1 inch = 20 ft.

## LEGAL DESCRIPTION:

ALL THAT PORTION OF THE SOUTH 86.5 FEET OF THE NORTH 173 FEET OF GOVERNMENT LOT 4, SECTION 25, TOWNSHIP 24 NORTH, RANGE 4 EAST W.M., LYING WEST OF A LINE, DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT ON THE NORTH LINE OF SAID LOT 4 A DISTANT 3724.10 FEET WEST OF THE QUARTER SECTION CORNER ON THE EAST LINE OF SAID SECTION 25 THENCE SOUTH AT RIGHT ANGLES TO THE NORTH LINE OF SAID LOT 4 A DISTANCE OF 86.5 FEET TO THE TRUE POINT OF BEGINNING; THENCE CONTINUING SOUTH AT RIGHT

ANQLES TO THE NORTH LINE OF SAID LOT 4 A DISTANCE OF 86.5 FEET TO THE SOUTH LINE OF THE SOUTH 86.5 FEET OF THE NORTH 173 FEET OF SAID LOT 4;

TOGETHER WIIT ALL SHORE LANDS OF THE SECOND CLASS IN FRONT OF OR ABUTTING THEREON; AND

TOGETHER WITH AN EASEMENT FOR INGRESS AND EGRESS OVER THE EAST 12 FEET OF THAT PORTION OF THE NORTH 86.5 FEET OF SAID LOT 4 LYING WEST OF THE EAST LINE OF THE ABOVE DESCRIBED TRACT PRODUCED NORTH.

## DATUM & BASIS OF BEARINGS:

INSTRUMENT: FOCUS 35 (5 SEC) TOTAL STATION METHOD USED: FIELD TRAVERSE WITH ACTUAL FIELD MEASUREMENTS AND ANGLES WAC 332-130-090

DATE OF SURVEY: JULY 2016 BASIS OF BEARING: ROS REC# 20010220900006 PLAT OF LAKE FIRS VOL 76, PAGE 1 & 2 REC # 5741721

BENCHMARK: CITY OF MERCER ISLAND MON # 3185 FOUND 3 1/2" BRASS DISK IN CONC MON IN CASE. 50'± EAST OF THE INTER. OF SE 72nd ST AND WEST MERCER WAY. ELEVATION = 175.37 (NAVD 88)SITE BENCHMARK: SSMH RIM ELE - 22.66

## SEC 25, TWP 24 N, RGE 4 E

## LEGEND:

- CB (TYPE 1) STMH (TYPE 11)
- SURFACE MONUMENT SANITARY SEWER MH PROPOSED MON IN CASE ⋈ WATER VALVE EX PK NAIL

ANGLE POINT

EX MON IN CASE

EX REBAR / PIPE

SET 1/2" REBAR &

SECTION CORNER

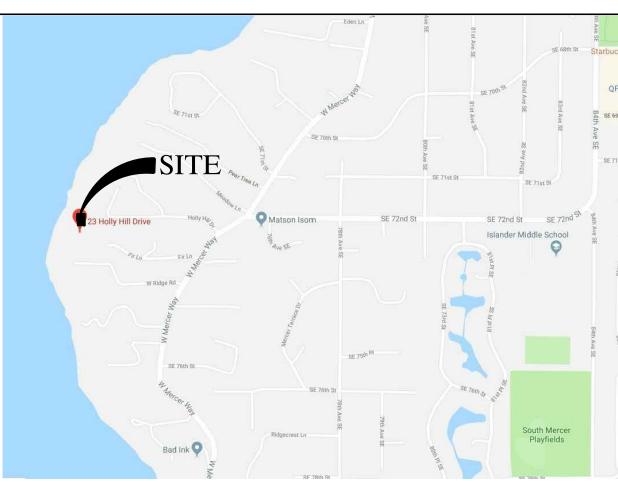
AS NOTED

CAP #9470

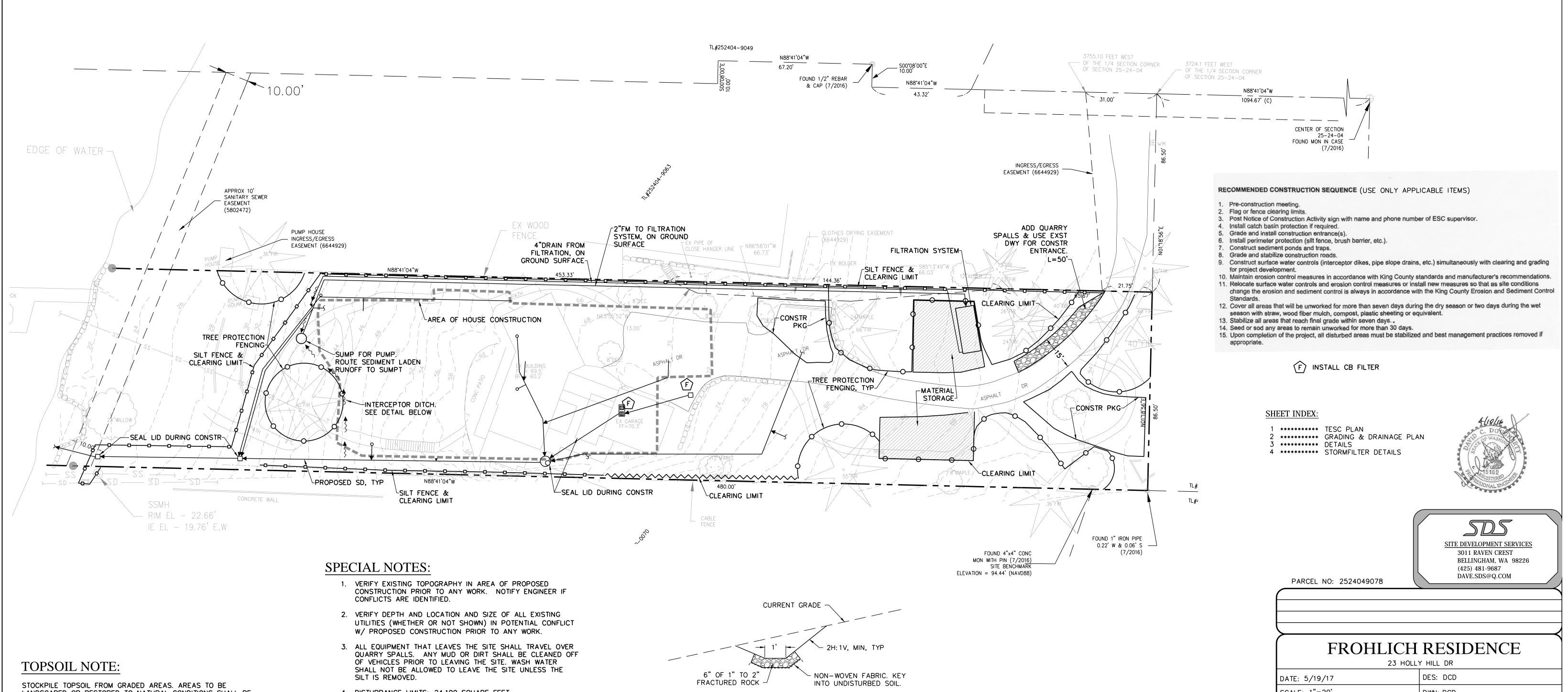
QUARTER CORNER

- ₩ WATER METER/SERVICE --- FIRE HYDRANT -O- UTILITY POLE
- GUY WIRE SIGNAL CABINET POWER JUNCTION BOX LIGHT POLE
- O GAS VALVE P POWER VAULT

- TELEPHONE VAULT
- POWER PEDESTAL TELEPHONE CABINET SIGN
  - CONIFER TREE
  - DECIDUOUS TREE MONITORING WELL
  - MAIL BOX PK NAIL
  - MON IN CASE/ EX REBAR / PIPE AS NOTED
  - SET 1/2" REBAR & CAP LS#38992



VICINITY MAP



LANDSCAPED OR RESTORED TO NATURAL CONDITIONS SHALL BE COVERED WITH SITE TOPSOIL TO A MINIMUM DEPTH OF 8 INCHES. TOPSOIL SHALL MEET THE COMPOST REQUIREMENTS OF WAC 173-350-100. THE COMPOST SHALL HAVE AN ORGANIC MATTER CONTENT OF 40% TO 65%, AND A CARBON TO NITROGEN RATIO BELOW 25: 1. TOPSOIL NOT MEETING THIS REQUIREMENT SHALL BE AMENDED WITH COMPOST TO THE EXTENT NECESSARY TO MEET THE REQUIREMENT.

- 4. DISTURBANCE LIMITS: 24,100 SQUARE FEET.
- 5. TO THE MAXIMUM EXTENT POSSIBLE, DO NOT ROUTE CLEAN GROUND WATER OVER DISTURBED SOILS.
- 6. COVER ALL AREAS GRADED AT 40% OR MORE WITH PLASTIC TARP FOR LESS THAN 30 DAYS OR JUTE MATTING FOR LONGER PERIODS.

## INTERCEPTOR DITCH DETAIL

NTS

SCALE: 1"=20' DWN: DCD

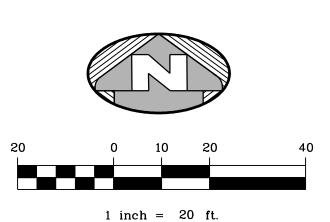
TESC PLAN

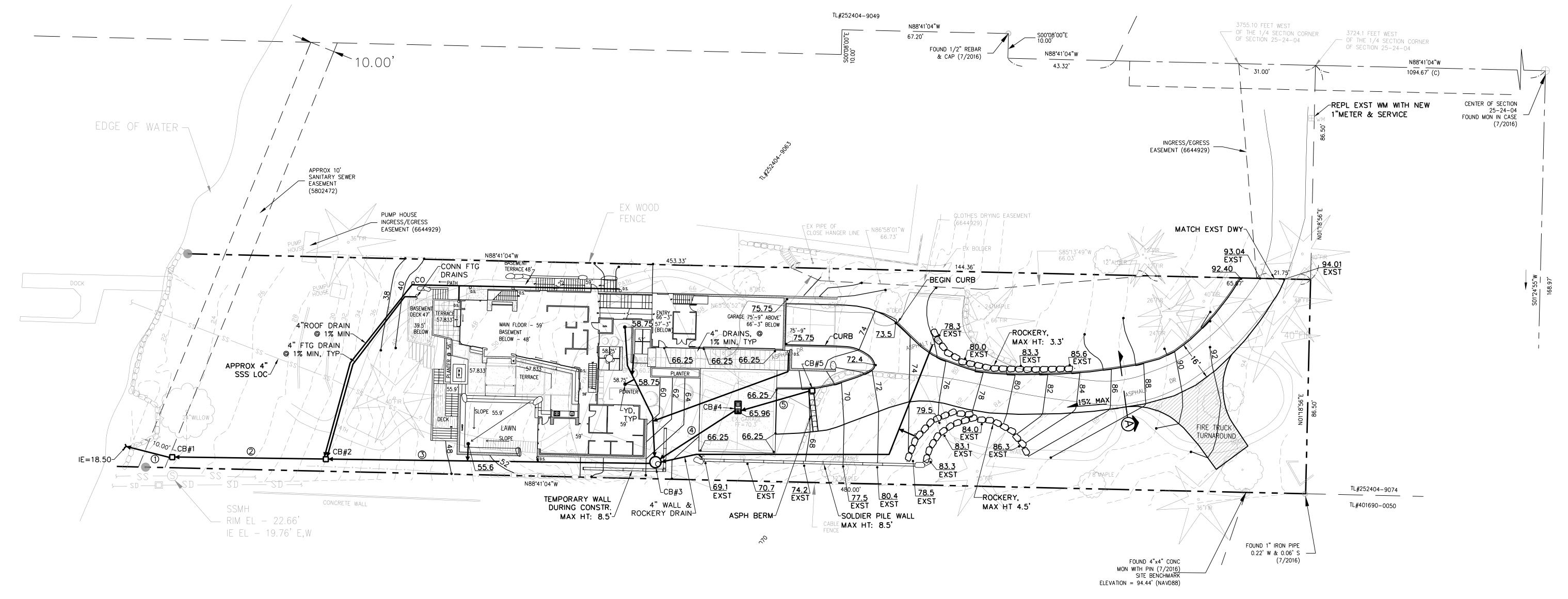
OWNER/APPLICANT: LOU & RON FROHLICH 7270 N MERCER WAY

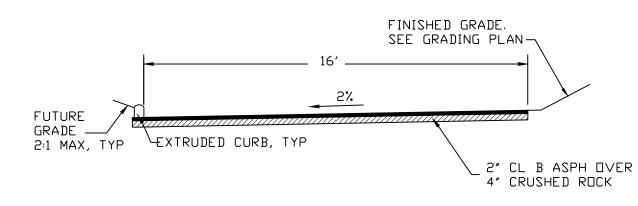
MERCER ISLAND, WA

PHONE: 206-948-2591

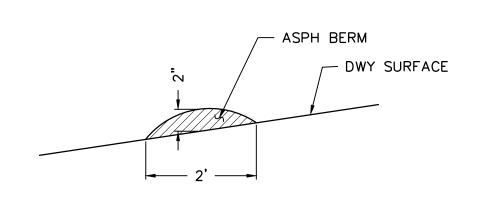
1 of 4







# TYP DWY SECTION



ASPH BERM SECTION

NTS

## PIPE DATA:

- 1) 19LF 6"PVC @ 12.11%
- ② 62LF 6"PVC @ 16.45%
- 3 133LF 6"PVC @ 18.46%
- 4 39LF 6"PVC @ 7.64%

## 5 20LF 6"PVC @ 6.60%

## STRUCTURE DATA:

CB#1(TYPE 1) TE=23.8(SOLID) IE=20.8(ALL)

IE=60.7(NE)

IE = 55.55(N&W)

IE=63.68(ALL)

CB#2(TYPE 1)
TE=34.0(SOLID)

IE=31.0(ALL)
CONN FTG DRAINS
CB#3(TYPE 2-48)

TE=67.5(SOLID COVER)

CB#4(STORMFILTER) TE=65.98(GRATE)

CONN FTG DRÁINS

CB#5(TYPE 1) TE=68.1(GRATE) IE=65.00

## **SPECIAL NOTES:**

- ALL STORM DRAIN PIPING (SD) SHALL BE SMOOTH WALL MEETING CITY AND BUILDING CODE STANDARDS. ROOF DRAINS SHALL MEET MATERIAL STANDARDS FOR SDR35 FOR PVC PIPE AND N-12 FOR SMOOTH-BORE HDPE PIPE.
- 2. PROVIDE TV INSPECTION OF EXISTING PRIVATE SIDE SEWER BETWEEN THE RESIDENCE AND THE PUBLIC SEWER MAIN AND REPLACE IF FOUND TO BE DEFECTIVE (eg. CRACKS, BREAKS, LEAKS, BAD JOINTS, SAGS).
- 3. PROPOSED WATER METER SIZE HAS NOT BEEN APPROVED BY THE CITY FIRE MARSHALL. THE METER AND SERVICE SIZE SHALL BE AS SPECIFIED BY THE SPRINKLER DESIGNER.
- 4. THE LOCATION OF THE EXISTING STORM DRAIN TO THE SOUTH OF THE SOUTH PROPERTY LINE TO WHICH THIS SITE IS CONNECTING IS ESTIMATED. VERIFY PRIOR TO CONSTRUCTION.
- 5. FOOTING DRAIN ROUTING NOT SPECIFIED IN THESE PLANS. CONSTRUCTION SHALL MEET ALL RELEVANT CODES AND STRUCTURAL AND ARCHITECTURAL DETAILS AND SPECIFICATIONS. DO NOT DIRECTLY CONNECT FOOTING DRAINS TO STORM DRAIN PIPES. MAKE CONNECTIONS TO DRAINAGE STRUCTURES AS SPECIFIED ON THIS PLAN.
- 6. YARD DRAINS (YD) SHALL HAVE 6 INCH MINIMUM DIAMETER GRATES.





(425) 481-9687

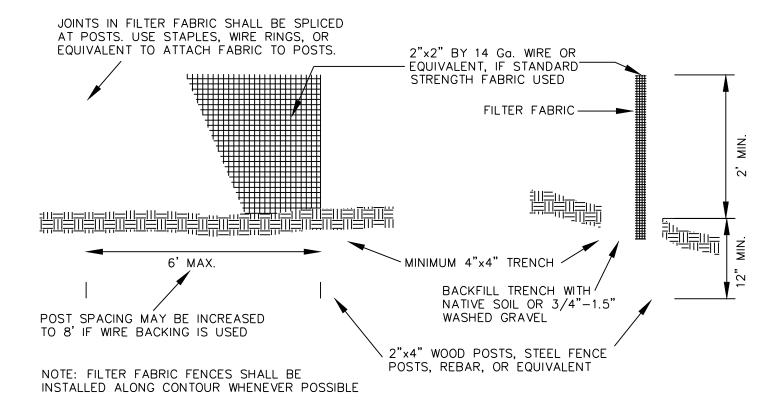
DAVE.SDS@Q.COM

PARCEL NO: 2524049078

# FROHLICH RESIDENCE 23 HOLLY HILL DR DATE: 5/19/17 DES: DCD SCALE: 1"=20' DRAINAGE PLAN OWNER/APPLICANT:

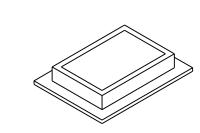
LOU & RON FROHLICH
7270 N MERCER WAY
MERCER ISLAND, WA PHONE: 206-948-2591

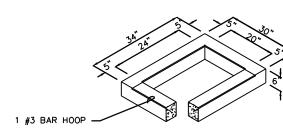
2 of 4



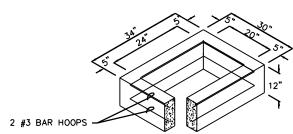
- SILT FENCE MAINTENANCE STANDARDS:
- 1. ANY DAMAGE SHALL BE REPAIRED IMMEDIATELY.
- 2. IF CONCENTRATED FLOWS ARE EVIDENT UPHILL OF THE FENCE, THEY MUST BE INTERCEPTED AND CONVEYED TO A SEDIMENT TRAP OR POND.
- 3. IT IS IMPORTANT TO CHECK THE UPHILL SIDE OF THE FENCE FOR SIGNS OF THE FENCE CLOGGING AND ACTING AS A BARRIER TO FLOW AND THEN CAUSING CHANNELIZATION OF FLOW PARALLEL TO THE FENCE. IF THIS OCCURS, REPLACE THE FENCE OR REMOVE THE TRAPPED SEDIMENT.
- 4. SEDIMENT MUST BE REMOVED WHEN THE SEDIMENT IS 6 INCHES HIGH.
- 5. IF THE FILTER FABRIC (GEOTEXTILE) HAS DETERIORATED DUE TO ULTRAVIOLET BREAKDOWN, IT SHALL BE

## SILT FENCE NTS

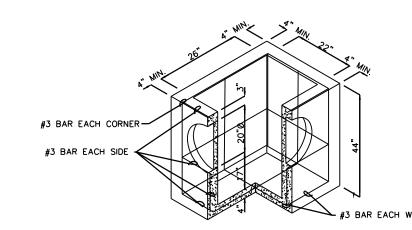




6" RISER SECTION

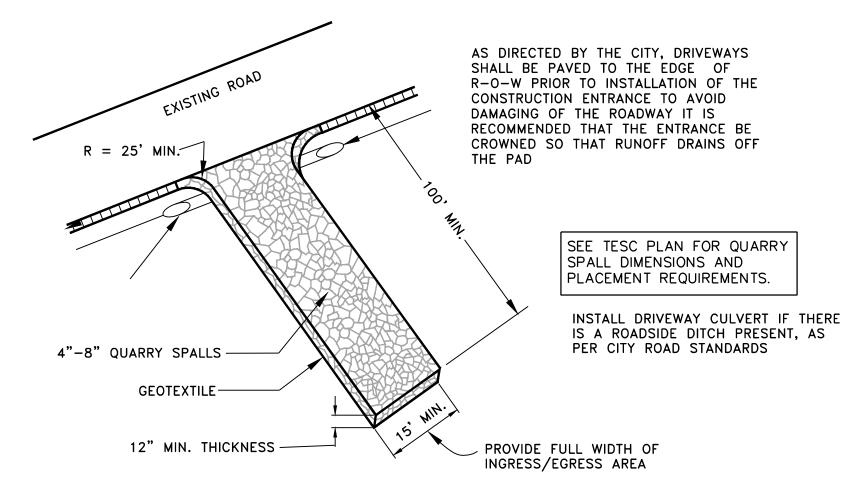


12" RISER SECTION



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

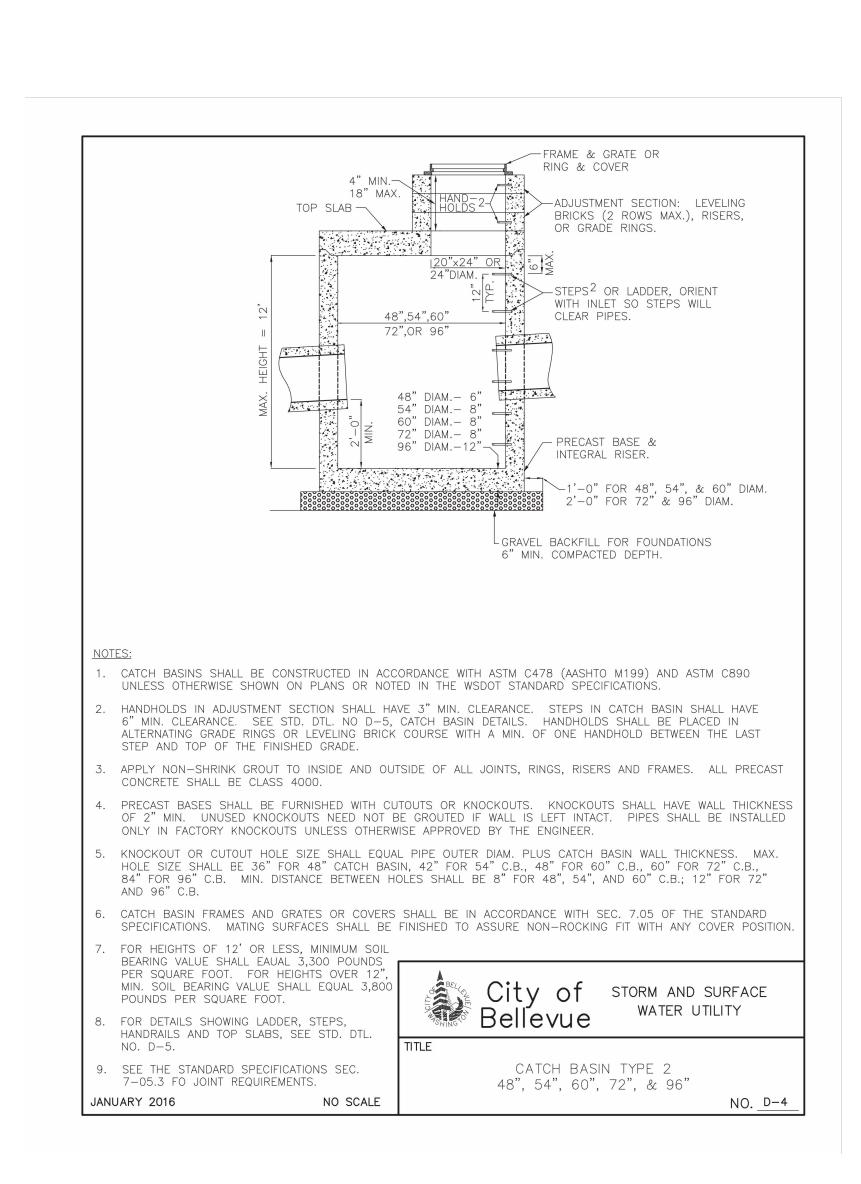
- CATCH BASINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH ASTM C478 (AASHTO M 199) & C890 UNLESS OTHERWISE SHOWN ON PLANS OR NOTED IN THE STANDARD SPECIFICATIONS.
- 2. AS AN ACCEPTABLE ALTERNATIVE TO REBAR, WELDED WIRE FABRIC HAVING A MIN. AREA OF 0.12 SQUARE INCHES PER FOOT MAY BE USED. WELDED WIRE FABRIC SHALL COMPLY TO ASTM A497 (AASHTO M 221). WIRE FABRIC SHALL NOT BE PLACED IN KNOCKOUTS.
- ALL REINFORCED CAST-IN-PLACE CONCRETE SHALL BE CLASS 4000.
- 4. PRECAST BASES SHALL BE FURNISHED WITH CUTOUTS OR KNOCKOUTS. KNOCKOUTS SHALL HAVE A WALL THICKNESS OF 2" MIN. ALL PIPE SHALL BE INSTALLED IN FACTORY PROVIDED KNOCKOUTS. UNUSED KNOCKOUTS NEED NOT BE GROUTED IF WALL IS LEFT INTACT.
- KNOCKOUT OR CUTOUT HOLE SIZE IS EQUAL TO PIPE OUTER DIAM. PLUS CATCH BASIN WALL THICKNESS.
- 6. ROUND KNOCKOUTS MAY BE ON ALL 4 SIDES, WITH MAX. DIAM. OF 20". KNOCKOUTS MAY BE EITHER ROUND OR "D" SHAPE.
- THE MAX. DEPTH FROM THE FINISHED GRADE TO THE PIPE INVERT IS 4'-0".
- 8. THE TAPER ON THE SIDES OF THE PRECAST BASE SECTION AND RISER SECTION SHALL NOT EXCEED 1/2"/FT.
- CATCH BASIN FRAME AND GRATE SHALL BE IN ACCORDANCE WITH STANDARD SPECIFICATIONS. MATING SURFACES SHALL BE FINISHED TO ASSURE NON-ROCKING FIT WITH ANY COVER POSITION.
- 10. FRAME AND GRATE MAY BE INSTALLED WITH FLANGE DOWN OR CAST INTO RISER.
- EDGE OF RISER OR BRICK SHALL NOT BE MORE THAN 2" FROM VERTICAL EDGE OF CATCH BASIN WALL.

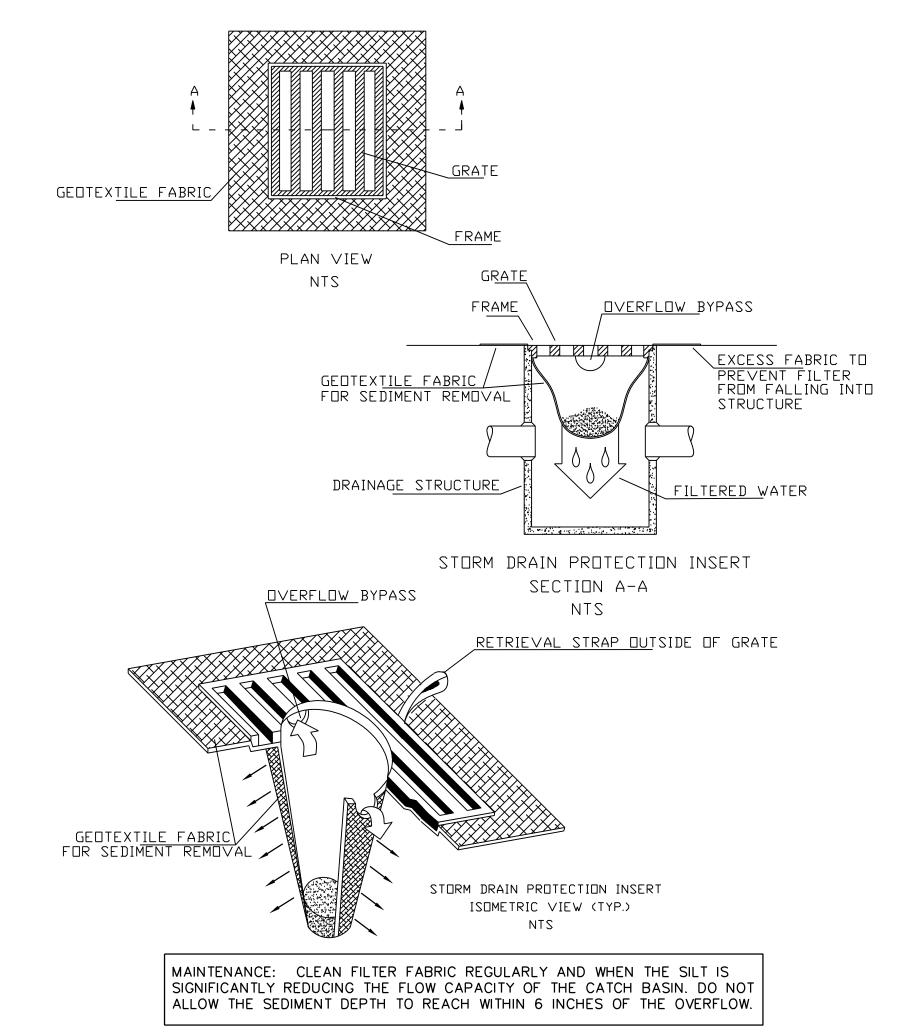


## CONSTRUCTION ENTRANCE MAINTENANCE STANDARDS:

- 1. QUARRY SPALLS (OR HOG FUEL) SHALL BE ADDED IF THE PAD IS NO LONGER IN ACCORDANCE WITH THE SPECIFICATIONS.
- 2. 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 STREET SWEEPING, AN INCREASE IN THE DIMENSIONS OF THE ENTRANCE, OR THE INSTALLATION OF A WHEEL WASH, IF WASHING IS USED, IT SHALL BE DONE ON AN AREA COVERED WITH CRUSHED ROCK, AND WASH WATER SHALL DRAIN TO A SEDIMENT
- 3. ANY SEDIMENT THAT IS TRACKED ONTO PAVEMENT SHALL BE REMOVED IMMEDIATELY BY SWEEPING. THE SEDIMENT COLLECTED BY SWEEPING SHALL BE REMOVED OR STABILIZED ON SITE. THE PAVEMENT SHALL NOT BE CLEANED BY WASHING DOWN THE STREET, EXCEPT WHEN SWEEPING IS INEFFECTIVE AND THERE IS A THREAT TO PUBLIC SAFETY. IF IS IS NECESSARY TO WASH THE STREETS, THE CONSTRUCTION OF A SMALL SUMP SHALL BE CONSIDERED. THE SEDIMENT WOULD THEN BE WASHED INTO THE SUMP.
- 4. ANY QUARRY SPALLS THAT ARE LOOSENED FROM THE PAD AND END UP ON THE ROADWAY SHALL BE REMOVED IMMEDIATELY.
- 5. IF VEHICLES ARE ENTERING OR EXITING THE SITE AT POINTS OTHER THAN THE CONSTRUCTION ENTRANCE(S), FENCING (SEE SECTION D.4.1) SHALL BE INSTALLED TO CONTROL TRAFFIC.

## CONSTRUCTION ENTRANCE





# TESC CB FILTER



SITE DEVELOPMENT SERVICES 3011 RAVEN CREST BELLINGHAM, WA 98226 (425) 481-9687 DAVE.SDS@Q.COM

PARCEL NO: 2524049078

SCALE: AS NOTED

LOU & RON FROHLICH

7270 N MERCER WAY MERCER ISLAND, WA

FROHLICH RESIDENCE 9523 SE 68TH ST DES: DCD DATE: 5/19/17

**DETAILS** 

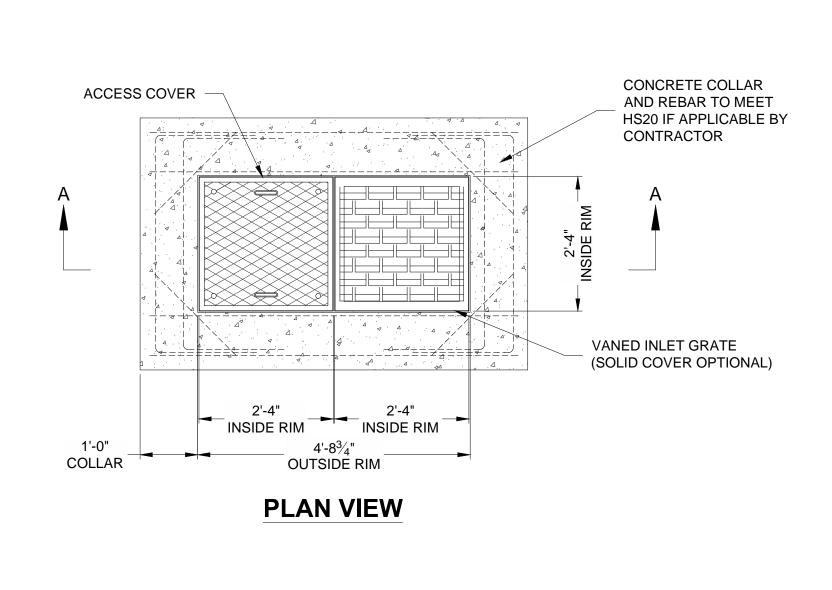
OWNER/APPLICANT:

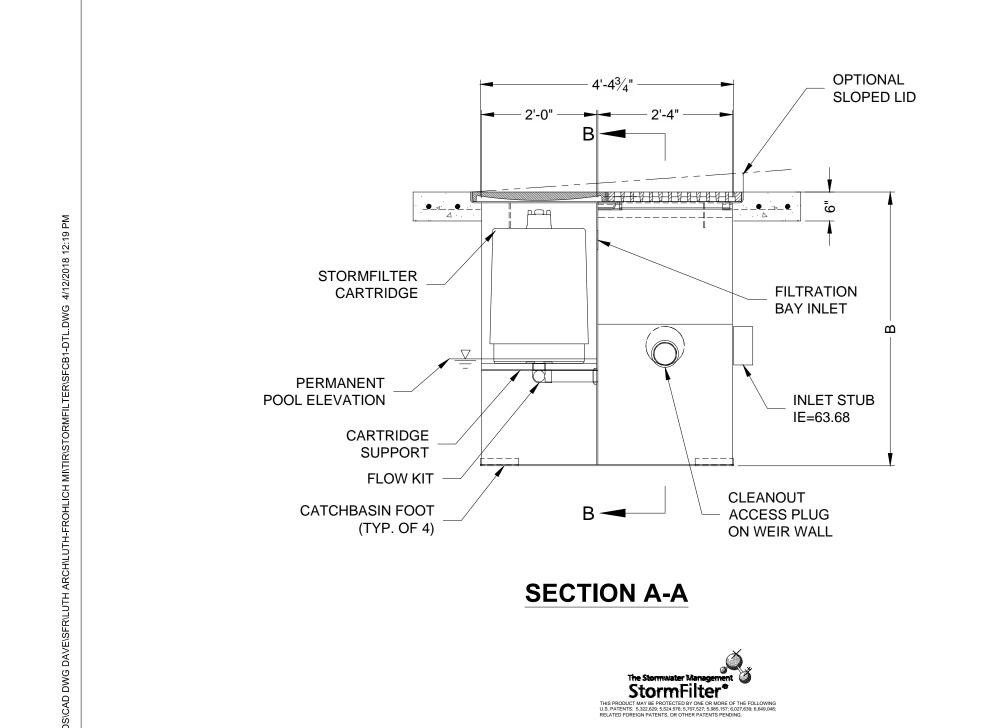
PHONE: 206-948-2591

DWN: DCD

3 of 4

TYPE 1 CATCH BASIN





## STORMFILTER STEEL CATCHBASIN DESIGN NOTES

STORMFILTER TREATMENT CAPACITY IS A FUNCTION OF THE CARTRIDGE SELECTION AND THE NUMBER OF CARTRIDGES. 1 CARTRIDGE CATCHBASIN HAS A MAXIMUM OF ONE CARTRIDGE. SYSTEM IS SHOWN WITH A 27" CARTRIDGE, AND IS ALSO AVAILABLE WITH AN 18" CARTRIDGE. STORMFILTER CATCHBASIN CONFIGURATIONS ARE AVAILABLE WITH A DRY INLET BAY FOR VECTOR CONTROL. PEAK HYDRAULIC CAPACITY PER TABLE BELOW. IF THE SITE CONDITIONS EXCEED PEAK HYDRAULIC CAPACITY, AN UPSTREAM BYPASS STRUCTURE IS

REQUIRED.

CARTRIDGE SELECTION									
CARTRIDGE HEIGHT	27"			(18")			18" DEEP		
RECOMMENDED HYDRAULIC DROP (H)	3.05'			2.3'			3.3'		
SPECIFIC FLOW RATE (gpm/sf)	2 gpm/sf	1.67* gpm/sf	1 gpm/sf	2 gpm/sf	1.67* gpm/sf	1 gpm/sf	2 gpm/sf	1.67* gpm/sf	1 gpm/sf
CARTRIDGE FLOW RATE (gpm)	22.5	18.79	11.25	15	12.53	7.5	15	12.53	7.5
PEAK HYDRAULIC CAPACITY	1.0			1.0			1.8		
INLET PERMANENT POOL LEVEL (A)	1'-0"			1'-0"			2'-0"		
OVERALL STRUCTURE HEIGHT (B)	4'-9"			3'-9"			4'-9"		

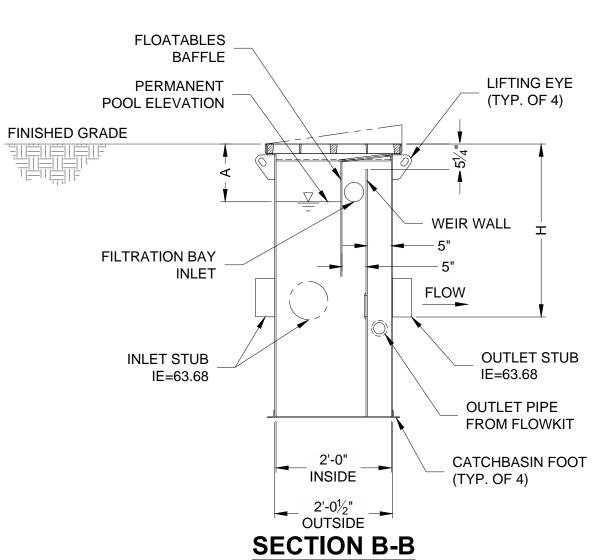
\* 1.67 gpm/sf SPECIFIC FLOW RATE IS APPROVED WITH PHOSPHOSORB® (PSORB) MEDIA ONLY

**GENERAL NOTES** 

- 1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE. 2. FOR SITE SPECIFIC DRAWINGS WITH DETAILED STORMFILTER CATCHBASIN STRUCTURE DIMENSIONS AND WEIGHTS, PLEASE CONTACT YOUR
- CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE. www.contechES.com
- 3. STORMFILTER CATCHBASIN WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING.
- 4. INLET SHOULD NOT BE LOWER THAN OUTLET. INLET (IF APPLICABLE) AND OUTLET PIPING TO BE SPECIFIED BY ENGINEER AND PROVIDED BY CONTRACTOR.
- 5. MANUFACTURER TO APPLY A SURFACE BEAD WELD IN THE SHAPE OF THE LETTER "O" ABOVE THE OUTLET PIPE STUB ON THE EXTERIOR SURFACE
- OF THE STEEL SFCB.
- 6. STORMFILTER CATCHBASIN EQUIPPED WITH 4 INCH (APPROXIMATE) LONG STUBS FOR INLET (IF APPLICABLE) AND OUTLET PIPING. STANDARD OUTLET STUB IS 8 INCHES IN DIAMETER. MAXIMUM OUTLET STUB IS 15 INCHES IN DIAMETER. CONNECTION TO COLLECTION PIPING CAN BE MADE
- USING FLEXIBLE COUPLING BY CONTRACTOR. 7. STEEL STRUCTURE TO BE MANUFACTURED OF 1/4 INCH STEEL PLATE. CASTINGS SHALL MEET AASHTO M306 LOAD RATING. TO MEET HS20 LOAD
- RATING ON STRUCTURE, A CONCRETE COLLAR IS REQUIRED. WHEN REQUIRED, CONCRETE COLLAR WITH #4 REINFORCING BARS TO BE PROVIDED BY CONTRACTOR.
- 8. FILTER CARTRIDGES SHALL BE MEDIA-FILLED, PASSIVE, SIPHON ACTUATED, RADIAL FLOW, AND SELF CLEANING. RADIAL MEDIA DEPTH SHALL BE 7-INCHES. FILTER MEDIA CONTACT TIME SHALL BE AT LEAST 38 SECONDS.
- 9. SPECIFIC FLOW RATE IS EQUAL TO THE FILTER TREATMENT CAPACITY (gpm) DIVIDED BY THE FILTER CONTACT SURFACE AREA (sq ft).

## INSTALLATION NOTES

- A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
- B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE CATCHBASIN (LIFTING CLUTCHES
- C. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO PROTECT CARTRIDGES FROM CONSTRUCTION-RELATED EROSION RUNOFF.



SES FROM CONSTRUCTION-RELATED EROSION RUNOFF.								
1-CARTRIDGE CATCHBASIN								
STORMFILTER DATA								
STRUCTURE ID	CB#4							
WATER QUALITY FLOW RATE (cfs)	0.028							
PEAK FLOW RATE (<1 cfs)	0.15							
RETURN PERIOD OF PEAK FLOW (yrs)	100							
CARTRIDGE HEIGHT (27", 18", 18" DEE	18							
CARTRIDGE FLOW RATE (gpm)	7.5							
MEDIA TYPE (PERLITE, ZPG, PSORB)	ZPG							
RIM ELEVATION	65.98							
PIPE DATA:	I.E.	DIAMETER						
INLET STUB	63.68	6"						
OUTLET STUB	63.68	6"						
CONFIGURATION								
OUTLET	DUTLET							
INLET 4	ET							
INLET	INLET							
SLOPED LID		YES\NO						
SOLID COVER	YES\NO							
NOTES/SPECIAL REQUIREMENTS:								
· · · · · · · · · · · · · · · · · · ·								

**ENGINEERED SOLUTIONS LLC** www.contechES.com 9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069 800-526-3999 513-645-7000 513-645-7993 FAX

1 CARTRIDGE CATCHBASIN STORMFILTER STANDARD DETAIL



SITE DEVELOPMENT SERVICES 3011 RAVEN CREST BELLINGHAM, WA 98226 (425) 481-9687 DAVE.SDS@Q.COM

PARCEL NO: 2524049078

# FROHLICH RESIDENCE

PHONE: 206-948-2591

9523 SE 68TH ST

DES: DCD DATE: 5/19/17 SCALE: AS NOTED DWN: DCD

STORMFILTER DETAILS

OWNER/APPLICANT LOU & RON FROHLICH 7270 N MERCER WAY

MERCER ISLAND, WA

4 of 4