





N. T. S.

HARDSCAPE CALCULATIONS: TOTAL PROPERTY AREA = 9,900 SF

TOTAL HARD SURFACE ON-SITE = 4,371 < 4,375 => OK



* 9740 EVERGREEN WAY * EVERETT * WA * 98204 * VISIT OUR WEBSITE AT: WWW.WESI.CO

10/24/23 DRAWING FILE NAME CHECKED BY F.B. NO. 181742A_MASTER.DWG RRS

JOB NUMBER 18-1742-A 559

SHT 1



STORM DRAINAGE NOTES:

- Prior to any site work including drainage, the contractor shall contact the City of Mukilteo Community Development at 425–263–8000 to schedule a pre-construction 14. conference. 2. All pipe shall be placed on stable earth. If in the opinion of the City inspector, the
- existing trench foundation is unsatisfactory, then it shall be excavated below grade and backfilled with gravel bedding to support the pipe. 3. Backfill shall be placed equally on both sides of the pipe or pipe-arch in 6" average
- depth loose lifts. Maximum lift depth shall not exceed 9". Each lift shall be thoroughly compacted. Compacted lifts must extend at least one pipe diameter on each side of the pipe or to the side of the trench. Backfill over the pipe shall be performed in accordance with Sections 7–04.3(3) and 2–03.2(14)C – Method B and C of the WSDOT A. All pipe shall be smooth interior. CPP shall be double-walled. All pipe shall meet Standard Specifications for Road, Bridge, and Municipal Construction.
- feet below pavement level.
- 5. All catch basins are to be Type I unless otherwise approved by the City engineer or designated representative. The use and installation of inlets is not encouraged.
- 6. The contractor shall be responsible for adjusting all manhole, inlet and catch basin frames and grates to grade just prior to curb installation and/or paving.
- 7. All catch basins with a depth of 5 feet or greater to the flow line shall be Type II catch
- 8. Vaned grates are required on all storm structures. All catch basins and manholes shall have locking lids. Rolled grates are not approved for use. 9. Polypropylene safety steps and ladder steps shall be provided in all manholes and shall
- be positioned correctly with the bolt areas on the rim. 10. Catch basin frames and grates shall be Olympic Foundry Model SM60, SM52, or SM44, locking type or equivalent. Model SM52 shall be referred to as a "Through Curb Inlet" on
- the plans. 11. Detention ponds with side slopes steeper than 3:1 or with a maximum water depth greater than 3 feet shall require a powder or vinyl coated chain link perimeter fence per standard plans 3–501–007 & 008. Side slope averaging shall not be allowed. All inlet and outfall pipes shall have a trash rack installed and a mortared riprap headwall. Refer
- to storm drainaae note 18. 12. Prior to sidewalk construction; lot drainage systems, stub-outs and any behind sidewalk drains must be installed as required. Pipe shall be PVC 3034, or SDR-35. Stubouts shall 17. Culvert ends shall be beveled to match side slopes. Field cutting of culvert ends is be marked with a 2"x 4" with 3 feet visible above grade and marked "storm". Locations permitted when approved by the City engineer or designated representative. of these installations shall be shown on the as-built construction plans submitted to the 18. All field cut culvert pipe shall be treated as required in the Standard Specifications or Citv.
- 13. Storm water retention/detention facilities, storm drainage pipe and catch basins shall be flushed and cleaned by the developer prior to; City of Mukilteo final acceptance of the project and; upon commencement and completion of the 2 year warranty period for the

storm drainage system.

- Unless otherwise noted, all storm sewer pipe shall be; (CP) non-reinforced concrete, ASTM C-14; (RCP) reinforced concrete for concrete pipe diameters 24" or greater, ASTM C-76; or (CMP) corrugated metal. CMP to be; galvanized steel with Treatment I Mukilteo Development Standards 56 asphalt coating or better; or corrugated aluminum; or AASHTO M274–70 aluminized steel. All pipes shall be installed with rubber gaskets as per manufacturer's recommendations. Coverage Requirements for 12" diameter pipe: Backfill over pipe less than 12" requires RCP Class IV. Backfill over pipe less than 24" requires RCP minimum.Backfill over pipe greater than 24" requires 16 gage CMP minimum. Corrugated Polyethylene Pipe (CPP):
- AASHTO and ASTM specifications. 4. All grates located in the gutter flow line (inlet and catch basin) shall be depressed 0.1 B. Upon request by the City inspector, all pipe runs shall pass the low pressure air test requirements of Section 7-04.3(1) E & F of the WSDOT Standard Specifications for Road, Bridge, and Municipal Construction. Pipe runs shall be tested with pipe loaded and compacted to finish grade.
 - Upon request by the City inspector, pipe shall be subject to mandrel testing (mandrel size = 90% of nominal pipe diameter).
 - Pipe shall be stored on site in shipping bunks on a flat level surface. This requirement will be strictly enforced; failure to comply may result in rejection of the pipe and/or future restriction on use of material. Minimum depth of cover shall be 2 feet.
 - Couplings shall be integral bell and spigot or double bell separate couplings. Split couplings will not be allowed.
 - Backfill shall comply with Section 7–08.3(3) of the WSDOT Standard Specifications for Road, Bridge, and Municipal Construction modified as follows: The second paragraph of Section 7-08.3(3) is deleted and replaced with the following: The material used for backfilling around and to a point 1 foot above the top of the pipe shall be clean earth or sand, free from clay. Any gravel or stones included in the backfill shall pass through a 1 inch sieve.
 - 16. All non-perforated metal pipe shall have neoprene gaskets at the joints. O-ring gaskets may be used for type–F coupling band. General Special Provisions.

NOTES :

1. CATCHBASINS TO BE CONSTRUCTED IN ACCORDANCE WITH ASTM C 478 (AASHTO M 199) & ASTM C 890 UNLESS OTHERWISE SHOWN ON PLANS OR NOTED IN THE WSDOT / APWA SPECIFICATIONS.

REINFORCING SHALL BE EQUIVALENT TO

WELDED WIRE FABRIC HAVING A MINIMUM AREA OF 0.12 SQUARE INCHES PER FOOT. WELDED

WIRE FABRIC SHALL COMPLY TO ASTM A 497 (AASHTO M221). WIRE FABRIC SHALL NOT BE

THE BOTTOM OF THE PRECAST BASE

4. PRECAST BASES SHALL BE FURNISHED WITH CUTOUTS OR KNOCKOUTS. KNOCKOUTS

5. KNOCKOUTS MAY BE ON ALL 4 SIDES

WITH MAXIMUM DIAMETER OF 20". KNOCKOUTS

MAY BE EITHER ROUND OR "D" SHAPED. PIPE TO BE INSTALLED IN FACTORY SUPPLIED

6. KNOCKOUT OR CUTOUT HOLE SIZE IS EQUAL TO PIPE OUTER DIAMETER PLUS

THE TAPER ON THE SIDES OF THE

PRECAST BASE SECTION AND RISER SECTION

CONCRETE INLET FRAME AND GRATE SHALL BE IN ACCORDANCE WITH THE WSDOT /

REQUIREMENTS OF FEDERAL SPECIFICATION RR-F-621D. MATING SURFACES SHALL BE

9. FRAME AND GRATE MAY BE INSTALLED

CATCH BASIN TYPE 1 DETAIL

N. T. S.

WITH FLANGE DOWN OR CAST INTO RISER.

SEE TEXT SECTION 5-06

WSDOT / APWA PLAN 1-A

FINISHED TO ASSURE NON-ROCKING FIT.

APWA SPECIFICATIONS AND MEET THE STRENGTH

CONCRETE INLET WALL THICKNESS.

SHALL NOT EXCEED 1/2" PER FT.

SHALL HAVE A WALL THICKNESS OF 2" MINIMUM.

PLACED IN THE KNOCKOUTS.

SECTION MAY BE ROUNDED.

KNOCKOUTS.

STD DWG 5–180 FOR DETAILS)

2"X4"X8" SOLID BRICK USED FOR FINAL ADJUSTMENT TO GRADE. 6" HIGH MAX.

6" OR 12" CONCRETE RISER SECTION CLASS 4000 CONCRETE

PRECAST BASE SECTION (MEASUREMENT AT THE TOP OF THE BASE)





PROFILE

CITY OF MUKILTEO STD PLAN 4-080-005

GENERAL NOTES:

- All work and materials shall be in accordance with current City of Mukilteo Standards and Specifications; the current edition of the Washington State Department of Transportation Standard Specifications for Road, Bridge, and Municipal Construction; and the adopted edition of the Washington State Department of Ecology Stormwater Management Manual for Western Washington. 2. All work within the plat and City right—of—way shall be subject to the
- inspection of the City engineer or designated representative. Prior to any site construction including clearing/logging or grading, the site clearing limits shall be located and field identified by the project surveyor (or
- project engineer) as required by these plans. The project surveyor's name and 11. phone number is WESI - 425-356-2700. 4. The developer, contractor and project engineer is responsible for water quality as determined by the monitoring program established by the project engineer.
- The project engineer's name and phone number is WESI 425-356-2700. 12 Prior to any site work, the contractor shall contact the City of Mukilteo Community Development at 425-355-4141 X251 to schedule a preconstruction conference. Engineered as-built drawings in accordance with the current
- adopted International Building Code shall be required prior to final site approval.13. A grading permit issued pursuant to the current adopted International Building 6. The contractor shall be responsible for obtaining all permits for utility, road, and rightof—way construction. The contractor for this project . Contact
- __. Phone _____, Mobile phone _____, emergency person is _ phone The Construction Stormwater Pollution Prevention (SWPP) facilities shall be constructed in accordance with the approved SWPP plans prior to any grading or extensive land clearing. These facilities must be satisfactorily maintained until construction and landscaping is completed and the potential for on-site erosion has passed Sediment laden waters shall not enter the natural drainage
- 8. Noncompliance with the requirements for; erosion controls, water quality and clearing limits may result in revocation of; project permits, plan approval and bond foreclosures.
- 9. Trench backfill of new utilities and storm drainage facilities shall be compacted

to 95% maximum density (modified proctor) under roadways and 90% maximum density (modified proctor) off roadways. Compaction shall be performed in accordance with Sections 7-08.3(3) and 2-03.3(14)C - Method B as defined in the current edition of the WSDOT Standard Specifications for Road, Bridge, and Municipal Construction. 10. The owner and contractor shall be responsible for locating and protecting all existing utilities prior to beginning construction. Location of utilities shown on construction plans are based on best records available and are subject to variation. For assistance in utility location, call 1–800–424–5555. Prior to construction the owner and/or contractor shall notify the project

engineer and the City engineer when conflicts exist between the plans and field conditions. Conflicts shall be resolved (including plan and profile revisions) and resubmitted for approval prior to proceeding with construction. The contractor shall keep two sets of plans on site at all times for recording as-built information; one set shall be submitted to the project engineer, and one set shall be submitted to the City engineer at completion of construction and prior to final acceptance of work. Mukilteo Development Standards 55 Code, and approval of the temporary erosion and sedimentation control plan shall be obtained from the Community Development Department prior to any on—site grading work not expressly exempt by the current adopted International

Building Code. Prior to commencement of framing, final drainage inspection and approval of the roof leader and positive footing systems shall be completed by the Building Department. Call 425–263–8000 to schedule the inspection.





BMP T5.13 POST CONSTRUCTION SOIL QUALITY AND DEPTH: ALL DISTURBED AREAS, (NOT OTHERWISE COVERED BY IMPERVIOUS AREA), ON AND OFF SITE, SHALL MEET THE COMPOST AMENDED REQUIREMENTS OF BMP T5.13 IN THE 2019 DOE STORMWATER MANUAL VOLUME V, CHAPTER 5. CALCULATED AMENDMENT RATES MAY BE MET THROUGH USE OF TOPSOIL AND DUFF FROM THE PROPERTY AMENDED TO MEET THE CARBON TO NITROGEN RATIO REQUIREMENTS. AND MEETING THE CONTAMINANT STANDARDS OF GRADE

A COMPOST

TOPSOIL DEPTHS SHALL HAVE A MINIMUM DEPTH OF EIGHT INCHES EXCEPT WHERE TREE ROOTS LIMIT THE DEPTH OF INCORPORATION OF AMENDMENTS NEEDED TO MEET THE CRITERIA. SUBSOIL BELOW THE TOPSOIL LAYER SHOULD BE SCARIFIED AT LEAST 4 INCHES WITH SOME INCORPORATION OF THE UPPER MATERIAL TO AVOID STRATIFIED LAYERS WHERE FEASIBLE.









Know what's below. Call 811 two business days before you dig.



EXISTING TOPOGRAPHY & BOUNDARY NOTE: THE TOPOGRAPHIC AND BOUNDARY INFORMATION SHOWN ON THIS PLAN IS BASED ON A FIELD SURVEY PERFORMED IN JUNE/JULY, 2018, @WESTERN ENGINEERS & SURVEYORS, INC. (WESI), ALL RIGHTS RESERVED.