/31/2010 File location: M:\Construction Standard Details\Water\STDDETAIL-W-23.2





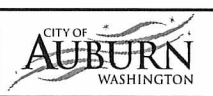
PROPERTY OWNER TO INSTALL AND MAINTAIN VALVE AT THE POINT OF CONNECTION



**NOTES:**

1. BACKFLOW ASSEMBLY MUST HAVE ADEQUATE SPACE CONSIDERATIONS FOR PROPER TESTING AND MAINTENANCE. A MINIMUM OF 12" CLEARANCE FROM ANY OBSTRUCTIONS ON THE TEST SIDE. A MINIMUM OF 6" CLEARANCE BELOW ASSEMBLY AND A MINIMUM OF 6" OF PEA GRAVEL IN THE BOTTOM OF THE BOX. THE MINIMUM CLEARANCE FROM THE TOP OF THE PEA GRAVEL TO THE BOTTOM OF THE ASSEMBLY IS 6".
2. DCVA MUST BE INSTALLED WITH TEST COCKS FACING UP. TEST COCKS MUST BE PLUGGED WITH BRASS OR PLASTIC PLUGS. INSTALL DCVA HORIZONTALLY.
3. BACKFLOW ASSEMBLY MUST BE APPROVED FOR USE IN WASHINGTON STATE BY THE DEPARTMENT OF HEALTH (DOH). IT MUST BE TESTED BY A STATE CERTIFIED "BAT" AT THE TIME OF INSTALLATION, ANNUALLY, AFTER THE ASSEMBLY IS REPAIRED, MOVED OR AFTER AN INCIDENT AT OWNER'S EXPENSE.
4. BACKFLOW ASSEMBLY SHALL BE PURCHASED AND INSTALLED AS A UNIT, AS SHIPPED BY THE MANUFACTURER, WITH NO MODIFICATIONS TO ANY PART OF THE ASSEMBLY.
5. MINIMUM CLEARANCE AT ABOVE ASSEMBLY SHALL BE: 9" (FOR 3/4" METER), 12" (FOR 1" METER), AND 14" (FOR 1 1/2" & 2" METER).

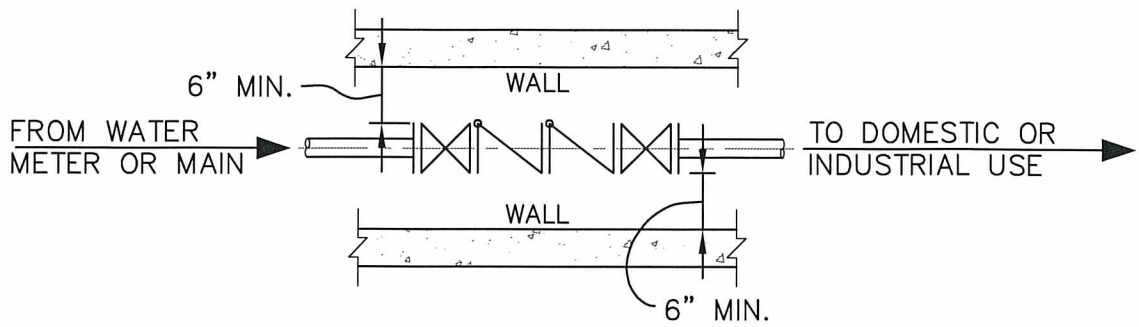
APPROVED BY CITY ENGINEER: *Carol J. [Signature]* DATE: 12/31/18  
 PUBLIC WORKS DEPARTMENT



DOUBLE CHECK VALVE ASSEMBLY (OUTSIDE INSTALLATION)

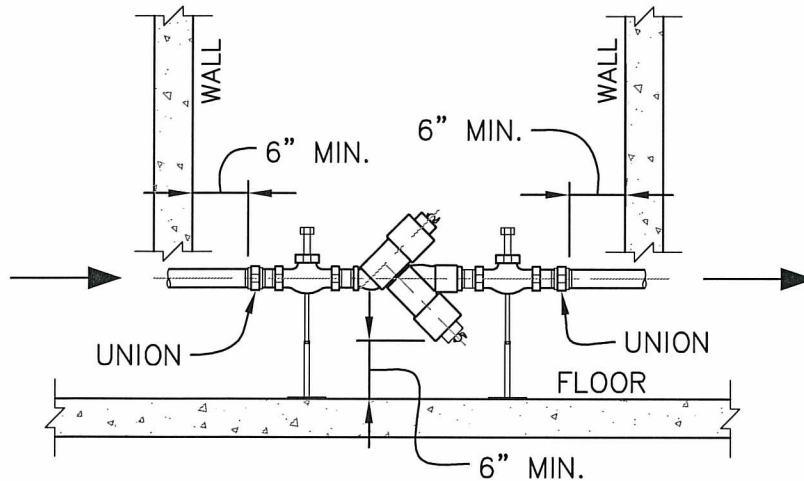
STANDARD DETAIL: W-24.2

Plotted by: Craig Dobyns on 12/31/2018 File location: M:\Construction Standard Details\Current Working DWG\Water\STDDET-W-24.2



**PLAN**

NTS



**ELEVATION**

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**NOTES:**

1. BACKFLOW ASSEMBLY MUST HAVE ADEQUATE SPACE CONSIDERATIONS FOR PROPER TESTING AND MAINTENANCE. A MINIMUM OF 6" SIDE CLEARANCE BETWEEN DCVA AND WALL OR ANY OBSTRUCTIONS AND A MINIMUM OF 6" CLEARANCE BELOW ASSEMBLY SHALL BE PROVIDED.
2. DCVA MUST BE INSTALLED WITH TEST COCKS FACING UP. TEST COCKS MUST BE PLUGGED WITH BRASS OR PLASTIC PLUGS.
3. DCVA INSTALLED INSIDE BUILDING SHALL HAVE NO BRANCH CONNECTIONS BETWEEN THE METER AND THE BACKFLOW ASSEMBLY. INSTALL DCVA HORIZONTALLY.
4. BACKFLOW ASSEMBLY MUST BE APPROVED FOR USE IN WASHINGTON STATE BY THE DEPARTMENT OF HEALTH (DOH). IT MUST BE TESTED BY A STATE CERTIFIED "BAT" AT THE TIME OF INSTALLATION, ANNUALLY, AFTER THE ASSEMBLY IS REPAIRED, MOVED OR AFTER AN INCIDENT AT OWNER'S EXPENSE.
5. BACKFLOW ASSEMBLY SHALL BE PURCHASED AND INSTALLED AS A UNIT, AS SHIPPED BY THE MANUFACTURER, WITH NO MODIFICATIONS TO ANY PART OF THE ASSEMBLY.
6. TWO SUPPORTS, EITHER WALL OR FLOOR, ONE ON EACH SIDE OF THE ASSEMBLY, MUST FIRMLY ANCHOR THE ASSEMBLY.

APPROVED BY CITY ENGINEER:

DATE:

*Jacob [Signature]* 12/31/18



DOUBLE CHECK VALVE ASSEMBLY  
(INSIDE INSTALLATION)

PUBLIC WORKS DEPARTMENT

STANDARD DETAIL: W-25.2