

**Attachment A**  
**Install New Pre Cast Floor Drain Inlets and Piping at Washington 01**  
**Garage**  
**Washington County, Washington Stockpile # 01**  
**Project #11377891**  
**Building # PA78-63-01240101**

**I. Base Bidding Requirements**

This is a Base Bid project; the following describes the Base Bid requirements. Contractors are to provide bids for **Base Bid #1**.

**BASE BID #1: Install New Pre Cast Floor Drain Inlets and Piping**

**II. Work Included**

The following items are site specific requirements of the project.

- Contractor to repair, replace and install the necessary materials to complete the work identified below per each building identified in the Base Bid requirements.
- Saw cut concrete floor and asphalt paving and replace.
- Trench excavation/backfill for underground piping and installation of three (3) Precast Drain Inlets with H-20 rated grates.
- Installation of Schedule 35 bell and spigot piping.
- Connect all piping at the existing yard drain inlet.
- Clean all existing drain pipes leading into the new drain inlets.

**III. GENERAL**

- The Contractor shall provide all labor, materials, apparatus, trucking, tools, superintendence, and services required for completion of the work as described on the Statement of Work, Specifications, and Drawings.
- The Contractor is responsible for obtaining all necessary Permits from the Department of Labor and Industry (L&I) (<http://www.dli.state.pa.us/>), there are no fees for the Permits as long as the contractor notifies the L&I that this project is for the Commonwealth of Pennsylvania, PennDOT and is to be completed on state owned or state leased property.
  - Contractor shall provide all design, calculations, and final plans sealed by a Professional Engineer licensed in the state of Pennsylvania.
- Contractor shall maintain and log, all mail receipts regarding L&I correspondence and submittals, and provide copies to PennDOT upon request.
- Contractor to confirm all dimensions and quantities before bidding. Any stated dimensions/quantities are estimates only.

**IV. MATERIALS**

- Precast inlet to be 18"X18" clear inlet area (minimum), with H-20 rated grating

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sized to the same.

- Piping to be schedule 35 and schedule 40, bell and spigot or solvent weld PVC pipe Six inch (6") or Eight inch (8") sized as required.
- Trench backfill material to be 2A stone.
- Concrete shall be 5000 PSI with 6x6X8ga epoxy coated woven wire fabric.
- Asphalt paving to be 19mm.
- Caulking and sealants for concrete to be self leveling polyurethane caulking.

**V. INSTALLATION**

- Install Precast inlet per the attached drawing.
- Depth required for the Pre Cast inlet to be determined by existing under floor drains, but shall be a minimum of 18" deep inside the inlet box. The Department cannot guarantee the depth of existing drains.
- Exit drain in the main shop shall flow thru the overhead door opening to the yard inlet structure. Exit drain in the West shop shall exit thru the wall and terminate in the yard drain structure.
- Concrete shall be installed per the detail on attached drawing.
- Underpin existing concrete floor with new concrete.
- Install asphalt paving to the full depth of the existing asphalt paving.
- Seal paving joints/edges with asphalt sealer.

**VI. SUBMITTALS AND FINAL DELIVERABLE ITEMS**

- The Department will provide the awarded contractor a complete breakdown of the required submittals based off of the "System" identified, I.E. " Roofing System"
- Contractor to provide three (3) copies of the entire project documentation in three (3) ring Binders.
- Binders to include the following items:
  - Contractor Letterhead on front cover of binder with Contractors contact information, project number, project description and date of final inspection.
  - Index page with matching tabs on each section of manual.
  - Bid Documents & Specifications
  - Purchase Order
  - All project meeting minutes (pre-bid, pre-Job, Interim, and Final inspection)
  - Email Correspondence
  - Submittals

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- L&I approved Engineered Drawings (Paper/CD)
- L&I Building Permits, Inspection Logs, Occupancy Permit, Other correspondence
- Certifications
- Certified Payrolls (Prevailing Wage rates)
- Waste receipts
- Photos Before, during and after
  - A sufficient amount of Photos is required for all phases of construction on all buildings, base on award.
  - Building Final-Exterior all four sides
- Operation and Maintenance manuals
- Contractors Warranty
- Manufactures Warranty

**VII. SUBMITTAL PROCEDURE**

- Submit Two (2) copies of all items shown on submittal schedule except for "samples".
- Identify project number, project name and location, and contractor's name and address on all submittals.
- Provide space for review stamps of Contractor and Department. Put contractor stamp of approval on each item submitted.
- Revise and resubmit submittals as required, identify all changes made since previous submittal.
- No work shall be performed until all submittals are approved by the Department. Work performed prior to submittal approval is performed at the Contractor's risk and may be subject to repair, replacement or other corrective measures as deemed necessary by the Department with no additional contract time or money.
- Review of shop drawings will be general and for the limited purpose of checking for general conformance with the design; and shall not relieve the Contractor from the responsibility for proper fitting and construction of the work, nor from furnishing materials and work required by the Contract which may not be indicated on the shop drawings when reviewed.
- The submittals required by this contract are subject to reproduction for the Department's internal use only. By signature on this bid proposal, both the Contractor and the equipment manufacturer authorize the Department to reproduce any materials including printed literature and training aids, submitted in fulfillment of this contract.

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**VIII. MANUFACTURER'S INSTRUCTIONS**

- When specified in individual specification sections, submit manufacturer's printed instructions for delivery, storage, assembly, installation, start-up, adjusting and finishing, and maintenance, in quantities specified for product data.
- Identify conflicts between manufacturer's instructions and contract documents.

**IX. MANUFACTURER'S CERTIFICATES**

- When specified in individual specification sections or on submittal schedule, submit manufacturer's certificates to for review.
- Indicate that material or product conforms to or exceeds specified requirements. Submit supporting reference date, affidavits and certifications as appropriate.
- Certificates may be recent or previous test results on material or product, but in all cases must be acceptable to Department.

**X. SUBMITTAL SCHEDULE**

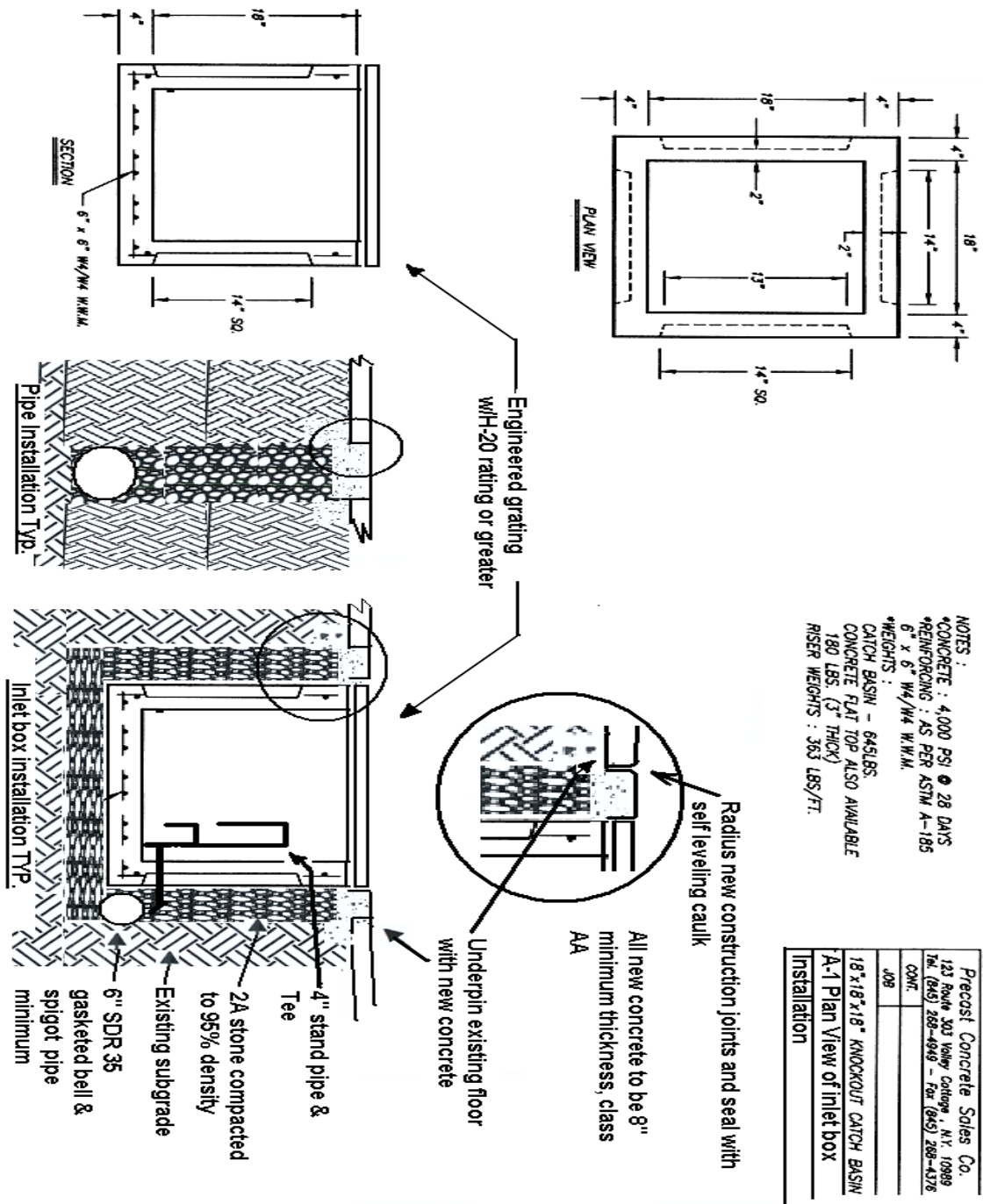
- Abbreviations:
 

SoSu - Source of Supply	CoCh - Color Chart
DeDa - Descriptive Data or Catalog Cuts	Cert - Certificates
ShDr - Shop or Installation Drawings	Samp – Samples

- Schedule:

Description of items to be submitted	SoSu	DeDa	ShDr	CoCh	Samp	Cert
1. Cost Breakdown	X	X				
2. Work Schedule	X	X				
3. L&I Permit Documents	X	X				X
4. Waste receipts	X					
5. Digital Photos	X					
6. . Final Deliverable Items 3 ring binder	X					
7. Pre Cast inlets	X	X				
8. Piping and Fittings	X	X				

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NOTES :  
 \*CONCRETE : 4,000 PSI @ 28 DAYS  
 \*REINFORCING : AS PER ASTM A-185  
 6" x 6" W4/W4 W.W.M.  
 \*WEIGHTS :  
 CATCH BASIN - 64SLBS.  
 CONCRETE FLAT TOP ALSO AVAILABLE  
 180 LBS. (3" THICK)  
 RISER WEIGHTS : 363 LBS./FT.

Precast Concrete Sales Co. 123 Route 303 Valley Cottage, N.Y. 10989 Tel. (943) 268-6949 - Fax (943) 268-4378	
CONF.	208
18"x18"x18" KNOCKOUT CATCH BASIN A-1 Plan View of Inlet box Installation	

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***Ordering A Laurel Steel Heavy-Duty Steel Grating***

In order to obtain a quotation or place an order for Laurel Steel HD grating, it is necessary to provide information for each of the categories listed below. Please refer to pages 4 and 5 for explanation.

**Bearing bar:** Size, material, spacing, surface

**Cross bar:** Either 2" or 4" spacing. Please specify standard, round, or rectangular; specify surface if rectangular.

**Finish:** Common grating finishes are mill finish (as fabricated), shop-applied black paint, and hot dip galvanized coating. Please contact Laurel Steel to request any special coating requirements.

**Area:** to be covered with grating

**Span:** direction of bearing bars

**Banding Requirements**

Call or fax your inquiry to our sales department, or you can submit an inquiry by contacting our Website, [laurel@marwas.com](mailto:laurel@marwas.com). The sketch shown here also appears on our Website, with drop-down menus to make it easy to submit an inquiry or order.

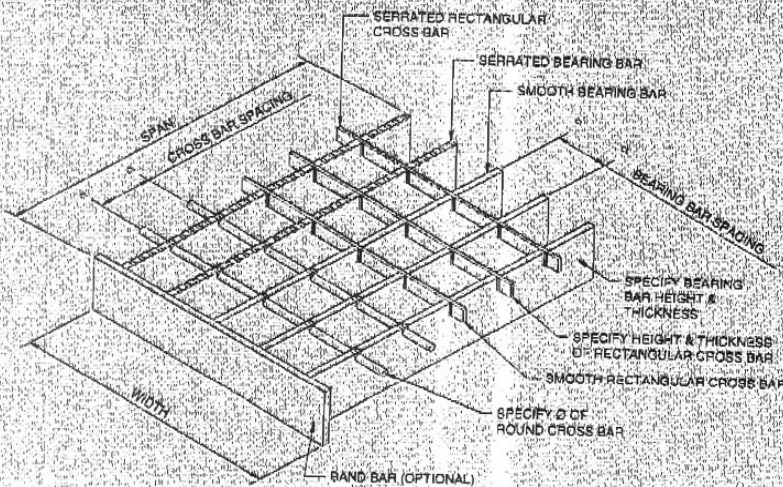
**Sample Specification:**

Grating shall be Laurel Steel Heavy-Duty Type 22W4, with 3" x 3/8" bearing bars spaced 1-3/8" o/c, and 1/2" diameter cross bar spaced 4" c/c. All material shall be ASTM A-36. All bearing bar/cross bar intersections shall be plug-welded. The ends of all grating panels shall be trim banded.

Sufficient grating shall be supplied to cover an area 36'-0" wide x 3'-8" span. The Laurel Steel Heavy-Duty Grating can support the

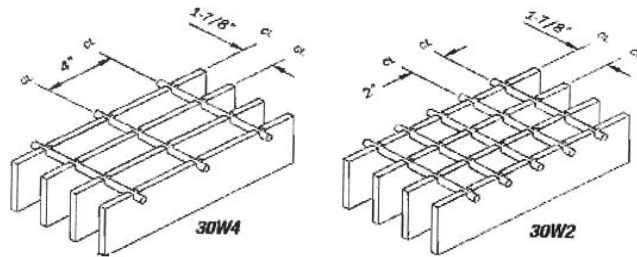
AASHTO H-20 design truck on the specified span. Grating shall be hot-dipped galvanized after fabrication, in accordance with ASTM A-123.

Grating shall be supplied in conformance with Standard Specifications and Code of Practice as provided for in National Association of Architectural Metal Manufacturers (NAAMM) Heavy-Duty Metal Bar Grating Manual MMBG-532-00.



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**Load Table for Heavy-Duty Bar Grating Type 30W4 – Simple Spans**



NOTE: The design capacity of any product shown is the same regardless of cross bar spacing.

Bar Size	Weight #/SF	Section Modulus per foot width	Standard Cross Bar	Maximum Safe Clear Span					
				1 ton	3 ton	5 ton	H-25	H-20	H-25
1 x 1/4"	6.9	0.267	3/8" dia	0'-6"	0'-5"	0'-6"	0'-8"	0'-9"	0'-9"
1 x 5/16"	8.3	0.333	3/8" dia	0'-7"	0'-6"	0'-7"	0'-9"	0'-10"	0'-10"
1 x 3/8"	9.8	0.40	3/8" dia	0'-8"	0'-8"	0'-8"	0'-9"	0'-11"	0'-11"
1-1/4 x 1/4"	8.3	0.417	3/8" dia	0'-8"	0'-6"	0'-8"	0'-10"	0'-11"	0'-11"
1-1/4 x 5/16"	10.2	0.521	3/8" dia	0'-9"	0'-7"	0'-9"	0'-11"	1'-0"	1'-1"
1-1/4 x 3/8"	12	0.625	3/8" dia	0'-11"	0'-8"	0'-10"	1'-0"	1'-1"	1'-2"
1-1/2 x 1/4"	9.8	0.60	3/8" dia	0'-11"	0'-8"	0'-9"	1'-0"	1'-1"	1'-2"
1-1/2 x 5/16"	12	0.750	3/8" dia	1'-1"	0'-9"	0'-11"	1'-1"	1'-3"	1'-3"
1-1/2 x 3/8"	14.1	0.90	3/8" dia	1'-3"	0'-10"	1'-0"	1'-2"	1'-4"	1'-5"
1-1/2 x 1/2"	18.4	1.20	3/8" dia	1'-8"	1'-1"	1'-2"	1'-5"	1'-7"	1'-7"
1-3/4 x 1/4"	11.2	0.817	3/8" dia	1'-2"	0'-10"	0'-11"	1'-2"	1'-3"	1'-4"
1-3/4 x 3/8"	16.3	1.225	3/8" dia	1'-8"	1'-1"	1'-2"	1'-5"	1'-7"	1'-8"
2 x 1/4"	12.7	1.067	3/8" dia	1'-6"	1'-0"	1'-1"	1'-4"	1'-6"	1'-6"
2 x 5/16"	15.6	1.333	3/8" dia	1'-10"	1'-2"	1'-3"	1'-6"	1'-8"	1'-9"
2 x 3/8"	18.5	1.60	3/8" dia	2'-2"	1'-6"	1'-5"	1'-8"	1'-10"	1'-11"
2 x 1/2"	24.2	2.133	3/8" dia	2'-10"	1'-9"	1'-9"	2'-0"	2'-2"	2'-2"
2-1/4 x 1/4"	14.1	1.250	3/8" dia	1'-10"	1'-2"	1'-3"	1'-6"	1'-8"	1'-9"
2-1/4 x 3/8"	20.6	2.025	3/8" dia	2'-10"	1'-8"	1'-8"	1'-11"	2'-1"	2'-2"
2-1/2 x 1/4"	15.6	1.667	3/8" dia	2'-3"	1'-5"	1'-5"	1'-8"	1'-10"	1'-11"
2-1/2 x 5/16"	19.2	2.083	3/8" dia	2'-9"	1'-9"	1'-8"	2'-0"	2'-1"	2'-2"
2-1/2 x 3/8"	22.8	2.50	3/8" dia	3'-3"	2'-0"	1'-11"	2'-3"	2'-5"	2'-5"
2-1/2 x 1/2"	30.0	3.333	3/8" dia	4'-4"	2'-6"	2'-5"	2'-10"	2'-11"	2'-11"
3 x 1/4"	18.5	2.40	3/8" dia	3'-2"	1'-9"	1'-11"	2'-2"	2'-4"	2'-4"
3 x 5/16"	22.8	3.0	3/8" dia	3'-11"	2'-4"	2'-3"	2'-7"	2'-8"	2'-9"
3 x 3/8"	28.0	3.60	1/2" dia	4'-8"	2'-9"	2'-7"	3'-0"	3'-1"	3'-1"
3 x 1/2"	36.7	4.80	1/2" dia	5'-8"	3'-6"	3'-4"	3'-9"	3'-10"	3'-10"
3-1/2 x 1/4"	21.4	3.267	3/8" dia	4'-3"	2'-6"	2'-6"	2'-9"	2'-10"	2'-11"
3-1/2 x 3/8"	32.3	4.90	1/2" dia	6'-2"	3'-5"	3'-5"	3'-10"	3'-11"	3'-11"
3-1/2 x 1/2"	42.5	6.533	1/2" dia	7'-2"	4'-9"	4'-5"	4'-11"	4'-11"	4'-11"
4 x 1/4"	24.2	4.267	3/8" dia	5'-6"	3'-2"	3'-0"	3'-5"	3'-6"	3'-8"
4 x 5/16"	30.9	5.333	1/2" dia	6'-10"	3'-11"	3'-8"	4'-2"	4'-2"	4'-2"
4 x 3/8"	35.7	6.40	1/2" dia	7'-8"	4'-8"	4'-4"	4'-10"	4'-10"	4'-10"
4 x 1/2"	48.2	8.533	1/2" dia	8'-7"	6'-1"	5'-7"	6'-3"	6'-2"	6'-2"
4-1/2 x 1/4"	28.0	5.40	1/2" dia	6'-11"	3'-11"	3'-8"	4'-2"	4'-3"	4'-3"
4-1/2 x 3/8"	41.0	8.10	1/2" dia	8'-10"	5'-10"	5'-4"	6'-0"	5'-11"	5'-10"
4-1/2 x 1/2"	54.0	10.80	1/2" dia	10'-2"	7'-8"	7'-0"	7'-7"	7'-5"	7'-4"
5 x 1/4"	30.9	6.667	1/2" dia	8'-6"	4'-10"	4'-6"	5'-0"	5'-0"	5'-0"
5 x 5/16"	38.1	8.333	1/2" dia	9'-6"	5'-11"	5'-6"	6'-2"	6'-1"	6'-0"
5 x 3/8"	45.4	10.0	1/2" dia	10'-4"	7'-1"	6'-6"	7'-3"	7'-2"	7'-0"
5 x 1/2"	59.8	13.33	1/2" dia	11'-9"	8'-11"	8'-5"	8'-10"	8'-8"	8'-7"
6 x 1/4"	36.7	9.60	1/2" dia	11'-2"	6'-10"	6'-3"	7'-0"	6'-11"	6'-10"
6 x 5/16"	45.4	12.0	1/2" dia	12'-4"	8'-6"	7'-9"	8'-7"	8'-5"	8'-3"
6 x 3/8"	54.0	14.40	1/2" dia	13'-3"	10'-1"	9'-2"	9'-11"	9'-10"	9'-9"
6 x 1/2"	71.4	19.20	1/2" dia	15'-0"	11'-8"	11'-0"	11'-6"	11'-3"	11'-1"

Weights are approximate, and can vary depending on panel width, type of cross bar, and mill and fabrication tolerances.  
 Weights shown are based on 4" cross bar centers.  
 Section Modulus based on 6.4 bars/foot.  
 \*Span limited by deflection (L/400 maximum).  
 For serrated grating design, increase bearing bar depth to next deeper size shown in chart.