

# JENSEN PRECAST HIGH VELOCITY INTERCEPTOR HORIZONTAL FLOW CLARIFIER MODEL JPHV-2000-IB

## HYDRAULICS AND TREATMENT :

|                                                        |          |
|--------------------------------------------------------|----------|
| OPTIMUM DESIGN STORMWATER QUALITY DESIGN FLOW (SQDF)   | 0.46-CFS |
| STORM DRAIN DESIGN CONVEYANCE FLOW                     | X.XX-CFS |
| RETURN FREQUENCY/PERIOD OF PEAK DESIGN CONVEYANCE FLOW | XX-YRS   |

## TREATMENT PERFORMANCE NOTES :

- THIS STORMWATER QUALITY DESIGN FLOW (SQDF) RATE CORRESPONDS TO A 6-GPM/FT<sup>2</sup> SURFACE LOADING RATE, TARGETING THE REMOVAL OF THE 60-MICRON, FINE SILT SIZE PARTICLE FROM STORMWATER RUNOFF.
- THIS JPHV HORIZONTAL FLOW CLARIFIER WHEN SUBJECTED TO THE STORMWATER QUALITY DESIGN FLOW (SQDF) RATE LISTED IN THE TABLE ABOVE CORRESPONDS TO 6-GPM/FT<sup>2</sup> OR LESS SURFACE LOADING RATE, WHICH IS FOUR (4X) TIMES MORE CONSERVATIVE THAN THE MAXIMUM ALLOWABLE VALUE OF 24-GPM/FT<sup>2</sup> FOR HYDRODYNAMIC SEPARATORS. THIS ALLOWS FOR A MORE CONSISTENT REMOVAL EFFICIENCY AS WELL AS A SAFETY FACTOR IN CONSIDERING LARGER STORM EVENTS. THE 24-GPM/FT<sup>2</sup> SIZING GUIDANCE IS EXPLICITLY SET FORTH IN SECTION MP-51 OF THE BEST MANAGEMENT PRACTICE HANDBOOK, NEW DEVELOPMENT AND REDEVELOPMENT ADOPTED BY ALL NINE (9) OF THE CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARDS PUBLISHED BY THE CALIFORNIA STORMWATER QUALITY ASSOCIATION (CASQA).
- AT ALL FLOW RATES LESS THAN OR EQUAL TO THE SQDF LISTED IN THE TABLE, THIS JPHV PROVIDES:
  - FLOATING DEBRIS RETENTION
  - SEDIMENTATION WITH SCOUR PROTECTION
  - OIL & GREASE ABSORPTION
  - ORIFICE OUTLET FLOW CONTROL

## DESIGN GUIDANCE NOTES :

- THE IDEAL VERTICAL PLACEMENT OF THE INLET AND OUTLET PIPES OF A JPHV HORIZONTAL FLOW CLARIFIER MAXIMIZES THE USE OF AS MUCH THE TANK'S DEAD POOL VOLUME AS POSSIBLE. TO ACHIEVE THIS, PLACE TOP EXTERIOR OF THE INLET PIPE APPROXIMATELY 3-INCHES BELOW THE SOFFIT OF THE TOP SLAB. ESTABLISH THE INLET INVERT ELEVATION AFTER THIS PLACEMENT. SET THE DISCHARGE OUTLET PIPE INVERT APPROXIMATELY 2-INCHES BELOW THE INLET INVERT. THIS IS A BEST DESIGN GUIDELINE PRACTICE. SETTING THE INLET PIPE INVERT MORE THAN 3" BELOW THE SOFFIT IS ACCEPTABLE, THOUGH THE TANK DEAD POOL VOLUME WILL NOT BE MAXIMIZED.
- A STANDARD JENSEN PRECAST INTERNAL FLOW CONTROL ORIFICE PLATE RESTRICTS OUTLET FLOW TO THE SQDF RATE AND THEREBY ACCUMULATED FLOATABLES AND FINE SEDIMENTS ARE RETAINED DURING LARGER STORM EVENTS.

## GENERAL NOTES :

- THIS LAYOUT SKETCH IS PROVIDED IN A SCHEMATIC FORMAT. DETAIL OF JENSEN DIVERSION MANHOLE/BYPASS STRUCTURE WITH ADJUSTABLE WEIR AND OPTION FORMED BASE CHANNELS NOT SHOWN. THIS SHEET IS IN ENGINEERING & CONSTRUCTION FORMATTED DETAIL. ENGINEERING & CONSTRUCTION DETAIL READILY AVAILABLE. CONTACT JENSEN PRECAST.
- PLAN VIEW TOP SLAB WITH FRAMES AND COVERS ARE NOT SHOWN FOR CLARITY.
- INLET/OUTLET PIPE STUBS PROVIDED BY JENSEN PRECAST, PIPE TYPE ADAPTORS PROVIDED BY CUSTOMER.
- OIL SORBENT MATS TO BE EQUIPPED WITH RETAINING CORD AND RING, SECURED TO OR UNDER FRAME AND COVER, FOR HAND ACCESS BY OTHERS.
- DESIGN LOAD: H-20 TRAFFIC FROM 1' TO 6' OF COVER PER ASTM C890 & C915 AND ASSHTO LOADING METHODS.
- CONTACT JENSEN PRECAST FOR OTHER INSTALLATION DEPTHS, INLET/OUTLET CONFIGURATIONS, AND/OR LOADING CONDITIONS FOR STRUCTURAL DESIGN REVISION TO MEET PROJECT SPECIFIC NEEDS.

## CONSTRUCTION NOTES :

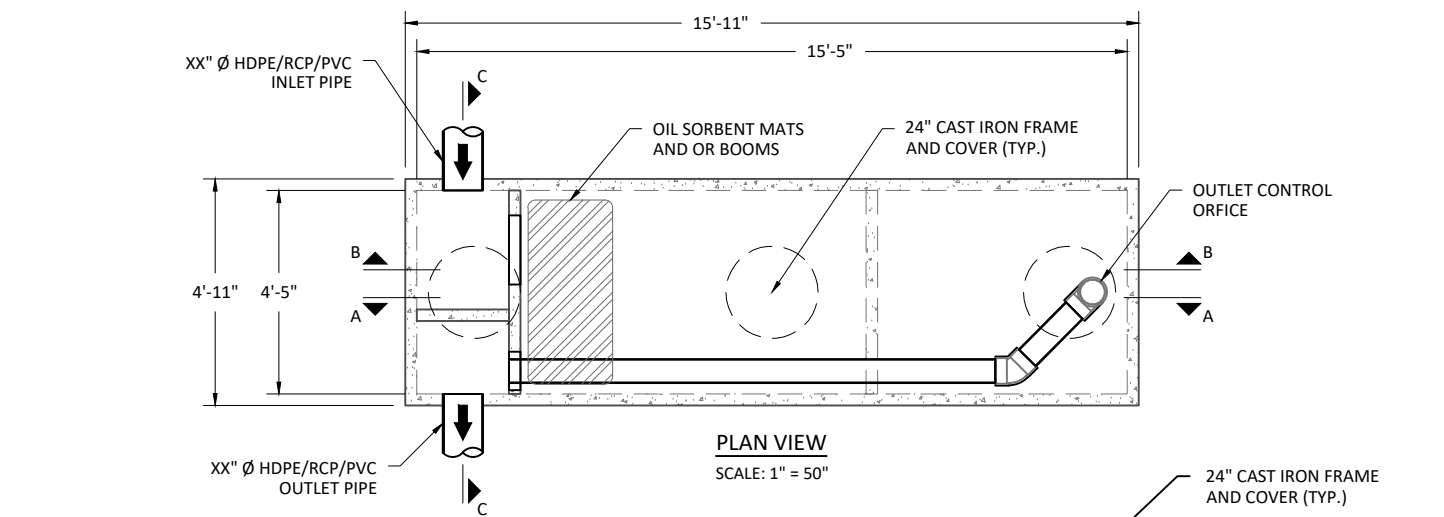
- CONTRACTOR TO VERIFY VERTICAL DIMENSIONS OF ALL PRECAST PIECES IN FIELD.
- VERIFY BASE MATERIAL ELEVATIONS BEFORE PLACING PRECAST COMPONENTS OR BACKFILLING.
- APPLY BUTYL MASTIC AND/OR GROUT TO SEAL JOINTS OF MANHOLE STRUCTURE.
- APPLY LOAD TO MASTIC SEAL IN JOINTS OF TANK SECTIONS TO COMPRESS SEALANT IF NECESSARY. UNIT MUST BE WATER TIGHT, HOLDING WATER UP TO FLOWLINE INVERT (MINIMUM).
- ALL INTERNAL COMPONENTS INSTALLED BY MANUFACTURER.

## MATERIALS :

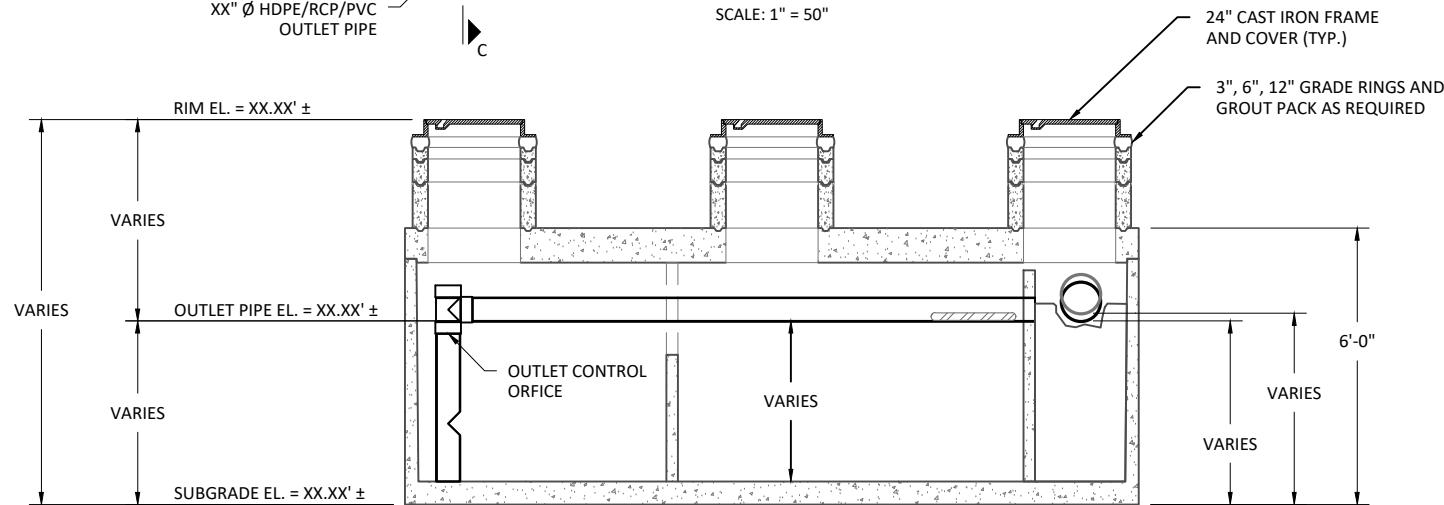
- ALL DIMENSIONS ARE IN FEET AND/OR DECIMAL INCHES.
- PRECAST MATERIALS AND MANUFACTURING METHODS SHALL CONFORM TO ASTM C-857 & C-478.
- CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH F'c = 5,000-psi AT 28-DAYS.
- THE PORTLAND CEMENT USED IN THE PRECAST SECTION SHALL MEET THE REQUIREMENTS OF TYPE II/V HIGH SULFATE RESISTANT CEMENT IN ACCORDANCE WITH ASTM CLASS M C-150.

## LIFTING WEIGHTS :

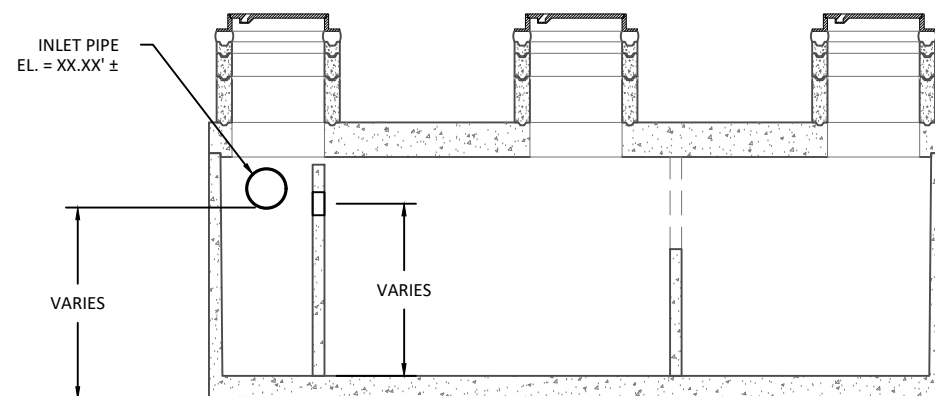
- HEAVIEST PICK WEIGHT IS 12,800-LBS.
- JENSEN CRANE TRUCK CAN SET A MAXIMUM OF 25,000-LBS AT 15-FT OFFSET DISTANCE FROM CENTER OF CRANE TRUNNION.



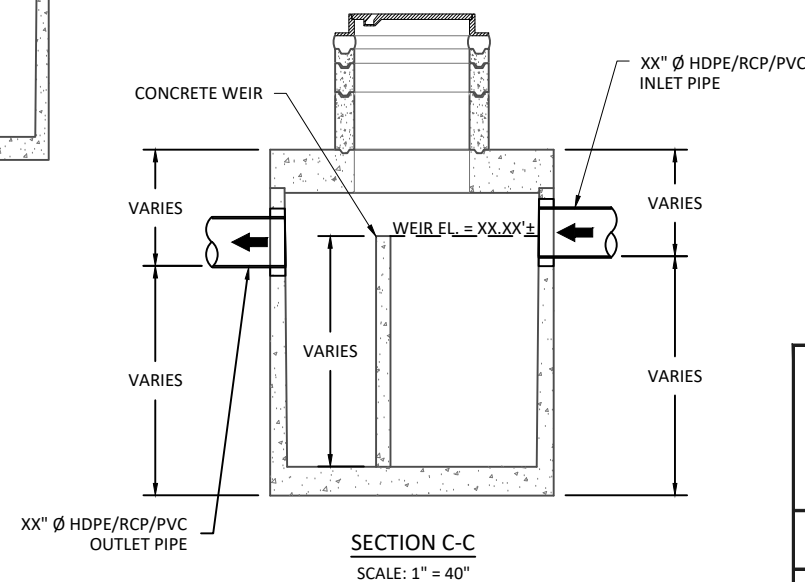
PLAN VIEW  
SCALE: 1" = 50"



SECTION A-A  
SCALE: 1" = 50"



SECTION B-B  
SCALE: 1" = 50"



SECTION C-C  
SCALE: 1" = 40"

## MATERIALS LIST - PROVIDED WITH UNIT :

| QTY | COMPONENT DESCRIPTION                         | MATERIAL PROVIDER | RESPONSIBLE INSTALLER |
|-----|-----------------------------------------------|-------------------|-----------------------|
| 2   | XX" Ø PVC INLET AND OUTLET PIPE STUB          | JENSEN            | JENSEN                |
| 1   | 6" Ø PVC TEE, ORIFICE PLATE AND VERTICAL PIPE | JENSEN            | JENSEN                |
| 1   | ORIFICE SCREEN                                | JENSEN            | JENSEN                |
| 1   | OIL & GREASE ABSORPTION PAD                   | JENSEN            | CONTRACTOR            |
| 3   | 24" Ø CAST IRON FRAME AND COVER, H20 RATED    | JENSEN            | CONTRACTOR            |
| XX  | 3", 6" AND/OR 12" GRADE RINGS                 | JENSEN            | CONTRACTOR            |

|                                                                                     |                                          |                                                                                 |                    |                         |                  |
|-------------------------------------------------------------------------------------|------------------------------------------|---------------------------------------------------------------------------------|--------------------|-------------------------|------------------|
| MODEL:<br><b>JPHV-2000-IB</b><br>HORIZONTAL FLOW CLARIFIER<br>LAMINAR SEDIMENTATION | PROJECT:<br>PROJECT NAME,<br>CITY, STATE | <br>521 DUNN CIRCLE, SPARKS, NV 89431-6312<br>(877) 649-0095 FAX (775) 440-2013 |                    |                         |                  |
| Sedimentation, Oil & Grease, Floatable Debris                                       | ORG. DWG. DATE<br>02/28/2020             | REV. DWG. DATE<br>XX/XX/XXXX                                                    | SCALE:<br>AS SHOWN | SHEET SIZE<br>11" X 17" | DRAWN BY<br>R.L. |
| SHEET NUMBER<br>JPHV-2000-IB                                                        |                                          |                                                                                 |                    |                         |                  |