



CENTRALBIDDING
FROM CENTRAL AUCTION HOUSE

**5000117190 - PURCHASE OF ELECTRICAL DIESEL DRIVE PUMP UNITS
FOR PONTIFF PLAYGROUND FOR THE JEFFERSON PARISH
DEPARTMENT OF DRAINAGE
Jefferson Parish Government**

Project documents obtained from www.CentralBidding.com
08-Aug-2016 11:20:08 AM



Bid Number 50-00117190

**PURCHASE OF ELECTRICAL DIESEL DRIVE PUMP UNITS FOR PONTIFF
PLAYGROUND FOR THE JEFFERSON PARISH DEPARTMENT OF
DRAINAGE**

BID DUE: AUGUST 18, 2016 AT 2:00 PM

ATTENTION VENDORS!!!

Please review all pages and respond accordingly, complying with all provisions in the technical specifications and Jefferson Parish Instructions for Bidders and General Terms and Conditions. All bids must be received in the Purchasing Department by the bid due date and time.

**Jefferson Parish Purchasing Department
200 Derbigny Street
General Government Building, Suite 4400
Gretna, LA 70053
Buyer Name: Misty A. Camardelle
Buyer Email: mcamardelle@jeffparish.net
Buyer Phone: 504-364-2683**



JEFFERSON PARISH

Department of Purchasing

Michael S. Yenni
Parish President

Brenda J. Campos
Director

CHANGES TO JEFFERSON PARISH BIDDING PROCEDURES

Bidders should carefully read and must respond accordingly per the requirements of the bid packages.

Effective August 1, 2016, please be advised:

- Affidavits (Non-Public Works Affidavit or Public Works Affidavit) – as you are aware, bidders are required to submit affidavits pursuant to LA public bid law and Jefferson Parish Code of Ordinances. Bidders must read each bid package to ensure compliance. Effective August 1st, ***affidavits are required with bid submission***. While copies are acceptable to include with bid submission, original affidavits are required upon contract execution. Original affidavits are encouraged with bid submission.
- Current W9 Forms and vendor applications may be submitted at any time; however, if your company is not registered and/or a current W-9 form is not on file, a current W-9 form must be supplied upon contract execution, should you be awarded a contract and/or issued a purchase order.
- Upon contract execution, successful bidder must continue producing final insurance certificates per standard Jefferson Parish insurance requirements. Proof of insurance is required for bidding purposes. Bidders must read the insurance requirements attachment included in each bid package for specific instructions.

These changes are pursuant Louisiana Public Bid Law more specifically, Act 406 of the 2016 Louisiana Legislative Regular Session. For the purposes of this communication, this change applies to Jefferson Parish Government bid solicitations only. For more information, please call Jefferson Parish Purchasing at 504-364-2678.

PURCHASE OF ELECTRICAL DIESEL PUMP UNITS FOR PONTIFF PLAYGROUND FOR THE JEFFERSON PARISH DEPARTMENT OF DRAINAGE

I. GENERAL

Vendor shall provide all pumping equipment including the hydraulically driven axial flow pumps, drive units, and all piping, appurtenances and mechanical system as specified herein. The manufacturer shall be ISO9001-2008 certified. Vendor shall notify Drainage Department two (2) weeks prior to delivery. Pumping units along with all hoses, piping, controls, wiring and accessories are to be delivered to 4901 Jefferson Hwy, Jefferson Louisiana. Any and all freight charges are to be included in bid price.

II. DESIGN DATA

The Vendor shall furnish with the bid, catalog pump performance curves based on tests of pumps in accordance with procedures as specified by Standards of Hydraulic Institute. Any bidder not able to supply catalog pump curves shall be considered non-responsive and shall not be accepted. The following chart indicates the station and pump(s) in each station.

Pump Station	HP	CFS	TDH	Pump
Gilmore #14	150	40	15.78	HAC324 or approved equal
Mag #3	125	32	15.81	HAC324 or approved equal
Mag #7	125	32	15.81	HAC324 or approved equal
NE #4	60	20	12.59	HAC320 or approved equal
Northline #3	60	20	10.88	HAC320 or approved equal
Nassau #6	50	26	6.87	HAC320 or approved equal
SW #1	100	20	16.77	HAC320 or approved equal
Earhart #8	100	32	11.32	HAC324 or approved equal
NW #2	150	32	17.55	HAC324 or approved equal
NW #13	150	40	13.68	HAC324 or approved equal

Minimum Pump Propeller sizes, 20" and 24" respectively

The pumps and drive equipment to be furnished under this contract shall be made by a manufacturer regularly engaged in such work, and who has furnished electric/diesel, variable speed hydraulic systems and specialties. Each pumping system shall come with a one year warranty. The pump vendor shall have a certified shop which must maintain units of equal size and must be able to provide emergency units (within 3 hours from notification of pump failure) if any of the pump should fail during the warranty period and it is estimated down time for repairs is longer than 12 hours. This replacement loaner pump shall be provided at no cost to the Parish. This facility must have a supply of parts on the shelf, which include but not limited to: pump propeller, pump hydraulic motor, quick connection couplings, bearing, hydraulic hose and pipe, programed controller/governor, and hydraulic pump for each size pump.

Evidence of this experience and data on the equipment and its operation in those installations shall be made available to the Drainage Department Engineer at their request to determine whether the equipment and specialties offered meet the requirements of these specifications.

Pump bowls, propellers and hydraulic power units shall be the product of a single manufacturer.

III. PUMP MATERIAL AND DESIGN

The pumps to be furnished under this specification shall be hydraulically driven, axial flow propeller, completely submersible with propeller bowl assembly, hydraulic motor assembly, suction bell assembly and discharge tube.

- A. **SUCTION BELL** - The suction bell assemblies shall be manufactured from alloy steel, 3/16" and 1/4" (depending on the pump size) thick and conforming to ASTM A242, and shall have a maximum inlet diameter of 1.5 times the propeller diameter or compliant with Hydraulic Institute 1998. The inlet bell shall be constructed to minimize vortex formation by maintaining equal pressures and velocities across the entrance. Bars shall be placed across the bell mouth to prevent entrance of large sticks, logs or debris. Inlet bell face shall be parallel to the water surface regardless of the angle of installation.
- B. **PUMP BOWL** - The propeller bowl assemblies section shall be a single stage, shop assembled unit consisting of a venturi housing, stainless steel liner, propeller shaft, bearings and stainless steel propeller blades. The venturi housing shall be manufactured from 3/8" and 1/2" (depending on the pump size) thick alloy steel conforming to ASTM A242 and shall be fitted with a machined, removable housing liner of 300 series stainless steel of not less than 3/16" thickness and a liner length of not less than the pitch length of the propeller.
- C. **PROPELLER and SHAFT** - The pump propeller blades shall be manufactured using ASTM A304 stainless steel. The propeller shall be balanced and secured firmly to the taper shaft with alignment key and locknut. The propeller shaft shall be machined from solid stainless steel bar stock and shall conform to ASME Code for transmission shafting to transmit full load torque and shall have additional safety factor for shock loads.
- D. **BEARINGS** - The propeller shaft shall be supported and contained in place by three multiple angular contact bearings. The shaft bearings shall be designed for an L_{10} life of 50,000 hours and lubricated by low pressure hydraulic oil. The propeller shaft and bearing assembly shall be contained in a machined bearing housing centrally supported by flow straightening vanes in the propeller bowl assembly and shall be protected against sand particle intrusion. The bearings shall be designed to accept thrust in either direction. A non-reverse rotation mechanism will be included.
- E. The discharge tube and head assembly shall be manufactured as shown on the drawings and the material shall be abrasive resistance steel conforming to ASTM A242 with a minimum wall thickness of 1/4". The complete pump assembly shall be painted inside and outside with bitumastic enamel equal to Zophar Triple A.
- F. **HYDRAULIC MOTOR** - The hydraulic motor assembly section shall consist of the assembly housing, hydraulic motor, and propeller shaft coupling and inlet and

outlet port pipe connections. The assembly housing shall be manufactured from 1/4" thick alloy steel conforming to ASTM A242. The housing assembly shall contain a hydraulic motor coupled to the propeller shaft. The hydraulic motor, bearings, shaft and coupling shall be enclosed and sealed to permit totally submerged operation in any position. The hydraulic motor shall be provided with inlet and outlet pipes extending from hydraulic motor through the assembly housing and terminate with quick coupling connections. The hydraulic motor shall be mounted on the discharge side of the propeller as to minimize NPSH requirements, avoid clogging of the intake and induce more efficient oil cooling. Suction side installations shall not be permitted.

IV. ELECTRIC/DIESEL DRIVE UNIT

Pumps will be supplied with a diesel/electric power unit. The drive units shall be manufactured and tested at the same factory as the pumping unit to provide a single source of responsibility and for the proper coordination of all components of the system. The unit shall consist of an oil reservoir of adequate capacity for cooling, for each size pump listed in section II, variable displacement hydraulic pump, diesel engine and interconnecting piping, valves, and accessories, mounted on a fabricated steel base with lifting eyes. In addition, the unit shall be supplied with an electric motor, hydraulic pump and required piping, valves and accessories to provide an "either/or" power operation. In the event of electrical panel failure the controls for the diesel unit shall be arranged to start either automatically from a level sensing signal or selected to manually operate.

1. The hydraulic pump shall be variable displacement vane type unit capable of continuous operation.
2. Diesel engines shall be Tier 3 John Deere or Deutz diesel engines unit or equal, of 50, 60, 100, 125, and 150 HP at 1800 rpm continuous duty rating. The units shall be fully equipped with radiator (if required), batteries and cable, safety shutdown switches (to include but not limited to: low oil pressure, high temperature, low oil level, high amps, etc.) and exhaust system with residential type muffler or sound attenuating system.
3. Electric motors shall be installed on the power unit and shall be the same BHP as the diesel listed above. The electric motors shall be a horizontal, foot-mounted, TEFC, 460 volt, 3-phase, 60 Hertz and shall be wound for reduced voltage starting and have a 1.15 SF. Each electric motor will come with a reduced voltage starter mounted on the skid.
4. Power unit shall be factory assembled and skid mounted. Hydraulic equipment shall include but not be limited to: a full flow oil filter, adjustable pressure relief valves at each pump outlet, pressure and temperature gauges, quick connect couplings and safety shutdown controls for low oil pressure and high oil temperature. All systems shall be assembled, piped and tested prior to delivery to the site. The skid will also be equipped with a day tank for a minimum of 10 hours of engine operation. Day tank shall be gravity feed.
5. A hydraulic system monitoring device to allow diagnosing hydraulic system behavior even while pump is still submerged shall also be included.

6. The drive system shall include a "clutch" starting system which allows the prime mover to start under a no-load condition and gradually engage the load over a 3 to 5 second time period. The "clutch" system shall be used to gradually disengage the load prior to shut-off of the prime mover. An automatic system option is included.
7. Sufficient hydraulic oil cooling capacity shall be provided to sustain direct sunlight radiation as well as ambient temperatures up to 122°F (50°C).

V. HYDRAULIC PIPE AND HOSE

Hydraulic lines connecting the power unit to the pumping unit shall be a combination of black steel pipe and reinforced hose and shall be installed in accordance with specifications. Supply pipe shall be ASTM-A106, Schedule 80 seamless black steel pipe, and return pipes shall be ASTM-A106, Schedule 40 seamless black steel pipe. All hydraulic pipes shall be pickled, oiled and plugged (P.O.P.). All reinforced supply hose shall be double wire braid reinforcement and shall have minimum safe working pressure of four times the working pressure or 2500 psi, whichever is higher. All pipe fittings shall be socket weld type (with socket weld to thread fittings at conversion point of pipe to reinforced hose). Quick connect couplings shall be provided at connection points of drive unit and water pump. Both supply and return piping shall be of adequate size to supply hydraulic fluid so that pump meets required flow. Hydraulic oil internal velocities shall not exceed 15 fps. Hose lengths shall be determined in the field prior to delivery. Hose shall not be coiled in excess or have tension between drive unit and pump.

VI. PUMP TESTING

- A. Each pump and hydraulic power transmission system shall be factory pressure tested to maximum design psi for a minimum of 10 minutes at design operating temperatures with every plumbing connection checked for possible leaks. In the event a leak is observed or detected, it shall be repaired and the test be repeated until all leaks are eliminated.
- B. Pumps shall be full size factory tested at the manufacturer's facility in an open sump in a vertical configuration with sufficient capacity for accurate pump testing. Testing shall include but not be limited to design head vs. design capacity and mechanical integrity. All tests shall be in accordance with the Hydraulic Institute Standards 14.6 and performed by a Registered Professional Engineer employed full time by the manufacturer. The certified field test may be witnessed by a Parish representative. Vendor shall give a two weeks' notice prior conducting certified test. Model test are not acceptable as the actual pumps are not utilized.
- C. After each pump installation an on-site test shall be conducted by vendor and witnessed by a Parish representative to ensure installation, setup, and operations meet vendor's requirements. All plumbing fittings and hydraulic equipment shall be inspected again for leakage. Should leakage be detected or observed, repairs shall be made and tests performed again until all leaks or losses are detected and repaired.

VII. INSTALLATION AND SUPERVISION

- A. The vendor shall coordinate installation of the pumps with the pump manufacturer and the parish or parish representative. All installation shall be in conformance with the

specifications and the pump manufacturer's recommendations. Jefferson Parish employees will perform the installation with the supervisor of the supplier to ensure installation is by Manufacturers specifications.

- B. The vendor, pump manufacturer, and parish or parish representative shall provide for final inspection and testing of the system and shall make necessary adjustments to the control system prior to actual start-up tests. Start-up tests and demonstration shall be performed by the pump manufacturer's representative and the Parish representative. Three (3) sets of operating and maintenance manuals and start-up procedures shall be provided to the owner as a hard copy and in pdf format on a CD. Vendor shall have pump manufacturer train and instruct owner's operator on all equipment.

VIII. WARRANTY

The hydraulic propeller pump system and controls shall be warranted for one (1) year by the manufacturer against defects in material and workmanship, under normal use and service from the date of shipment from the factory as described in the warranty certificate.

IX. Variable Speed Controller

- A. The pump ramp controller enclosure shall be made of heavy duty polycarbonate with a NEMA 4X rating and lockable door. The control center shall be mounted allowing easy access. The controls shall operate the pumps as shown on the Pumping Sequence Table.
- B. The control shall be a 100% solid-state, plug-in module which is housed in the card housing previously specified. Each card shall receive a 2.5 - 12.5 volt DC signal as supplied from the control system. The ramp controller shall provide adjustable gain, offset, minimum and maximum speed limit adjustments, differential set points and test points as described below.
- C. Adjustable Gain - The controller shall allow the 4-20 mA signal output to be continuously positioned over the full output range. The low output limit shall be adjustable from 10% to 100% of the output range. The high output limit shall be adjustable from 100% down to 10% of the output range. The gain therefore is used to adjust the slope of the output line.
- D. Offset - The control card shall have provision to allow adjustment of the 4-20 mA output over any portion of the input range.
- E. Minimum and Maximum Speed Limits - The control card shall have provisions to allow adjustment of the output signal so that a minimum and maximum speed can be selected and set by the Engineer. The minimum/maximum speed adjustments shall adjust the lowest and highest allowable current supplied by the 4-20 mA (max. range) output signal.
- F. Differential Set Points- Each ramp control shall be provided with a differential set point that senses the 2.5 - 12.5 volt D.C. input signal and provides an adjustable differential output. The differential control shall be used to turn the pump ON and OFF.
- G. Test points- Each control card shall be provided with edge mounted color coded test points that will allow the engineer to check the operation of the boards without removing the modules from the card housing.
- H. Variable Speed Pumps Alternation - In order to decrease the amount of wear imposed on a single variable speed pump, the pumps shall go through a fixed sequence timed

alternation. The alternation shall be adjusted to transpose the pumps operation during the systems low demand hours.

- Certification by Chief Engineer that manufacturer's pump testing facilities meet all requirements of the Hydraulic Institute Standards.

Specific acknowledgment that all testing shall be conducted in accordance with procedures described in the "Hydraulic Institute Standards" USA

A representative list of manufacturer's experience in the furnishing of hydraulically driven axial flow pumps of similar sizes or larger to those specified for this project, permanently installed and presently operating shall be furnished with bid submission and include the names, addresses and telephone numbers of the consulting engineers, owners and operators of the system. The dates of installations shall also be included.

Three (3) copies of certified pump performance curves of each unit will be furnished by manufacturer. The curve shall be stamped as certified (correct) by a Registered Professional Engineer in the state in which the pumps are tested and manufactured.

The curve shall show the pump capacity, discharge head, speed, NPSH, and Brake horsepower requirements.

Prospective bidders shall also submit for evaluation:

- Original copy of manufacturer's complete engineering catalogues for pumps.
- Certified copy of installation and operation manuals for permanent pump systems.
- Descriptive brochures showing photographs and/or describing the pump unit.
- Copy of all pump "Bill of Materials" of the unit's construction, cut-a-way drawings, and dimensions as offered to confirm compliance with the specifications.

X. Notice to Bidders

"Contractor shall not pay any state or local sales or use taxes on materials and equipment which are affixed and made part of the immovable property of the project or which is permanently incorporated into the project (hereinafter referred to as "applicable materials and equipment"). All purchases of applicable materials or equipment shall be made by the contractor on behalf of and as the agent of Jefferson Parish (Owner), a political subdivision of the State of Louisiana. No state and local sales and use taxes are owed on applicable materials and equipment under the provisions of Act 1029 of the 1991 Regular Session - Louisiana Revised Statute 47:301(8)(c). Owner will furnish contractor a certificate form which certifies that Owner is not required to pay such state or local sales and use taxes, and contractor shall furnish a copy of such certificate to all vendors or suppliers of the applicable materials and equipment."

DATE: 8/03/2016

INVITATION TO BID
THIS IS NOT AN ORDER

BID NO.: 50-00117190

JEFFERSON PARISH

PURCHASING DEPARTMENT
P.O. BOX 9
GRETNA, LA. 70054-0009
504-364-2678

Page: 1

BUYER: MCamardelle@jeffparish.net

BIDS WILL BE RECEIVED IN THE PURCHASING DEPARTMENT, SUITE 4400, JEFFERSON PARISH GENERAL GOVERNMENT BUILDING, 200 DERBIGNY STREET, GRETNA, LA 70053 UNTIL 2:00 PM, 8/18/2016 AND PUBLICLY OPENED THEREAFTER.

LATE BIDS WILL NOT BE ACCEPTED

Unless submitting via online (see Page 3), each bid must be submitted in a sealed envelope bearing on the outside; the name of the Bidder, his address, and the name of the project for which the bid is submitted and the bid number.

NOTE: ONLY BIDS WRITTEN IN INK OR TYPEWRITTEN, AND PROPERLY SIGNED BY A MEMBER OF THE FIRM OR AUTHORIZED REPRESENTATIVE, WILL BE ACCEPTED. PENCIL AND/OR PHOTOSTATIC FIGURES OR SIGNATURES SHALL RESULT IN BID REJECTION.

INSTRUCTIONS FOR BIDDERS AND GENERAL CONDITIONS

THE FOLLOWING INSTRUCTIONS APPLY TO ALL BIDS

All bids submitted are subject to these instructions and general conditions and any special conditions and specifications contained herein, all of which are made part of this bid proposal reference. By submitting a bid, vendor agrees to comply with all provisions of Louisiana Law as well be in compliance with the Jefferson Parish Code of Ordinances, Louisiana Code of Ethics, applicable Jefferson Parish ethical standards and Jefferson Parish Resolution No. 113646 and/or Resolution No. 113647.

All vendors submitting bids should register as a Jefferson Parish vendor if not already yet registered. Registration forms may be downloaded from www.purchasing.jeffparish.net and by clicking on Vendor Information. While Jefferson Parish may have these on file, all bidders should furnish their current W-9 Form and respective Tax Identification Numbers with bid submission; records on file may be invalid or expired. The successful bidder must submit a W-9 Form and respective Tax Identification Number upon contract execution. Failure to do so may result in delay of payment.

All quotations shall be based on F.O.B. Agency warehouse or job site, anywhere within the Parish as designated by the Purchasing Department. This provision does not apply to public works projects

JEFFERSON PARISH requires all products to be new (current) and all work must be performed according to standard practices for the project. Unless otherwise specified, no aftermarket parts will be accepted. Unless otherwise specified, all workmanship and materials must have at least one (1) year guaranty, in writing, from the date of delivery and/or acceptance of the project. Any deviations or alterations from the specifications must be indicated and/or supporting documentation supplied with bid submission.

Bidders should submit all questions in writing and fax them to the Purchasing Department at (504) 364-2693 no later than FIVE (5) working days prior to bid opening. Bid numbers should be mentioned in all requests. Questions may also be emailed to the buyer for this bid at the email address listed above. If submitting online, vendors may send questions via the E-Procurement site no later than Five (5) working days prior to the bid opening.

If this bid requires a pre-bid conference (see Additional Requirements section), bidders are advised that such conference will be held to allow bidders the opportunity to identify any discrepancies in the bid specifications and seek further clarification regarding instructions. The Purchasing Department will issue a written response to bidders' questions in the form of an Addendum. Please note that all official communication will be expressed in the form of an addendum.

All formal Addenda require written acknowledgement on the bid form by the bidder. Failure to acknowledge an Addendum on the bid form shall cause the bid to be rejected. JEFFERSON PARISH reserves the right to award bid to next lowest responsive and responsible bidder in this event.

The purpose and intention of this invitation to bid is to afford all suppliers an equal opportunity to bid on all construction, maintenance, repair, operating supplies and/or equipment listed in this bid proposal. JEFFERSON PARISH WILL ACCEPT ONE BID ONLY FROM EACH VENDOR. Items bid must meet specifications.

Visit our website at [HTTP://PURCHASING.JEFFPARISH.NET](http://PURCHASING.JEFFPARISH.NET)

JEFFERSON PARISH will accept one price for each item unless otherwise indicated. Two or more prices for one item will result in bid rejection. Bidders are required to complete, sign and return the bid form and/or complete and return the associated line item pricing forms as indicated. Vendors must not alter the bid forms. Doing so will cause the bid to be rejected.

If the bid exceeds \$30,000.00 and the company is duly authorized to do business in the state of Louisiana, a corporate resolution must be submitted with the bid or the person signing the bid documents must be listed on the Louisiana Secretary of State's website as an officer of the corporation, unless bidder has otherwise complied with LSA-R.S. 38:2212 (B)(5). If the bid is in excess of \$30,000 and bidder is registered out of the state of Louisiana, a corporate resolution must be submitted with the bid, unless bidder has otherwise complied with LSA-R.S. 38:2212 (B)(5). Failure to comply will cause bid to be rejected; the Parish reserves the right to award bid to the next lowest responsive and responsible bidder in this event. Bids submitted by Owner or Sole Proprietorships must include certification that he or she owns the entity for which the bid is signed. This documentation must be submitted with the bid. Failure to do so will result in bid rejection.

NOTE: A sample corporate resolution can be downloaded from our website <http://purchasing.jeffparish.net> or you may provide your own document. A sample certification of sole proprietorship can also be downloaded from our website <http://purchasing.jeffparish.net> or you may provide your own document.

INSTRUCTIONS FOR BIDDERS AND GENERAL CONDITIONS

A. AWARD OF CONTRACT: JEFFERSON PARISH reserves the right to award contracts or place orders on a lump sum or individual item basis, or such combination, as shall in its judgment be in the best interest of JEFFERSON PARISH. Every contract or order shall be awarded to the LOWEST RESPONSIVE and RESPONSIBLE BIDDER, taking into consideration the CONFORMITY WITH THE SPECIFICATIONS and the DELIVERY AND/OR COMPLETION DATE. SPLIT AWARDS MADE TO SEVERAL VENDORS WILL ONLY BE GRANTED TO THOSE DEEMED RESPONSIVE AND RESPONSIBLE.

All bid prices shall remain valid for 45 days. Jefferson Parish and the lowest responsive and responsible bidder(s) by mutual written consent may mutually agree to extend the deadline for award by one (1) or more extensions of thirty (30) calendar days.

Preference is hereby given to materials, supplies, and provisions produced, manufactured or grown in Louisiana, quality being equal to articles offered by competitors outside the state. "LSA-R.S.38:2251-2261"

B. USE OF BRAND NAMES AND STOCK NUMBERS: Where brand names and stock numbers are specified, it is for the purpose of establishing certain minimum standards of quality. Bids may be submitted for products of equal quality, provided brand names and stock numbers are specified. Complete product data may be required prior to award.

C. CANCELLATION OF CONTRACT: JEFFERSON PARISH reserves the right to cancel all or any part if not shipped promptly. No charges will be allowed for parking or cartage unless specified in quotation. The order must not be filled at a higher price than quoted. JEFFERSON PARISH reserves the right to cancel any contract at anytime and for any reason by issuing a THIRTY (30) day written notice to the contractor.

For good cause and as consideration for executing a contract with Jefferson Parish, vendor conveys, sells, assigns and transfers to Jefferson Parish or its assigns all rights, title and interest in and to all causes of action it may now or hereafter acquire under the antitrust laws of the United States and the State of Louisiana, relating to the particular good or services purchased or acquired by Jefferson Parish.

D. PRICES: Jefferson Parish is exempt from paying sales tax under LSA-R.S. 47:301 (8)(c). All prices for purchases by Jefferson Parish of supplies and materials shall be quoted in the unit of measure specified and unless otherwise specified, shall be exclusive of state and Parish taxes. The price quoted for work shall be stated in figures. In the event there is a difference in unit prices and totals, the unit price shall prevail.

Quantities listed are for bidding purposes only. Actual requirements may be more or less than quantities listed.

Bidders are not to exclude from participation in, deny the benefits of, or subject to discrimination under any program or activity, any person in the United States on the grounds of race, color, national origin, or sex; nor discriminate on the basis of age under the Age Discrimination Act of 1975, or with respect to an otherwise qualified handicapped individual as provided in Section 504 of the Rehabilitation Act of 1973, or on the basis of religion, except that any exemption from such prohibition against discrimination on the basis of religion as provided in the Civil Rights Act of 1964, or Title VI and VII of the Act of April 11, 1968, shall also apply. This assurance includes compliance with the administrative requirements of the Revenue Sharing final handicapped discrimination provisions contained in Section 51.55 (c), (d), (e), and (k)(5) of the Regulations. New construction or renovation projects must comply with Section 504 of the 1973 Rehabilitation Act, as amended, in accordance with the American National Standard Institute's specifications (ANSI A17.1-1961).

Advertised bids will be tabulated and a copy of the tabulation will be forwarded to each responding bidder.

IN ACCORDANCE WITH STATE REGULATIONS JEFFERSON PARISH OFFERS ELECTRONIC PROCUREMENT TO ALL VENDORS

This electronic procurement system allows vendors the convenience of reviewing and submitting bids online. This is a secure site and authorized personnel have limited read access only. Bidders are encouraged to submit electronically using this free service; while the website accepts various file types, one single PDF file containing all appropriate and required bid documents is preferred. Bidders submitting uploaded images of bid responses are solely responsible for clarity. If uploaded images/documents are not legible, then bidder's submission will be rejected. Please note all requirements contained in this bid package for electronic bid submission.

Please visit the Purchasing Department webpage at <http://purchasing.jeffparish.net> to register and review Jefferson Parish solicitations.

The general specifications for construction projects and the purchase of materials, services and/or supplies are those adopted by the JEFFERSON PARISH Council by Resolution No. 113646 or 113647 dated 12/09/09. The general conditions adopted by this resolution shall be considered as much a part of this document as if they were written wholly herein. A copy may be obtained from the Office of the Parish Clerk, Suite 6700, Jefferson Parish General Government Building, 200 Derbigny Street, Gretna, LA 70053. You may also obtain a copy by visiting the Purchasing Department webpage at <http://purchasing.jeffparish.net> and clicking on Online Forms.

ADDITIONAL REQUIREMENTS FOR THIS BID

PLEASE MATCH THE NUMBERS PRINTED IN THIS BOX WITH THE CORRESPONDING INSTRUCTIONS BELOW.

13, 15

1. All bidders must attend the MANDATORY pre-bid conference and will be required to sign in and out as evidence of attendance. In accordance with LSA R.S. 38:2212(I), all prospective bidders shall be present at the beginning of the MANDATORY pre-bid conference and shall remain in attendance for the duration of the conference. Any prospective bidder who fails to attend the conference or remain for the duration shall be prohibited from submitting a bid for the project.
2. Attendance to this pre-bid conference is optional. However, failure to attend the pre-bid conference shall not relieve the bidder of responsibility for information discussed at the conference. Furthermore, failure to attend the pre-bid conference and inspection does not relieve the successful bidder from the necessity of furnishing materials or performing any work that may be required to complete the work in accordance with the specification with no additional cost to the owner.
3. Contractor must hold current applicable JEFFERSON PARISH licenses with the Department of Inspection and Code Enforcement. Contractor shall obtain any and all permits required by the JEFFERSON PARISH Department of Inspection and Code Enforcement. The contractor shall be responsible for the payment of these permits. All permits must be obtained prior to the start of the project. Contractor must also hold any and all applicable Federal and State licenses. Contractor shall be responsible for the payment of these permits and shall obtain them prior to the start of the project.
4. A LA State Contractor's License will be required in accordance with LSA R.S. 37-2150 et. seq. and such license number will be shown on the outside of the bid envelope. Failure to comply will cause the bid to be rejected. Additionally if submitting the bid electronically, then the license number must be entered in the appropriate field in the Electronic Procurement system. Failure to comply will cause the bid to be rejected.
5. It is the bidder's responsibility to visit the job site and evaluate the job before submitting a bid.
6. Job site must be clean and free of all litter and debris daily and upon completion of the contract. Passageways must be kept clean and free of material, equipment, and debris at all times. Flammable material must be removed from the job site daily because storage will not be permitted on the premises. Precautions must be exercised at all times to safeguard the welfare of JEFFERSON PARISH and the general public.

INSTRUCTIONS FOR BIDDERS AND GENERAL CONDITIONS

7. PUBLIC WORKS BIDS: All awards for public works in excess of \$5,000.00 will be reduced to a formal contract which shall be recorded at the contractor's expense with the Clerk of Court and Ex-Officio Recorder of Mortgages for the Parish of Jefferson. A price list of recordation costs may be obtained from the Clerk of Court and Ex-Officio Recorder of Mortgages for the Parish of Jefferson. All awards in excess of \$25,000.00 will require both a performance and a payment bond. Unless otherwise stated in the bid specifications, the performance bond requirements shall be 100% of the contract price. Unless otherwise stated in the bid specifications, the payment bond requirements shall be 100% of the contract price. Both bonds shall be supplied at the signing of the contract.
8. NON-PUBLIC WORKS BIDS: A performance bond will be required for this bid. The amount of the bond will be 100% of the contract price unless otherwise indicated in the specifications. The performance bond shall be supplied at the signing of the contract.
9. NON-PUBLIC WORKS BIDS: A payment bond will be required for this bid. The amount of the bond will be 100% of the contract price unless otherwise indicated in the specifications. The payment bond shall be supplied at the signing of the contract.
10. Unless otherwise stated in the bid specifications, the successful bidder will be required to procure standard insurance policies evidencing Parish-mandated insurance requirements as indicated on the attached "insurance requirements" sheet. All bidders must comply with the instructions in this sheet. Failure to comply will cause bid to be rejected.
11. A bid bond will be required with bid submission in the amount of 5% of the total bid, unless otherwise stated in the bid specifications. Acceptable forms shall be limited to cashier's check, certified check, or surety bid bond. All sureties must be in original format (no copies) If submitting a bid online, vendors must submit an electronic bid bond through the respective online clearinghouse bond management system(s) as indicated in the electronic bid solicitation on Central Auction House. No scanned paper copies of any bid bond will be accepted as part of the electronic bid submission.
12. This is a requirements contract to be provided on an as needed basis. JEFFERSON PARISH makes no representations on warranties with regard to minimum guaranteed quantities unless otherwise stated in the bid specifications.
13. Freight charges should be included in total cost when quoting. If not quoted FOB DELIVERED, freight must be quoted as a separate item. Bid may be rejected if not quoted FOB DELIVERED or if freight charges are not indicated on bid form.
14. PUBLIC WORKS BIDS - Completed, Signed and Properly Notarized Affidavits Required; This applies to all solicitations for construction, alteration or demolition of public buildings or projects, in conformity with the provisions contained in LSA-RS 38:2212.9, LSA-RS 38:2212.10, LSA-RS 38:2224, and Sec 2-923.1 of the Jefferson Parish Code of Ordinances. For bidding purposes, all bidders must submit with bid submission COMPLETED, SIGNED and PROPERLY NOTARIZED Affidavits, including: Non-Collusion Affidavit, Non-Collusion Affidavit, Campaign Contribution Affidavit, Debt Disclosures Affidavit and E-Verify Affidavit. For the convenience of vendors, all affidavits have been combined into one form entitled PUBLIC WORKS BID AFFIDAVIT. This affidavit must be submitted in its original format, and without material alteration, in order to be compliant and for the bid to be considered responsive. A scanned copy of the completed, signed and properly notarized affidavit may be submitted with the bid, however, the successful bidder must submit the original affidavit in its original format and without material alteration upon contract execution. Failure to comply will result in the bid submission being rejected as non-responsive. The Parish reserves the right to award bid to the next lowest responsive and responsible bidder in this event.
15. NON PUBLIC WORK BIDS - Completed, Signed and Properly Notarized Affidavits Required in conformity with the provisions contained in LSA - RS 38:2224 and Sec 2-923.1 of the Jefferson Parish Code of Ordinances. For bidding purposes, all bidders must submit with bid submission COMPLETED, SIGNED and PROPERLY NOTARIZED Affidavits, including: Non-Collusion Affidavit, Debt Disclosures Affidavit and Campaign Contribution Affidavit. For the convenience of vendors, all affidavits have been combined into one form entitled NON PUBLIC WORKS BID AFFIDAVIT. This affidavit must be submitted in its original format, and without material alteration, in order to be compliant and for the bid to be considered responsive. A scanned copy of the completed, signed and properly notarized affidavit may be submitted with the bid, however, the successful bidder must submit the original affidavit in its original format and without material alteration upon contract execution. Failure to comply will result in the bid submission being rejected as non-responsive. The Parish reserves the right to award bid to the next lowest responsive and responsible bidder in this event.
16. The ensuing contract for this bid solicitation may be eligible for FEMA reimbursement and/or Federal funding/reimbursement. As such, the referenced appendix will be applicable accordingly and shall be considered a part of the bid documents. All applicable certifications must be duly completed, signed and submitted with bid submission. Failure to submit applicable certifications with bid submission will result in bid rejection.
17. For this project, the Contractor shall not pay any state or local sales or use taxes on materials and equipment which are affixed and made part of the immovable property of the project or which permanently incorporated in the project (hereinafter referred to as "applicable materials and equipment"). All purchases of applicable materials or equipment shall be made by the contractor on behalf of and as the agent of Jefferson Parish (Owner), a political subdivision of the State of Louisiana. No state and local sales and use taxes are owned on applicable materials and equipment under the provisions of Act 1029 of the 1991 Regular Session - Louisiana Revised Statute 47:301(8)(c). Owner will furnish contractor a certificate form which certifies that Owner is not required to pay such state or local sales and use taxes, and contractor shall furnish a copy of such certificate to all vendors or suppliers of the applicable materials and equipment

It shall be the duty of every parish officer, employee, department, agency, special district, board, and commission: and the duty of every contractor, subcontractor, and licensee of the parish, and the duty of every applicant for certification of eligibility for a parish contract or program, to cooperate with the Inspector General in any investigation, audit, inspection, performance review, or hearing pursuant to Jefferson Parish Code of Ordinances Section 2-155.10(19). By submitting a bid, vendor acknowledges this and will abide by all provisions of the referenced Jefferson Parish Code of Ordinances.

All Public Work Projects are required to use the Louisiana Uniform Public Work Bid Form

All prices must be held firm unless an escalation provision is requested in this bid. Jefferson Parish will allow one escalation during the term of the contract, which may not exceed the U.S. Bureau of Labor Statistics National Index for all Urban Consumers, unadjusted 12 month figure. The most recently published figure issued at the time an adjustment is requested will be used. A request must be made in writing by the vendor, and the escalation will only be applied to purchases made after the request is made.

Are you requesting an escalation provision?

YES _____ NO X _____

MAXIMUM ESCALATION PERCENTAGE REQUESTED _____%

INITIAL BID PRICES WILL REMAIN FIRM THROUGH THE DATE OF 08/18/2017

For the purposes of comparison of bids when an escalation provision is requested, Jefferson Parish will apply the maximum escalation percentage quoted by the bidder to the period to which it is applied in the bid. The initial price and the escalation will be used to calculate the total bid price. It will be assumed, for comparison of prices only, that an equal amount of material or labor is purchased each month throughout the entire contract.

DELIVERY: FOB JEFFERSON PARISH

INDICATE DELIVERY DATE ON EQUIPMENT AND SUPPLIES

January 26 - March 16, 2017

LOUISIANA CONTRACTOR'S LICENSE NO.: (if applicable)

N/A

THIS SECTION MUST BE COMPLETED BY BIDDER:

FIRM NAME: Associated Pump & Supply

ADDRESS: 9074 Park Ave.

CITY, STATE: Houma, LA ZIP: 70363

TELEPHONE: (985) 851-7077 FAX: (985) 876-9854

EMAIL ADDRESS: office@associatedpump.com

In the event that addenda are issued with this bid, bidders MUST acknowledge all addenda on the bid form. Bidder must acknowledge receipt of an addendum on the bid form as indicated. Failure to acknowledge any addendum on the bid form will result in bid rejection.

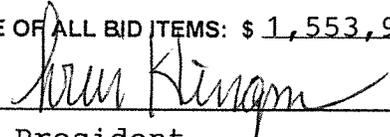
Acknowledge Receipt of Addenda: NUMBER: 0

NUMBER: _____

NUMBER: _____

NUMBER: _____

TOTAL PRICE OF ALL BID ITEMS: \$ 1,553,999.00

AUTHORIZED SIGNATURE: 

Louis Klingman

TITLE: Vice President

Printed Name

SIGNING INDICATES YOU HAVE READ AND COMPLY WITH THE INSTRUCTIONS AND CONDITIONS.

NOTE: All bids should be returned with the BID NUMBER and BID OPENING DATE indicated on the outside of the envelope submitted to the Purchasing Department.

INVITATION TO BID FROM JEFFERSON PARISH - continued

BID NO.: 50-00117190

SEALED BID

ITEM NUMBER	QUANTITY	U/M	DESCRIPTION OF ARTICLES	UNIT PRICE QUOTED	TOTALS
1	1.00	EA	PURCHASE OF ELECTRICAL DIESEL DRIVE PUMP UNITS FOR PONTIFF PLAYGROUND FOR THE JEFFERSON PARISH DEPARTMENT OF DRAINAGE 0010 Electric Diesel Drive Pump Unit 40cfs@15.78TDH HAC324 or approved equal 150 HP 40cfs TDH 15.78 Pump Station Name (Gilmore no.14)	\$176,425.00	\$176,425.00
2	1.00	EA	0020 Electric Diesel Drive Pump Unit 32cfs@15.81TDH HAC324 or approved equal 125 HP 32cfs TDH 15.81 Pump Station Name (Mahnolia no.3)	\$159,725.00	\$159,725.00
3	1.00	EA	0030 Electric Diesel Drive Pump Unit 32cfs@15.81TDH HAC324 or approved equal 125 HP 32 cfs TDH 15.81 Pump Station Name (Magnolia no. 7)	\$159,725.00	\$159,725.00
4	1.00	EA	0040 Electric Diesel Drive Pump Unit 20cfs@12.59TDH HAC320 or approved equal 60 HP 20 csf TDH 12.59 Pump Station Name (Northeast no. 4)	\$136,002.00	\$136,002.00
5	1.00	EA	0050 Electric Diesel Drive Pump Unit 20cfs@10.88TDH Hac320 or approved equal 60 HP 20cfs TDH 10.88 Pump station name (Northline no.3)	\$136,002.00	\$136,002.00
6	1.00	EA	0060 Electric Diesel Drive Pump Unit 26cfs@6.87 TDH HAC320 or approved equal 50 HP 26 cfs TDH 6.87 Pump Station Name (Nassau no. 6)	\$132,765.00	\$132,765.00
7	1.00	EA	0070 Electric Diesel Drive Pump Unit 20cfs@16.77 TDH 100 HP 20 cfs TDH 16.77 HAC320 or approved equal Pump S Name (South West no.1)	\$147,157.00	\$147,157.00
8	1.00	EA	0080 Electric Diesel Drive Pump Unit 32cfs@11.32TDH	\$153,348.00	\$153,348.00

INVITATION TO BID FROM JEFFERSON PARISH - continued

BID NO.: 50-00117190

SEALED BID

ITEM NUMBER	QUANTITY	U/M	DESCRIPTION OF ARTICLES	UNIT PRICE QUOTED	TOTALS
9	1.00	EA	100 HP 32 cfs TDH 11.32 HAC324 or approved equal Pump Station Name (Earhart no.8) 0090 Electric Diesel Drive Pump Unit 32cfs@17.55 TDH	\$176,425.00	\$176,425.00
10	1.00	EA	150 HP 32 cfs 17.55 TDH HAC324 or approved equal Pump Station Name (North West no.2) 0100 Electric Diesel Drive Pump Unit 40cfs@13.68TDH 150 Hp 40cfs 13.68 TDH HAC324 or approved equal Pump Station Name (North West no. 13)	\$176,425.00	\$176,425.00

CORPORATE RESOLUTION

EXCERPT FROM MINUTES OF MEETING OF THE BOARD OF DIRECTORS OF
Associated Pump & Supply
INCORPORATED.

AT THE MEETING OF DIRECTORS OF Associated Pump & Supply
INCORPORATED, DULY NOTICED AND HELD ON August 8, 2016,
A QUORUM BEING THERE PRESENT, ON MOTION DULY MADE AND SECONDED. IT
WAS:

RESOLVED THAT Louis Klingman, BE AND IS HEREBY
APPOINTED, CONSTITUTED AND DESIGNATED AS AGENT AND ATTORNEY-IN-
FACT OF THE CORPORATION WITH FULL POWER AND AUTHORITY TO ACT ON
BEHALF OF THIS CORPORATION IN ALL NEGOTIATIONS, BIDDING, CONCERNS
AND TRANSACTIONS WITH THE PARISH OF JEFFERSON OR ANY OF ITS AGENCIES,
DEPARTMENTS, EMPLOYEES OR AGENTS, INCLUDING BUT NOT LIMITED TO, THE
EXECUTION OF ALL BIDS, PAPERS, DOCUMENTS, AFFIDAVITS, BONDS, SURETIES,
CONTRACTS AND ACTS AND TO RECEIVE ALL PURCHASE ORDERS AND NOTICES
ISSUED PURSUANT TO THE PROVISIONS OF ANY SUCH BID OR CONTRACT, THIS
CORPORATION HEREBY RATIFYING, APPROVING, CONFIRMING, AND ACCEPTING
EACH AND EVERY SUCH ACT PERFORMED BY SAID AGENT AND ATTORNEY-IN-
FACT.

I HEREBY CERTIFY THE FOREGOING TO BE
A TRUE AND CORRECT COPY OF AN
EXCERPT OF THE MINUTES OF THE ABOVE
DATED MEETING OF THE BOARD OF
DIRECTORS OF SAID CORPORATION, AND
THE SAME HAS NOT BEEN REVOKED OR
RESCINDED.

Louis Klingman
SECRETARY-TREASURER

August 16, 2016
DATE

Non-Public Works Bid Affidavit Instructions

- **Affidavit is supplied as a courtesy to Affiants, but it is the responsibility of the affiant to insure the affidavit they submit to Jefferson Parish complies, in both form and content, with federal, state and parish laws.**
- **Affidavit must be signed by an authorized representative of the entity or the affidavit will not be accepted.**
- **Affidavit must be notarized or the affidavit will not be accepted.**
- **Notary must sign name, print name, and include bar/notary number, or the affidavit will not be accepted.**
- **Affiant MUST select either A or B when required or the affidavit will not be accepted.**
- **Affiants who select choice A must include an attachment or the affidavit will not be accepted.**
- **If both choice A and B are selected, the affidavit will not be accepted.**
- **Affidavit marked N/A will not be accepted.**
- **It is the responsibility of the Affiant to submit a new affidavit if any additional campaign contributions are made after the affidavit is executed but prior to the time the council acts on the matter.**

Instruction sheet may be omitted when submitting the affidavit

Non-Public Works Bid

AFFIDAVIT

STATE OF Louisiana

PARISH/COUNTY OF Terrebonne

BEFORE ME, the undersigned authority, personally came and appeared: Louis
Klingman, (Affiant) who after being by me duly sworn, deposed and said that
he/she is the fully authorized Secretary/VP of Associated Pump & Supply (Entity),
the party who submitted a bid in response to Bid Number 50-00117190, to the Parish of
Jefferson.

Affiant further said:

Campaign Contribution Disclosures

(Choose A or B, if option A is indicated please include the required attachment):

Choice A _____ Attached hereto is a list of all campaign contributions, including the date and amount of each contribution, made to current or former elected officials of the Parish of Jefferson by Entity, Affiant, and/or officers, directors and owners, including employees, owning 25% or more of the Entity during the two-year period immediately preceding the date of this affidavit or the current term of the elected official, whichever is greater. Further, Entity, Affiant, and/or Entity Owners have not made any contributions to or in support of current or former members of the Jefferson Parish Council or the Jefferson Parish President through or in the name of another person or legal entity, either directly or indirectly.

Choice B X there are **NO** campaign contributions made which would require disclosure under Choice A of this section.

Debt Disclosures

(Choose A or B, if option A is indicated please include the required attachment):

Choice A _____ Attached hereto is a list of all debts owed by the affiant to any elected or appointed official of the Parish of Jefferson, and any and all debts owed by any elected or appointed official of the Parish to the Affiant.

Choice B X There are **NO** debts which would require disclosure under Choice A of this section.

Affiant further said:

That Affiant has employed no person, corporation, firm, association, or other organization, either directly or indirectly, to secure the public contract under which he received payment, other than persons regularly employed by the Affiant whose services in connection with the construction, alteration or demolition of the public building or project or in securing the public contract were in the regular course of their duties for Affiant; and

[The remainder of this page is intentionally left blank.]

That no part of the contract price received by Affiant was paid or will be paid to any person, corporation, firm, association, or other organization for soliciting the contract, other than the payment of their normal compensation to persons regularly employed by the Affiant whose services in connection with the construction, alteration or demolition of the public building or project were in the regular course of their duties for Affiant.

Louis Klingman
Signature of Affiant

LOUIS KLINGMAN
Printed Name of Affiant

SWORN AND SUBSCRIBED TO BEFORE ME

ON THE 16 DAY OF August, 2016.

Hayes Babin
Notary Public

Hayes Babin
Printed Name of Notary

9126
Notary/Bar Roll Number

My commission expires with my life.



Hayes Babin
Notary Public ID #9126
Terrebonne Parish, LA
Commission is for life.



State offices in Baton Rouge are currently closed due to weather conditions.

Print

Notary Search - Detail

Name: MR. HAYES BABIN
Address: 10135 EAST PARK AVE.
HOUMA, LA 70363
Phone: (985) 580-2020
Notary ID Number: 9126
Parish: TERREBONNE with authority in the following parishes:
ASSUMPTION, LAFOURCHE, ST. MARY
Agency: N/A
Notary Type: Non Attorney
Status: Active
Commission Date: 02/10/1987
Oath Date: 02/04/1987
Surety Expiration Date: 12/29/2016
Annual Report Current: Yes

[Back to Search Results](#)

[New Search](#)

STANDARD INSURANCE REQUIREMENTS – PUBLICLY ADVERTISED BIDS

All required insurance under this bid shall conform to Jefferson Parish Resolution No. 113646 or No. 113647, as applicable. Contractors may not commence any work under any ensuing contract unless and until all required insurance and associated evidentiary requirements thereto have been met, along with any additional specifications contained in the advertised bid. Except as where otherwise precluded by law, the Parish Attorney or his designee, with the concurrence of the Director of Risk Management or his designee, may agree on a case-by-case basis, to deviate from Jefferson Parish's standard insurance requirements, as provided in this Section. Vendors requesting deviation therefrom shall submit such requests in writing, along with compelling substantiation, to the Purchasing Department prior to the bid's due date. Any changes to the insurance requirements will be reflected in the bid specifications and addenda. Prior to contract execution and at all times thereafter during the term of such contract, contractors must provide and continuously maintain all coverages as required by the foregoing Resolutions, and the contract documents. Failure to do so shall be grounds for suspension, discontinuation or termination of the contract.

For bidding purposes, bidders must submit with bid submission a current (valid) insurance certificate evidencing the required coverages. Failure to comply will cause bid to be rejected. The current insurance certificate will be used for proof of insurance at time of evaluation. Thereafter, and prior to contract execution, the low bidder will be required to provide final insurance certificates to the Parish which shall name the Jefferson Parish, its Districts Departments and Agencies under the direction of the Parish President and the Parish Council as additional insureds regarding negligence by the contractor for the Commercial General Liability and the Comprehensive Automobile Liability policies. Additionally, said certificates should reflect the name of the Parish Department receiving goods and services and reference the respective Jefferson Parish bid number.

JEFFERSON PARISH REQUIRED STANDARD INSURANCE **WORKER'S COMPENSATION INSURANCE**

As required by Louisiana State Statute, exception; Employer's Liability, Section B shall be \$1,000,000 per occurrence when Work is to be over water and involves maritime exposures to cover all employees not covered under the State Worker's Compensation Act, otherwise this limit shall be no less than \$500,000 per occurrence.

Note: If your company is not required by law to carry workmen's compensation insurance, i.e. not a Louisiana company, sole employee of the company, then bidders must request a workmen's compensation insurance declaration affidavit prior to the bid opening date. This insurance declaration affidavit must be fully completed, signed, properly notarized and submitted with the bid. A scanned copy may be submitted with the bid; however, the successful bidder must submit the original affidavit in its original format and without material alteration upon contract execution. Failure to comply will result in the bid submission being rejected as non-responsive. The Parish reserves the right to award bid to the next lowest responsive and responsible bidder in this event.

BID NO.: 50-00117190

COMMERCIAL GENERAL LIABILITY

Shall provide limits not less than the following: \$1,000,000.00 Combined Single Limit per Occurrence for bodily injury and property damage.

COMPREHENSIVE AUTOMOBILE LIABILITY

Bodily injury liability \$1,000,000.00 each person; \$1,000,000.00 each occurrence.
Property Damage Liability \$1,000,000.00 each occurrence.

Note: This category may be omitted if bidders do not/will not utilize company vehicles for the project or do not possess company vehicles. Bidder must request an automobile insurance declaration affidavit prior to the bid opening date. This insurance declaration affidavit must be fully completed, signed, properly notarized and submitted with the bid. A scanned copy of the completed, signed and properly notarized affidavit may be submitted with the bid; however, the successful bidder must submit the original affidavit in its original format and without material alteration upon contract execution. Failure to comply will result in the bid submission being rejected as non-responsive. The Parish reserves the right to award bid to the next lowest responsive and responsible bidder in this event.

DEDUCTIBLES

No insurance required shall include a deductible not greater than \$10,000.00. The cost of the deductible shall be borne by the contractor.

NOTE: If the vendor requires a change in deductibles, the request must be submitted in writing to the Purchasing Department prior to the due date of the bid. Such request shall be reviewed by the Parish Attorney's Office with the concurrence of the Director of Risk Management.

UMBRELLA LIABILITY COVERAGE

An umbrella policy or excess may be used to meet minimum requirements.

FOR CONSTRUCTION AND RENOVATION PROJECTS:

The following are required unless otherwise specified in the bid. Such insurance is due upon contract execution.

1) OWNER'S PROTECTIVE LIABILITY

To be for the same limits of liability for bodily injury and property damage liability established for commercial general liability.

2) BUILDER'S RISK INSURANCE

The contractor shall maintain Builder's Risk Insurance at his own expense to insure both the owner (Parish of Jefferson) and contractor as their interest may appear.

W-9
Form (Rev. October 2007)
Department of the Treasury
Internal Revenue Service

**Request for Taxpayer
Identification Number and Certification**

Give form to the requester. Do not send to the IRS.

Name (as shown on your income tax return)
Associated Pump & Supply Co., Inc.

Business name, if different from above

Check appropriate box: Individual/sole proprietor Corporation Partnership
 Limited liability company. Enter the tax classification (D=disregarded entity, C=corporation, P=partnership) ▶ Exempt payee
 Other (see instructions) ▶

Address (number, street, and apt. or suite no.)
9074 Park Avenue

City, state, and ZIP code
Houma, LA 70363

List account number(s) here (optional)
74633

Requester's name and address (optional)

Part I Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. The TIN provided must match the name given on Line 1 to avoid backup withholding. For individuals, this is your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the Part I instructions on page 3. For other entities, it is your employer identification number (EIN). If you do not have a number, see *How to get a TIN* on page 3. Note: If the account is in more than one name, see the chart on page 4 for guidelines on whose number to enter.

Social security number

OR

Employer identification number
72 1161348

Part II Certification

Under penalties of perjury, I certify that:

- The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me), and
- I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding, and
- I am a U.S. citizen or other U.S. person (defined below).

Certification instructions. You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the Certification, but you must provide your correct TIN. See the instructions on page 4.

Sign Here Signature of U.S. person ▶ *[Signature]* Date ▶ **01/12/2011**

General Instructions

Section references are to the Internal Revenue Code unless otherwise noted.

Purpose of Form
A person who is required to file an information return with the IRS must obtain your correct taxpayer identification number (TIN) to report, for example, income paid to you, real estate transactions, mortgage interest you paid, acquisition or abandonment of secured property, cancellation of debt, or contributions you made to an IRA.
Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN to the person requesting it (the requester) and, when applicable, to:

- Certify that the TIN you are giving is correct (or you are waiting for a number to be issued),
- Certify that you are not subject to backup withholding, or
- Claim exemption from backup withholding if you are a U.S. exempt payee. If applicable, you are also certifying that as a U.S. person, your allocable share of any partnership income from a U.S. trade or business is not subject to the withholding tax on foreign partners' share of effectively connected income.

Note. If a requester gives you a form other than Form W-9 to request your TIN, you must use the requester's form if it is substantially similar to this Form W-9.

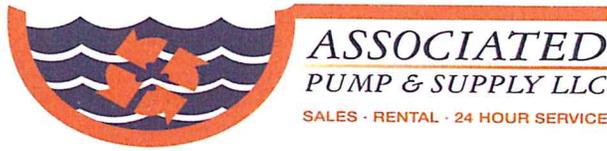
Definition of a U.S. person. For federal tax purposes, you are considered a U.S. person if you are:

- An individual who is a U.S. citizen or U.S. resident alien,
- A partnership, corporation, company, or association created or organized in the United States or under the laws of the United States,
- An estate (other than a foreign estate), or
- A domestic trust (as defined in Regulations section 301.7701-7).

Special rules for partnerships. Partnerships that conduct a trade or business in the United States are generally required to pay a withholding tax on any foreign partners' share of income from such business. Further, in certain cases where a Form W-9 has not been received, a partnership is required to presume that a partner is a foreign person, and pay the withholding tax. Therefore, if you are a U.S. person that is a partner in a partnership conducting a trade or business in the United States, provide Form W-9 to the partnership to establish your U.S. status and avoid withholding on your share of partnership income.

The person who gives Form W-9 to the partnership for purposes of establishing its U.S. status and avoiding withholding on its allocable share of net income from the partnership conducting a trade or business in the United States is in the following cases:

- The U.S. owner of a disregarded entity and not the entity,



9074 Park Avenue · Houma, LA 70363
P: 985-851-7077
F: 985-876-9854
office@associatedpump.com

August 18, 2016

RE: Bid # 50-00117190 – Purchase of Electrical Diesel Drive Pump Units for Pontiff Playground for Jefferson Parish Department of Drainage

We are pleased to offer our MWI Pumps for the above mentioned project. The following equipment is included in our quotation with **no exceptions**:

Item # 1 – Gilmore

- **One (1) MWI Model # HAC324 – 24” Hydraflo Pump** Each Rated 40 CFS @ 15.27’ TDH.
- **One (1) # 2400ED Drive Unit** with 150 HP TEFC Electric Motor, 150 HP Diesel Engine, 100 Gallon Built In Day Tank, NEMA 12 Starter Panel, Residential Muffler, and Auto Engine Control, All Skid Mounted.
- Variable Speed Control and Hydraulics.
- Cover Over the Drive Unit.
- Stilling Well with Floats.
- Hydraulic Pipe and Hoses to Connect Pump to Drive Unit.
- Painting per Spec.

Price: \$176,425.00 (Plus Applicable Taxes)

Item # 2 – Mag # 3

- **One (1) MWI Model # HAC324 – 24” Hydraflo Pump** Each Rated 32 CFS @ 15.81’ TDH.
- **One (1) # 2400ED Drive Unit** with 125 HP TEFC Electric Motor, 125 HP Diesel Engine, 100 Gallon Built In Day Tank, NEMA 12 Starter Panel, Residential Muffler, and Auto Engine Control, All Skid Mounted.
- Variable Speed Control and Hydraulics.
- Cover Over the Drive Unit.
- Stilling Well with Floats.
- Hydraulic Pipe and Hoses to Connect Pump to Drive Unit.
- Painting per Spec.

Price: \$159,725.00 (Plus Applicable Taxes)

Item # 3 – Mag # 7

- **One (1) MWI Model # HAC324 – 24” Hydraflo Pump** Each Rated 32 CFS @ 15.81’ TDH.
- **One (1) # 2400ED Drive Unit** with 125 HP TEFC Electric Motor, 125 HP Diesel Engine, 100 Gallon Built In Day Tank, NEMA 12 Starter Panel, Residential Muffler, and Auto Engine Control, All Skid Mounted.
- Variable Speed Control and Hydraulics.
- Cover Over the Drive Unit.
- Stilling Well with Floats.



- Hydraulic Pipe and Hoses to Connect Pump to Drive Unit.
- Painting per Spec.

Price: \$159,725.00 (Plus Applicable Taxes)

Item # 4 – NE # 4

- **One (1) MWI Model # HAC320 – 20” Hydraflo Pump** Each Rated 20 CFS @ 12.59' TDH.
- **One (1) # 2000ED Drive Unit** with 60 HP TEFC Electric Motor, 60 HP Diesel Engine, 50 Gallon Built In Day Tank, NEMA 12 Starter Panel, Residential Muffler, and Auto Engine Control, All Skid Mounted.
- Variable Speed Control and Hydraulics.
- Cover Over the Drive Unit.
- Stilling Well with Floats.
- Hydraulic Pipe and Hoses to Connect Pump to Drive Unit.
- Painting per Spec.

Price: \$136,002.00 (Plus Applicable Taxes)

Item # 5 – Northline # 3

- **One (1) MWI Model # HAC320 – 20” Hydraflo Pump** Each Rated 20 CFS @ 10.88' TDH.
- **One (1) # 2000ED Drive Unit** with 60 HP TEFC Electric Motor, 60 HP Diesel Engine, 50 Gallon Built In Day Tank, NEMA 12 Starter Panel, Residential Muffler, and Auto Engine Control, All Skid Mounted.
- Variable Speed Control and Hydraulics.
- Cover Over the Drive Unit.
- Stilling Well with Floats.
- Hydraulic Pipe and Hoses to Connect Pump to Drive Unit.
- Painting per Spec.

Price: \$136,002.00 (Plus Applicable Taxes)

Item # 6 – Nassau # 6

- **One (1) MWI Model # HAC320 – 20” Hydraflo Pump** Each Rated 26 CFS @ 6.87' TDH.
- **One (1) # 2000ED Drive Unit** with 50 HP TEFC Electric Motor, 50 HP Diesel Engine, 50 Gallon Built In Day Tank, NEMA 12 Starter Panel, Residential Motor, and Auto Engine Control, All Skid Mounted.
- Variable Speed Control and Hydraulics.
- Cover Over the Drive Unit.
- Stilling Well with Floats.
- Hydraulic Pipe and Hoses to Connect Pump to Drive Unit.
- Painting per Spec.

Price: \$132,765.00 (Plus Applicable Taxes)



Item # 7 – SW # 1

- **One (1) MWI Model # HAC320 – 20” Hydraflo Pump** Each Rated 20 CFS @ 16.77’ TDH.
- **One (1) # 2000ED Drive Unit** with 100 HP TEFC Electric Motor, 100 HP Diesel Engine, 75 Gallon Built In Day Tank, NEMA 12 Starter Panel, Residential Muffler, and Auto Engine Control, All Skid Mounted.
- Variable Speed Control and Hydraulics.
- Cover Over the Drive Unit.
- Stilling Well with Floats.
- Hydraulic Pipe and Hoses to Connect Pump to Drive Unit.
- Painting per Spec.

Price: \$147,157.00 (Plus Applicable Taxes)

Item # 8 – Earhart # 8

- **One (1) MWI Model # HAC324 – 24” Hydraflo Pump** Each Rated 32 CFS @ 11.32’ TDH.
- **One (1) # 2000ED Drive Unit** with 100 HP TEFC Electric Motor, 100 HP Diesel Engine, 75 Gallon Built In Day Tank, NEMA 12 Starter Panel, Residential Muffler, and Auto Engine Control, All Skid Mounted.
- Variable Speed Control and Hydraulics.
- Cover Over the Drive Unit.
- Stilling Well with Floats.
- Hydraulic Pipe and Hoses to Connect Pump to Drive Unit.
- Painting per Spec.

Price: \$153,348.00 (Plus Applicable Taxes)

Item # 9 – NW # 2

- **One (1) MWI Model # HAC324 – 24” Hydraflo Pump** Each Rated 32 CFS @ 17.55’ TDH.
- **One (1) # 2400ED Drive Unit** with 150 HP TEFC Electric Motor, 150 HP Diesel Engine, 100 Gallon Built In Day Tank, NEMA 12 Starter Panel, Residential Muffler, and Auto Engine Control, All Skid Mounted.
- Variable Speed Control and Hydraulics.
- Cover Over the Drive Unit.
- Stilling Well with Floats.
- Hydraulic Pipe and Hoses to Connect Pump to Drive Unit.
- Painting per Spec.

Price: \$176,425.00 (Plus Applicable Taxes)

Item # 10 – NW # 3

- **One (1) MWI Model # HAC324 – 24” Hydraflo Pump** Each Rated 40 CFS @ 13.68’ TDH.



ASSOCIATED
PUMP & SUPPLY LLC
SALES · RENTAL · 24 HOUR SERVICE

9074 Park Avenue · Houma, LA 70363
P: 985-851-7077
F: 985-876-9854
office@associatedpump.com

- **One (1) # 2400ED Drive Unit** with 150 HP TEFC Electric Motor, 150 HP Diesel Engine, 100 Gallon Built In Day Tank, NEMA 12 Starter Panel, Residential Muffler, and Auto Engine Control, All Skid Mounted.
- Variable Speed Control and Hydraulics.
- Cover Over the Drive Unit.
- Stilling Well with Floats.
- Hydraulic Pipe and Hoses to Connect Pump to Drive Unit.
- Painting per Spec.

Price: \$176,425.00 (Plus Applicable Taxes)

Total Price: \$1,553,999.00 (Plus Applicable Taxes)

Our Price Includes:

1. All Shop Drawings and Submittals.
2. Start-Up Services for Five Days, Not to Exceed (8) Hours per Day.
3. Full Size Factory Test Each Pump and Drive per HI 14.6

Specifically Not Included:

1. Installation of Any Type.
2. Discharge Pipe.
3. Exhaust Piping. Only Muffler and SS Flex are included.
4. Wiring to Customer Power Source.
5. Fuel or Fuel Lines to any External Source.
6. Expenses for Engineers Visit for Testing.

Quoted Price is FOB Jobsite with Contractor to Unload. Terms are Net 30 after Delivery. Deliveries will start in 18 Weeks and Complete in 26 Weeks after Shop Drawing Approval. Drawings will be Submitted for Approval 2-3 Weeks after Receipt of Purchase Order. Only items listed above are included in this quotation.

Once again, we appreciate the opportunity to quote you on the above equipment and we look forward to your favorable consideration. Please feel free to call, should you have any questions.

Best Regards,

Oscar Perez



MWI PUMP COMPANY
EQUIPMENT INFORMATION SUBMITTAL

Project:
Pontiff Playground Pump Stations

Equipment:
Hydraflo Models HAC320, HAC324
and Diesel/Electric Drive Units

15 June 2016

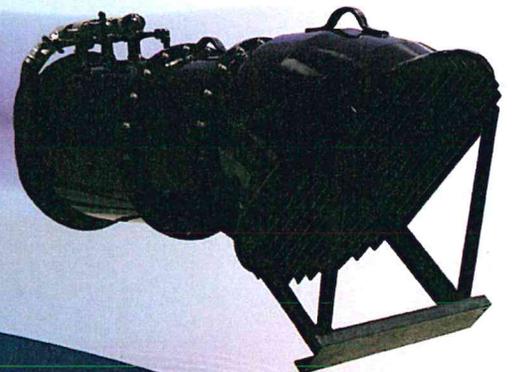
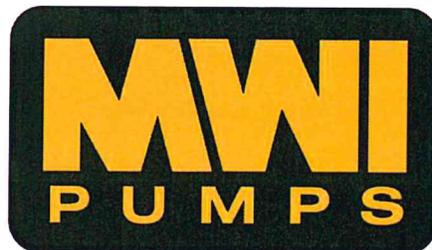
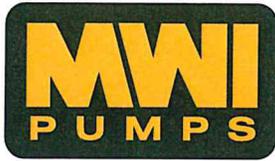


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About MWI



Moving Water Industries (MWI) Corporation traces its roots back to 1926, when Hoyt Eller started a business in Deerfield Beach, Florida. The company grew over the years due to its reputation for customer service, quality and innovative designs. David Eller P.E., the current CEO/President, has over 20 US patents for his innovations in pump design. He is joined by his two sons, Dana and Daren and daughter Danielle, all graduate engineers.



MWI's international headquarters and extensive manufacturing capabilities are located in Deerfield Beach, Florida, very close to the original business. The manufacturing facilities are spread over 4 city blocks and total nearly 300,000 ft², to include a 10,000 ft² test lab. The company has a facility in Egypt and representatives throughout the United States, Latin America, Middle East, Africa and Asia.

MWI's pump product line includes: lineshaft, submersible electric, hydraulically driven, centrifugal, self priming, trash, rotary lobe and solar powered borehole pumps.

Today, MWI is focused on:

- Axial and mixed flow pumps for drainage, irrigation, flood control and emergency pumping.
- Pumps for rental companies and contractors for construction dewatering, sewage bypass and industrial applications.
- Renting pumps directly in Central and South Florida and nationwide when very large pumps are required.
- Solar powered pumps with water treatment capabilities for the developing world.



Our philosophy is simple: provide innovative, high-quality pumps at competitive prices and take care of each customer. Let us help you solve your water moving problems with our extensive engineering staff, years of experience and great products.





PERRY JOHNSON REGISTRARS, INC.

Certificate of Registration

Perry Johnson Registrars, Inc., has assessed the Quality Management System of:

MWI Corporation

33 Northwest Eller Street, Deerfield Beach, FL 33441 United States

*(Hereinafter called the Organization) and hereby declares that
Organization is in conformance with:*

ISO 9001:2008

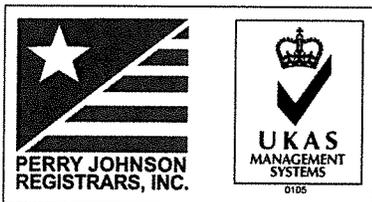
This Registration is in respect to the following scope:

**Design, Manufacture and Servicing of Axial, Mixed Flow, Centrifugal
and Mobile Pumps, Drill Rigs and Village Water Supply Units**

*This Registration is granted subject to the system rules governing the Registration referred to above, and the
Organization hereby covenants with the Assessment body duty to observe and comply with the said rules.*

Terry Boboige, President

Perry Johnson Registrars, Inc. (PJR)
755 West Big Beaver Road, Suite 1340
Troy, Michigan 48084
(248) 358-3388



*The use of the UKAS accreditation symbol is in respect to the activities
covered by the Accreditation Certificate Number 0105.*

The validity of this certificate is dependent upon ongoing surveillance.

Effective Date:

November 16, 2013

Expiration Date:

November 15, 2016

Certificate No.:

C2013-02535

Past Performance

Name of Project: Emergency Procurement – Purchase of Temporary (Interim) Pumps for Three Outfall Canals in New Orleans, Louisiana.

Description of the work: The work consist of providing thirty-four 60 inch hydraulic, single stage, oil lubricated, axial flow pumps MWI model HAC360, 60 inch diameter discharge elbows, skid mounted 715 hp diesel engine drive units MWI model 60SD-700.

Contract was modified to add level controls, remote pump controls, and an additional six pumps model HAC3360 and six diesel drive units model 60SD-700.

Name and address of acquiring agency:

USACE, Contracting Division
Attn: CEMVN-CT, Room 172
7400 Leake Ave.
New Orleans LA 70118-3651

Contact for further information:

Dan Bradley (USACE New Orleans)
504-862-2696
Daniel.F.Bradley@usace.army.mil



17th Street Canal



London Ave Canal



New Orleans Ave Canal



MWI Corporation

Past Performance

Name of Project: Additional 600 cfs Pump Systems for 17th Street Canal Pump Station – New Orleans, LA

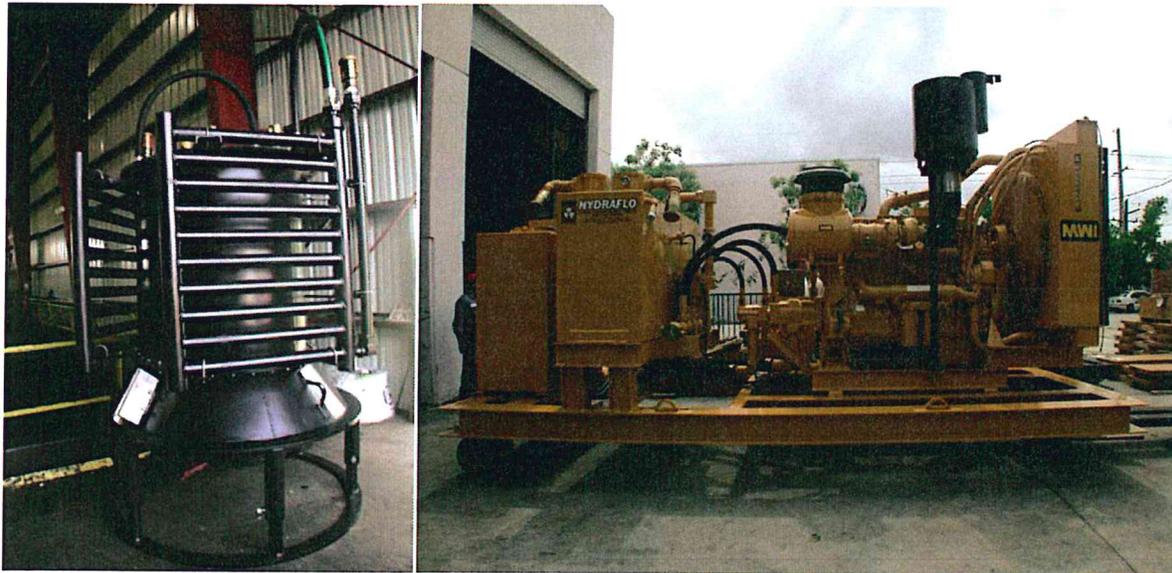
Description of the work: Design/build project to increase the capacity of critical pumping stations on two canals that drain stormwater from New Orleans. MWI supplied fourteen 42 inch impeller pumps with 575 hp diesel drive units as a lease with option to purchase.

Name and address of acquiring agency:
AFCEE/AC 3300 Sidney Brooks Brooks City-Base TX 78235-5112

Contact for further information:
Michael Larkin (Weston Solutions, Inc.)
504-544-6400
M.Larkin@WestonSolutions.com



17th Street Gate Structure Outfall



MWI Corporation

Past Performance

Name of Project: Design Build for the rebuilding and repair of three pump stations (Pump Station No.2 , Pump Station No.3 and Pump Station No.5)

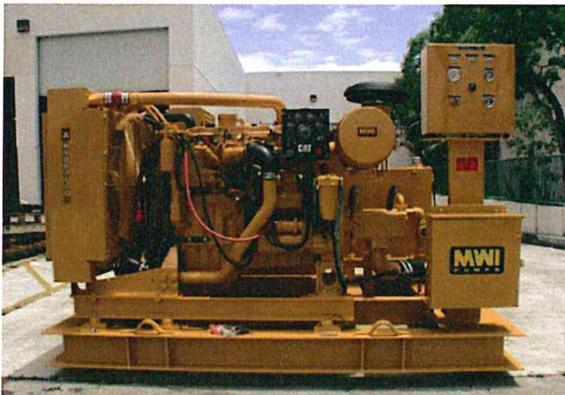
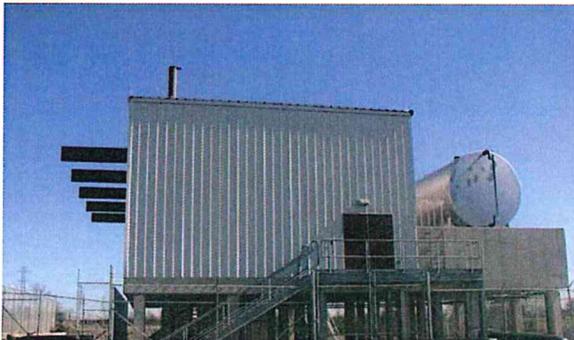
Description of the work: Supply pumps, drives, piping and controls to restore pumping capacity at three storm damaged stormwater pump stations. Equipment supplied included seven 54 inch impeller pumps with 800 hp diesel drive units and six 42 inch impeller pumps with 250 hp diesel drive units.

Name and address of acquiring agency:

HPO CT
7400 Leake Ave.
New Orleans, La 70118-3651

Contact for further information:

Pete Bauer (Lake Borgne Basin Levee District)
504-512-6331
PSBAUER@LBBLD.com



Past Performance

Name of Project: Portable Hydraulically Driven Propeller Pumps

Contract Number and Type:

Description of the work: Supply 24 model HAC330 pumps, 24 model 3000D drives and controls for emergency pumping capacity. Equipment rating is 1.5 m³/s at 5 m TDH with 225 hp diesel drive units. The drive units are self-contained skids with 325 liter fuel tanks.

Name and address of acquiring agency:
Thailand Department of Water Resources

Contact for further information:
Kitthanapat Engineering Co., Ltd.
5 Soi Vachiratamastit 33
Sukhumvit 101/1 Road
Bangchak, Prakanong, Bangkok
10260 Thailand



Past Performance

Name of Project: Jefferson Parish, Louisiana

Contract Number and Type:

Description of the work: Supply one HAC324, hydraulically driven axial flow pump, with a 125 HP dual diesel/electric drive unit. The pump was rated for 40 CFS @ 12' TDH. It came complete with a 100 gallon day, residential muffler, and control panel with starter

Contact for further information:

Robert Dale

Assistant Director

Jefferson Parish Drainage

1221 Elmwood Park Blvd., Suite 908

Jefferson, LA 70123

(504) 736-6756

bdale@jeffparish.net



Past Performance

Name of Project: St. Charles Parish, Louisiana

Contract Number and Type:

Description of the work: Supply one HAC324, hydraulically driven axial flow pump, with a John Deere 6068 130 HP diesel engine. The pump was rated for 22,000 @ 10' TDH. It used a LOFA CP750 auto start panel with floats.

Supply one HAC330, Hydrflo pump rated 34,000 GPM @ 15' TDH. Drive unit with John Deere 6090, 285 HP diesel engine, also with auto start panel and floats.

Contact for further information:

Chris A. Tregre

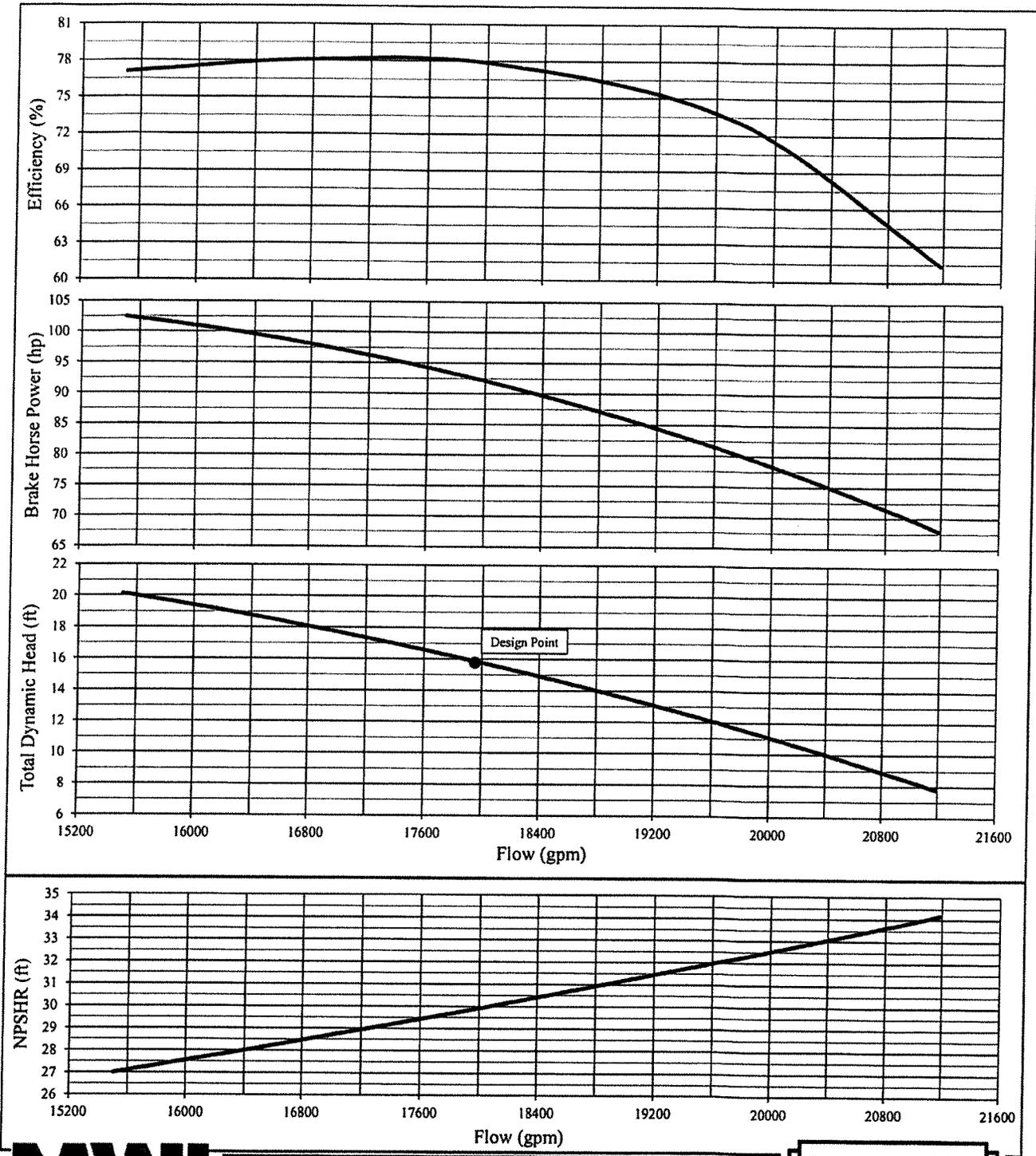
Assistant Superintendent

Office: 985-783-1315

Fax : 985-783-8908

Cell : 504-235-9095

Email : ctregre@stcharlesgov.net

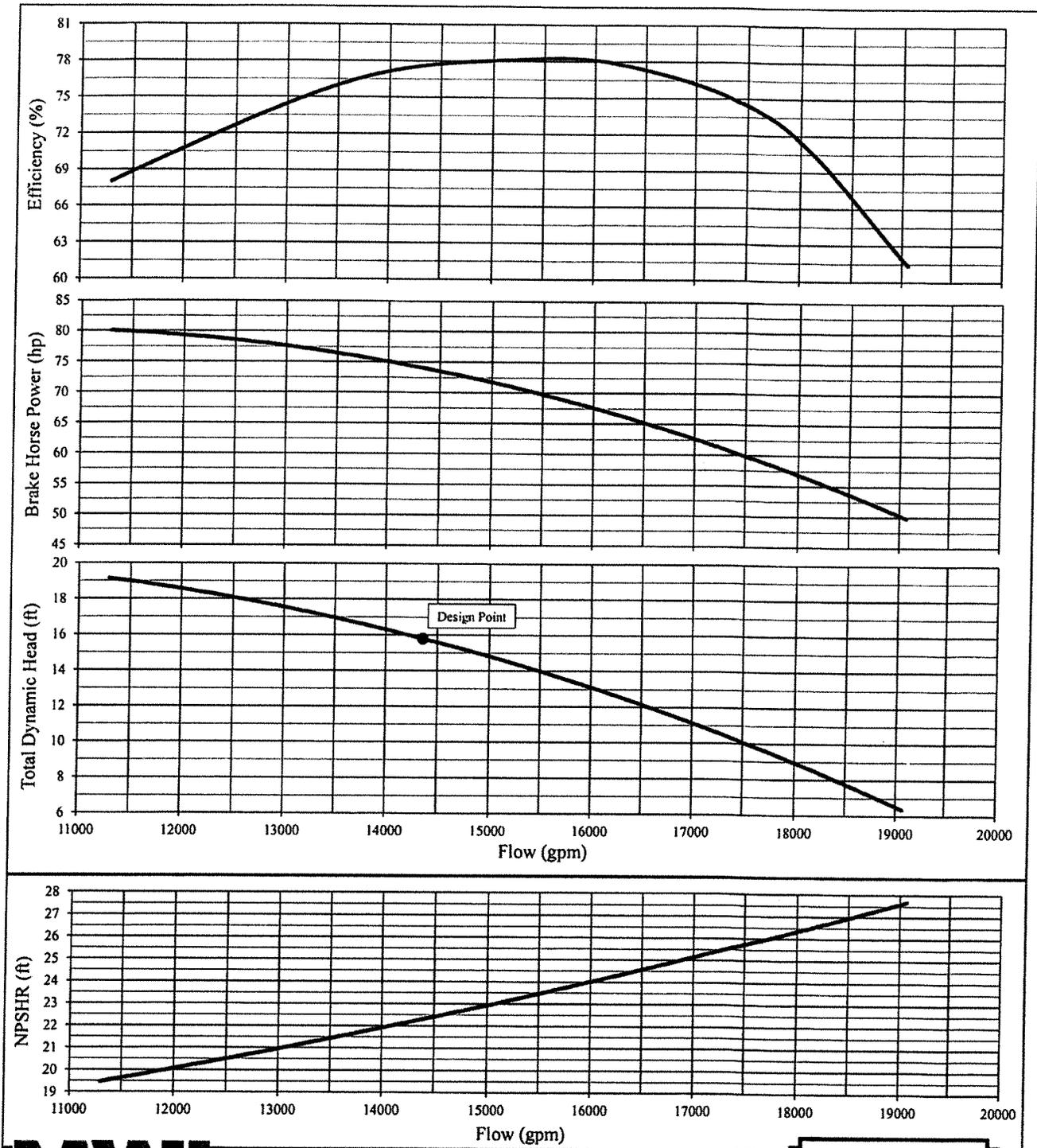


PUMP BOWL PERFORMANCE CURVE	
Project: Pontiff Playground Pump Station Gilmore #14	
TYPE: Axial Flow	PROPELLER DIA: 24 in
MODEL NO: HAC324	SPEED: 700 RPM
INTAKE DIA: 36 in	DISCHARGE DIA:
SINGLE STAGE PERFORMANCE FOR TWO STAGES MULTIPLY HEAD AND HORSEPOWER BY 2.0 AND EFFICIENCY BY 1.0 PERFORMANCE IS BASED ON PUMPING CLEAR, NON-AERATED WATER, WITH A SPECIFIC GRAVITY OF 1.0, TEMPERATURE 85 DEG F OR LESS AND AT SEA LEVEL. PUMP PERFORMANCE MAY BE AFFECTED BY HIGHER TEMPERATURES, SPECIFIC GRAVITY, ALTITUDES AND SUMP CONDITIONS.	

IT IS HEREBY CERTIFIED THAT THIS CURVE REPRESENTS THE TRUE PERFORMANCE CHARACTERISTICS OF THE MWI PUMP MODEL SHOWN AND WAS OBTAINED BY SCALE MODEL TEST AND CALCULATIONS IN ACCORDANCE WITH STANDARDS OF THE HYDRAULIC INSTITUTE.

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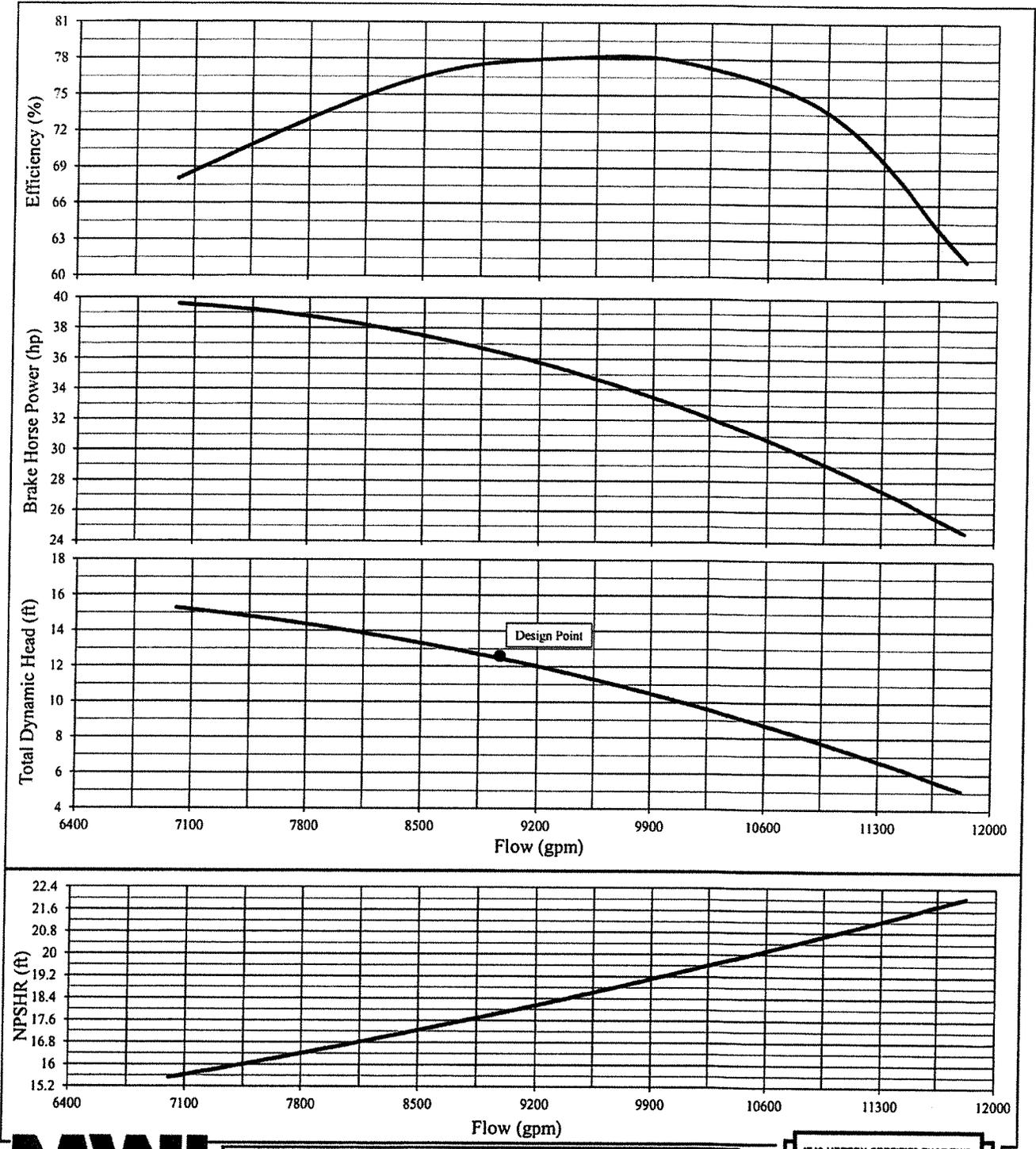


PUMP BOWL PERFORMANCE CURVE	
Project: Pontiff Playground Pump Station Mag #3	
TYPE: Axial Flow	PROPELLER DIA: 24 in
MODEL NO: HAC324	SPEED: 630 RPM
INTAKE DIA: 36 in	DISCHARGE DIA:
SINGLE STAGE PERFORMANCE FOR TWO STAGES MULTIPLY HEAD AND HORSEPOWER BY 2.0 AND EFFICIENCY BY 1.0 PERFORMANCE IS BASED ON PUMPING CLEAR, NON-AERATED WATER, WITH A SPECIFIC GRAVITY OF 1.0, TEMPERATURE 85 DEG F OR LESS AND AT SEA LEVEL. PUMP PERFORMANCE MAY BE AFFECTED BY HIGHER TEMPERATURES, SPECIFIC GRAVITY, ALTITUDES AND SUMP CONDITIONS.	

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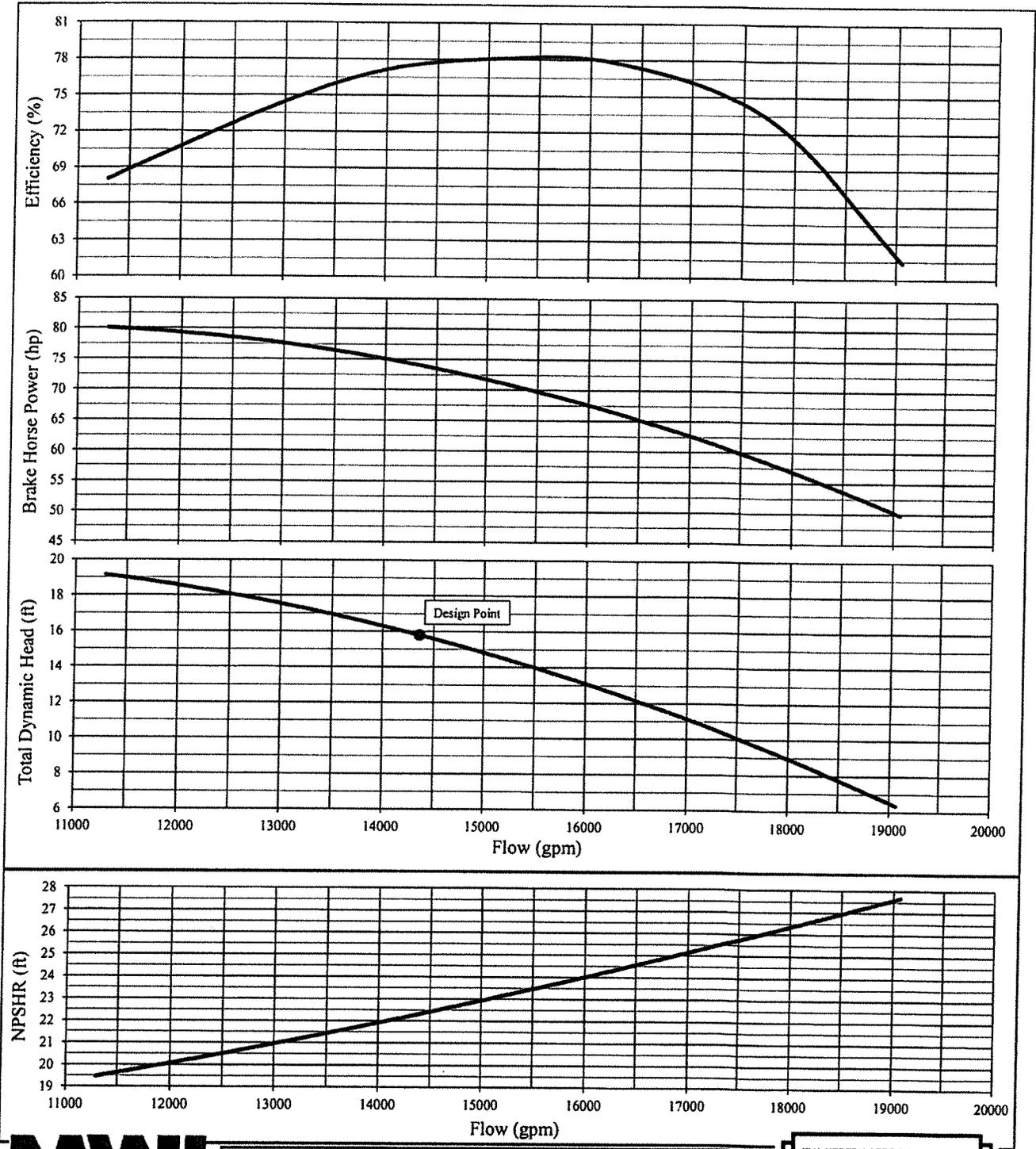


PUMP BOWL PERFORMANCE CURVE	
Project: Pontiff Playground Pump Station NE#4	
TYPE: Axial Flow	PROPELLER DIA: 20 in
MODEL NO: HAC320	SPEED: 675 RPM
INTAKE DIA: 30 in	DISCHARGE DIA:
SINGLE STAGE PERFORMANCE FOR TWO STAGES MULTIPLY HEAD AND HORSEPOWER BY 2.0 AND EFFICIENCY BY 1.0 PERFORMANCE IS BASED ON PUMPING CLEAR, NON-AERATED WATER, WITH A SPECIFIC GRAVITY OF 1.0, TEMPERATURE 85 DEG F OR LESS AND AT SEA LEVEL. PUMP PERFORMANCE MAY BE AFFECTED BY HIGHER TEMPERATURES, SPECIFIC GRAVITY, ALTITUDES AND SUMP CONDITIONS.	

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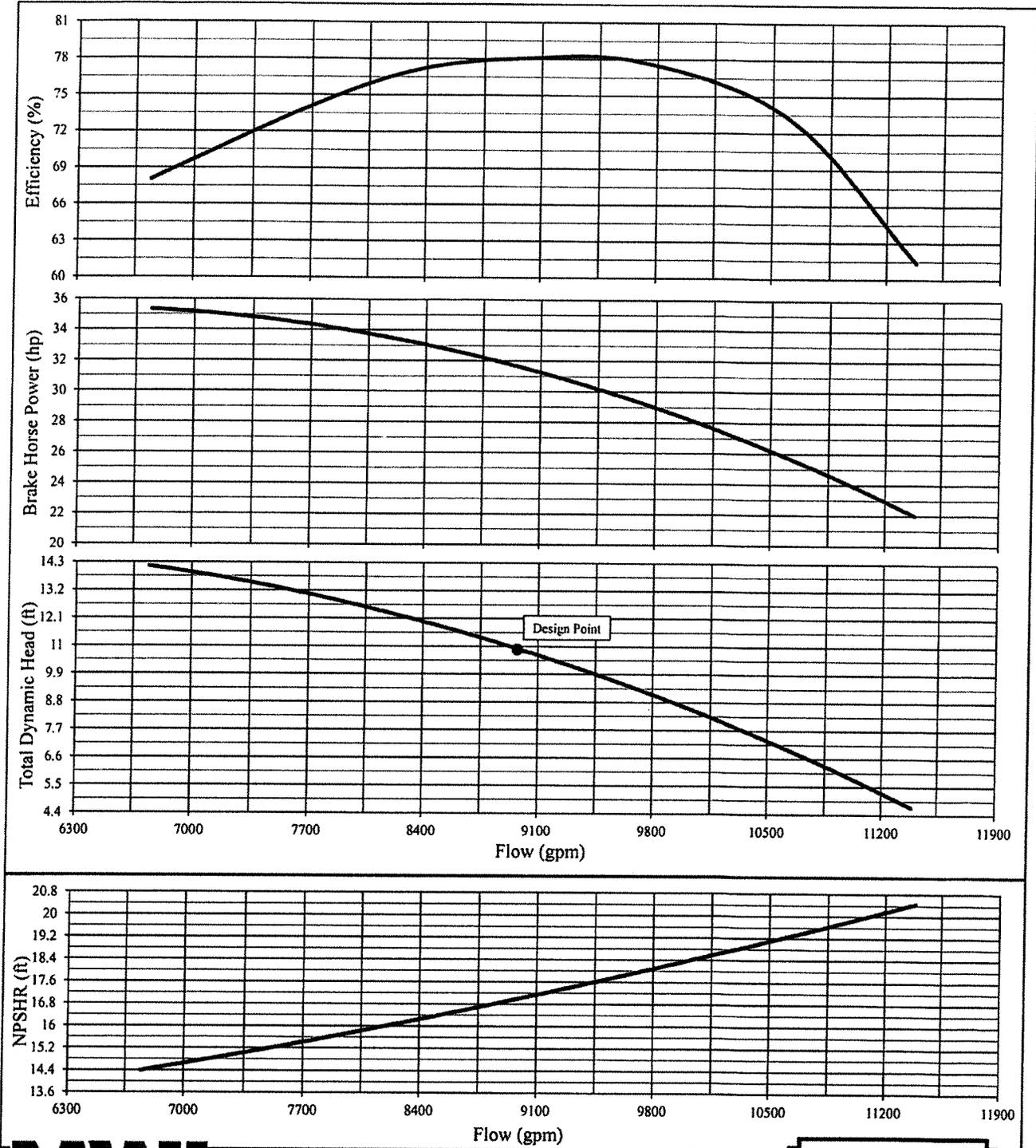


PUMP BOWL PERFORMANCE CURVE	
Project: Pontiff Playground Pump Station Mag #7	
TYPE: Axial Flow	PROPELLER DIA: 24 in
MODEL NO: HAC324	SPEED: 630 RPM
INTAKE DIA: 36 in	DISCHARGE DIA:
SINGLE STAGE PERFORMANCE FOR TWO STAGES MULTIPLY HEAD AND HORSEPOWER BY 2.0 AND EFFICIENCY BY 1.0 PERFORMANCE IS BASED ON PUMPING CLEAR, NON-AERATED WATER, WITH A SPECIFIC GRAVITY OF 1.0, TEMPERATURE 85 DEG F OR LESS AND AT SEA LEVEL. PUMP PERFORMANCE MAY BE AFFECTED BY HIGHER TEMPERATURES, SPECIFIC GRAVITY, ALTITUDES AND SUMP CONDITIONS.	

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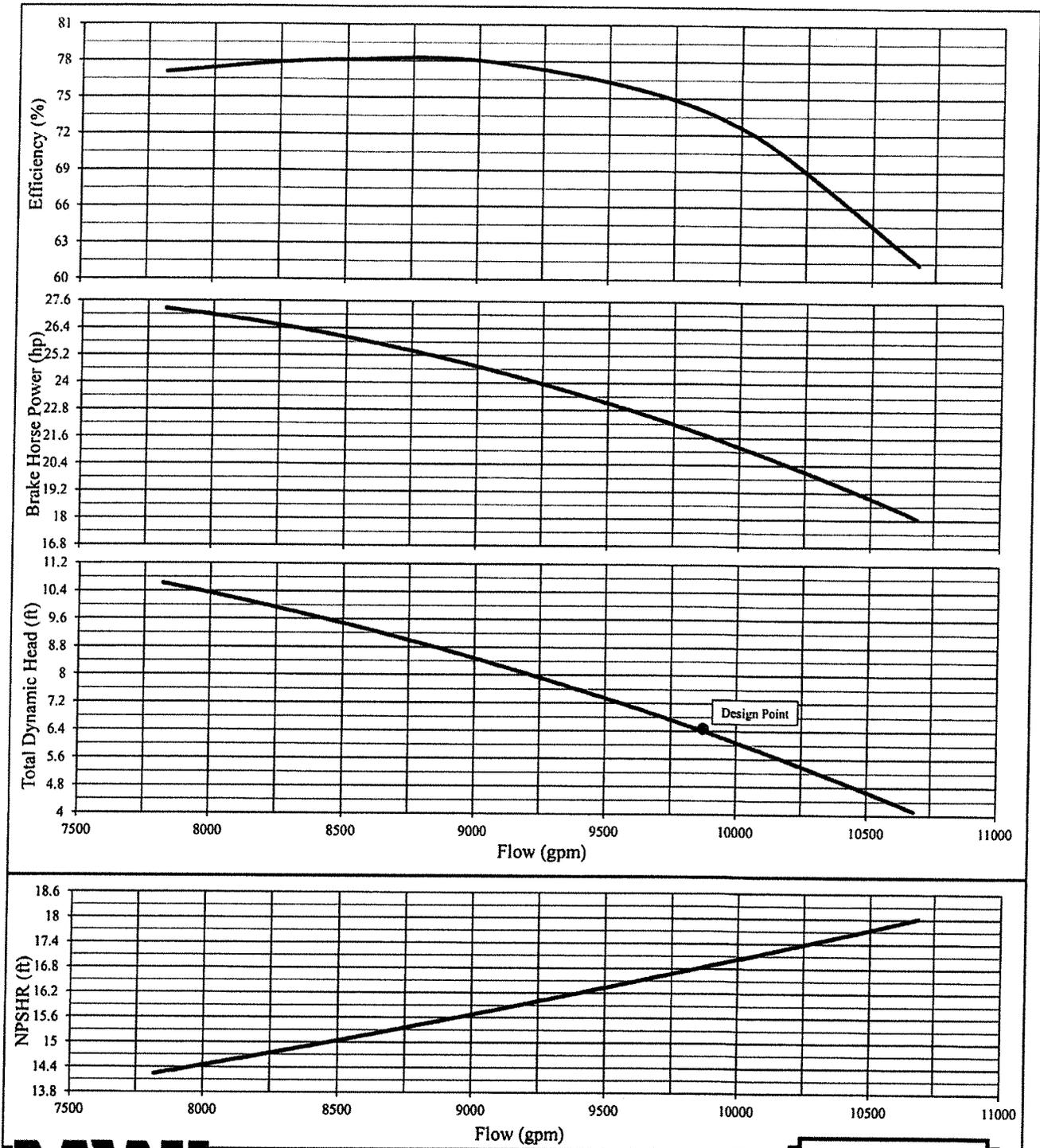


PUMP BOWL PERFORMANCE CURVE	
Project: Pontiff Playground Pump Station Northline #3	
TYPE: Axial Flow	PROPELLER DIA: 20 in
MODEL NO: HAC320	SPEED: 650 RPM
INTAKE DIA: 30 in	DISCHARGE DIA:
SINGLE STAGE PERFORMANCE FOR TWO STAGES MULTIPLY HEAD AND HORSEPOWER BY 2.0 AND EFFICIENCY BY 1.0 PERFORMANCE IS BASED ON PUMPING CLEAR, NON-AERATED WATER, WITH A SPECIFIC GRAVITY OF 1.0, TEMPERATURE 85 DEG F OR LESS AND AT SEA LEVEL. PUMP PERFORMANCE MAY BE AFFECTED BY HIGHER TEMPERATURES, SPECIFIC GRAVITY, ALTITUDES AND SUMP CONDITIONS.	

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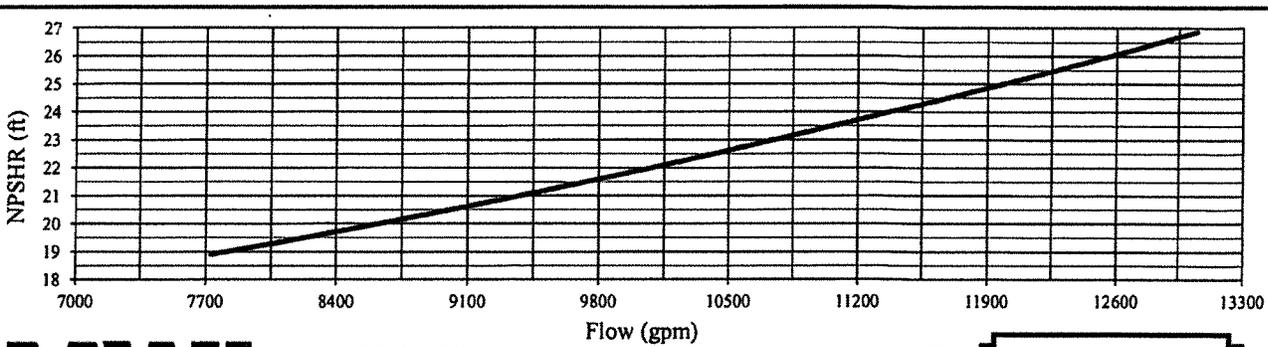
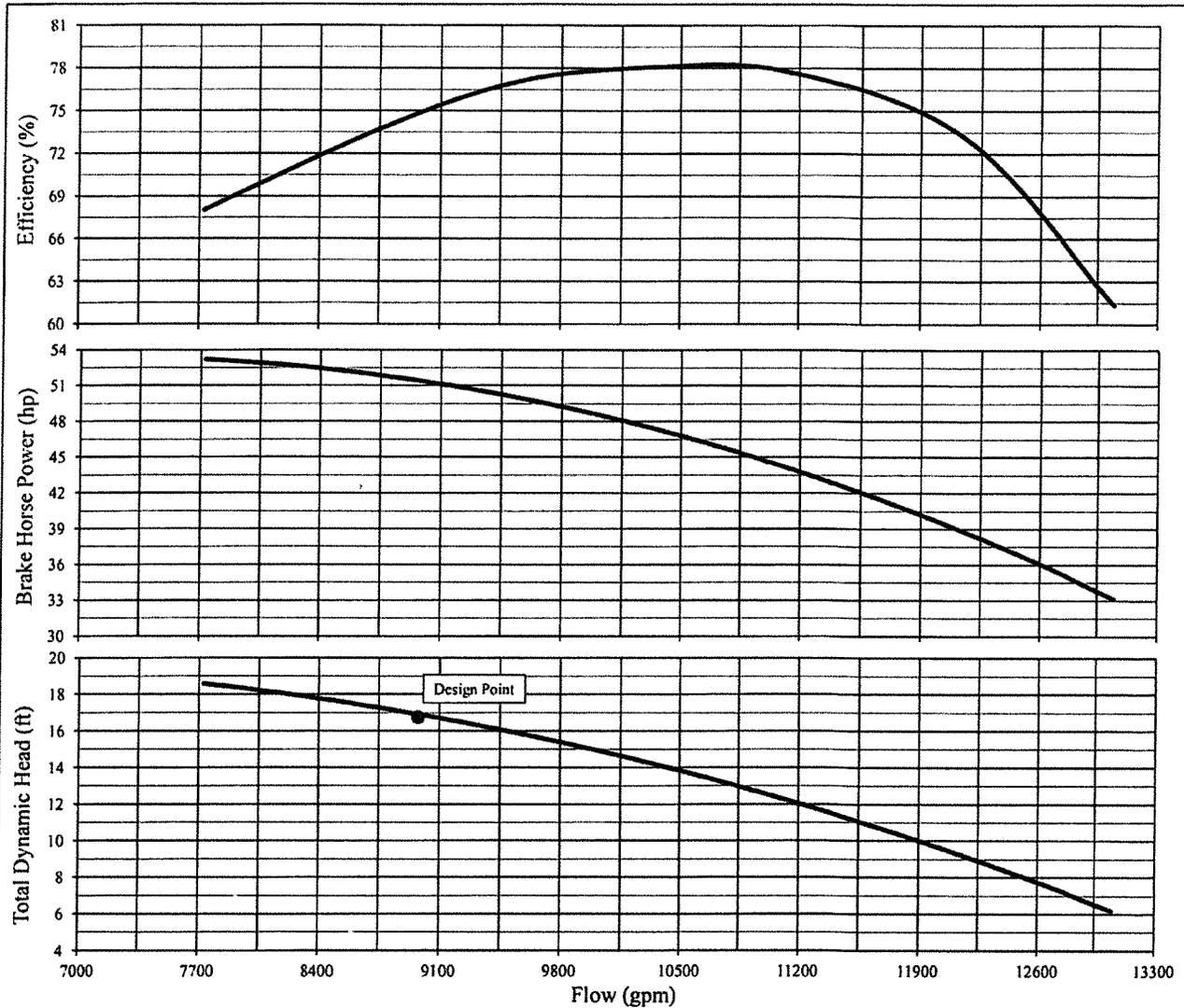


PUMP BOWL PERFORMANCE CURVE	
Project: Pontiff Playground Pump Station Nassau #6	
TYPE: Axial Flow	PROPELLER DIA: 20 in
MODEL NO: HAC320	SPEED: 610 RPM
INTAKE DIA: 30 in	DISCHARGE DIA:
SINGLE STAGE PERFORMANCE FOR TWO STAGES MULTIPLY HEAD AND HORSEPOWER BY 2.0 AND EFFICIENCY BY 1.0 PERFORMANCE IS BASED ON PUMPING CLEAR, NON-AERATED WATER, WITH A SPECIFIC GRAVITY OF 1.0, TEMPERATURE 85 DEG F OR LESS AND AT SEA LEVEL. PUMP PERFORMANCE MAY BE AFFECTED BY HIGHER TEMPERATURES, SPECIFIC GRAVITY, ALTITUDES AND SUMP CONDITIONS.	

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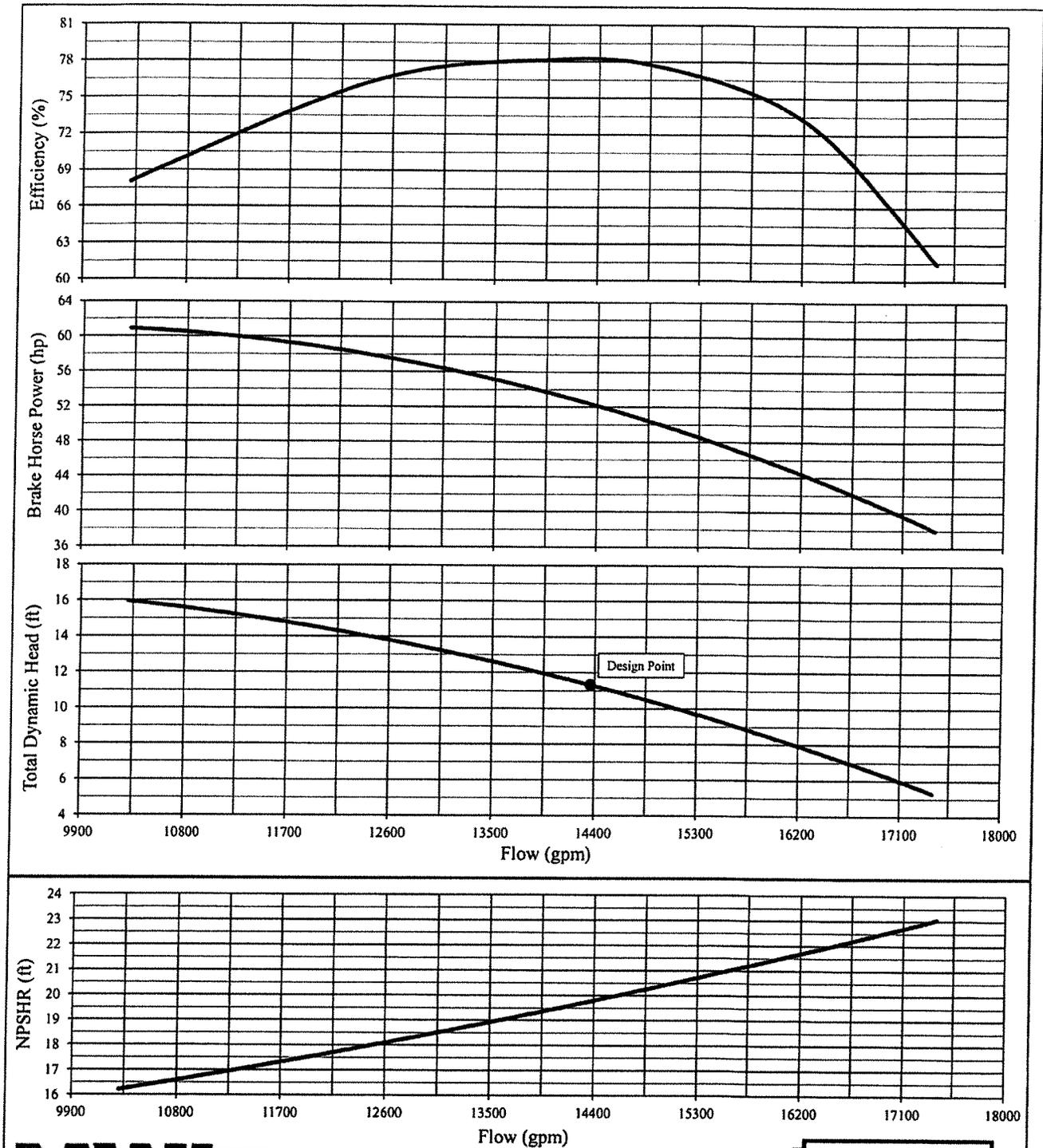


PUMP BOWL PERFORMANCE CURVE	
Project: Pontiff Playground Pump Station SW#1	
TYPE: Axial Flow	PROPELLER DIA: 20 in
MODEL NO: HAC320	SPEED: 745 RPM
INTAKE DIA: 30 in	DISCHARGE DIA:
SINGLE STAGE PERFORMANCE FOR TWO STAGES MULTIPLY HEAD AND HORSEPOWER BY 2.0 AND EFFICIENCY BY 1.0 PERFORMANCE IS BASED ON PUMPING CLEAR, NON-AERATED WATER, WITH A SPECIFIC GRAVITY OF 1.0, TEMPERATURE 85 DEG F OR LESS AND AT SEA LEVEL. PUMP PERFORMANCE MAY BE AFFECTED BY HIGHER TEMPERATURES, SPECIFIC GRAVITY, ALTITUDES AND SUMP CONDITIONS.	

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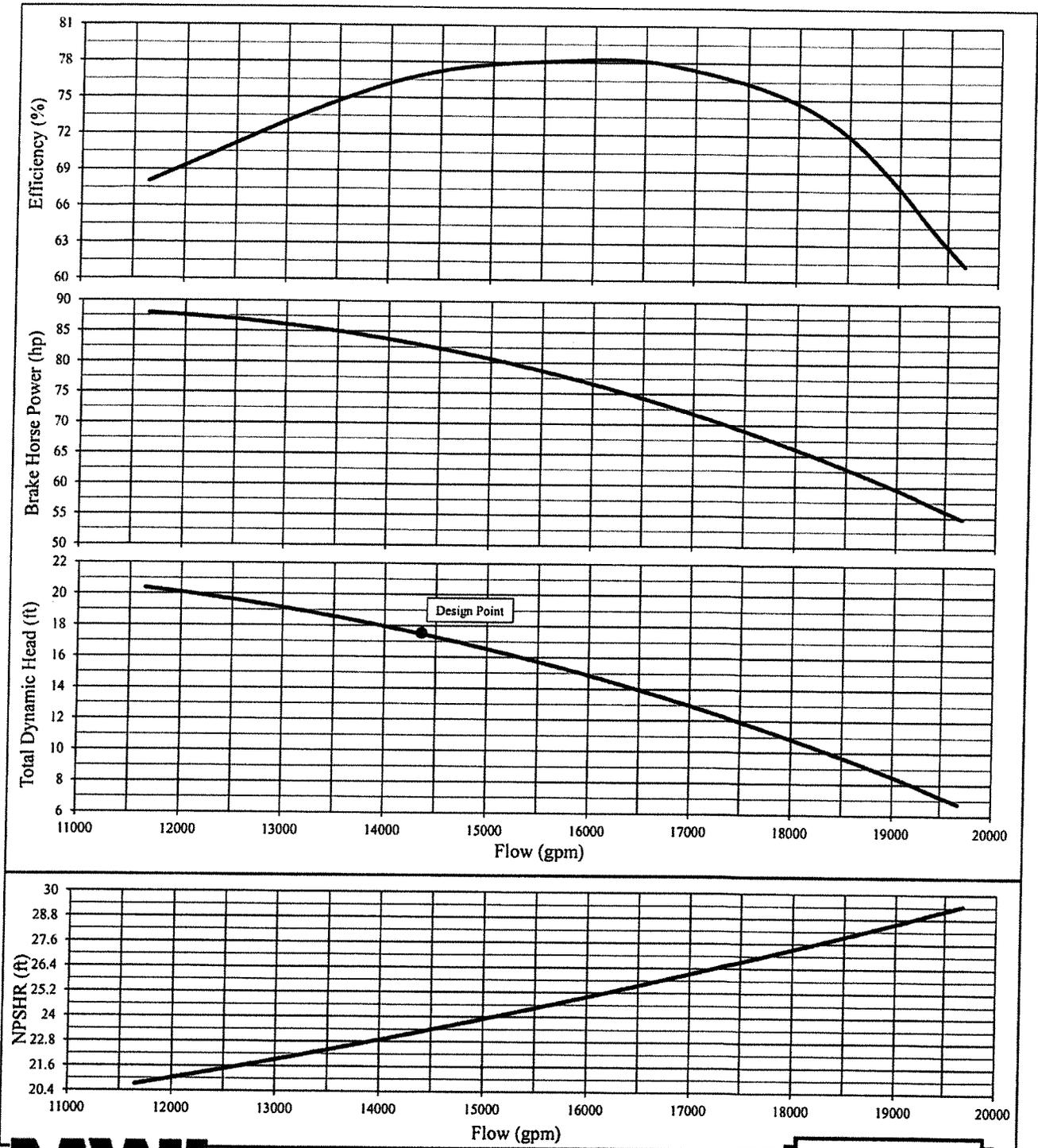


PUMP BOWL PERFORMANCE CURVE	
Project: Pontiff Playground Pump Station Earhart #8	
TYPE: Axial Flow	PROPELLER DIA: 24 in
MODEL NO: HAC324	SPEED: 575 RPM
INTAKE DIA: 36 in	DISCHARGE DIA:
SINGLE STAGE PERFORMANCE FOR TWO STAGES MULTIPLY HEAD AND HORSEPOWER BY 2.0 AND EFFICIENCY BY 1.0 PERFORMANCE IS BASED ON PUMPING CLEAR, NON-AERATED WATER, WITH A SPECIFIC GRAVITY OF 1.0, TEMPERATURE 85 DEG F OR LESS AND AT SEA LEVEL. PUMP PERFORMANCE MAY BE AFFECTED BY HIGHER TEMPERATURES, SPECIFIC GRAVITY, ALTITUDES AND SUMP CONDITIONS.	

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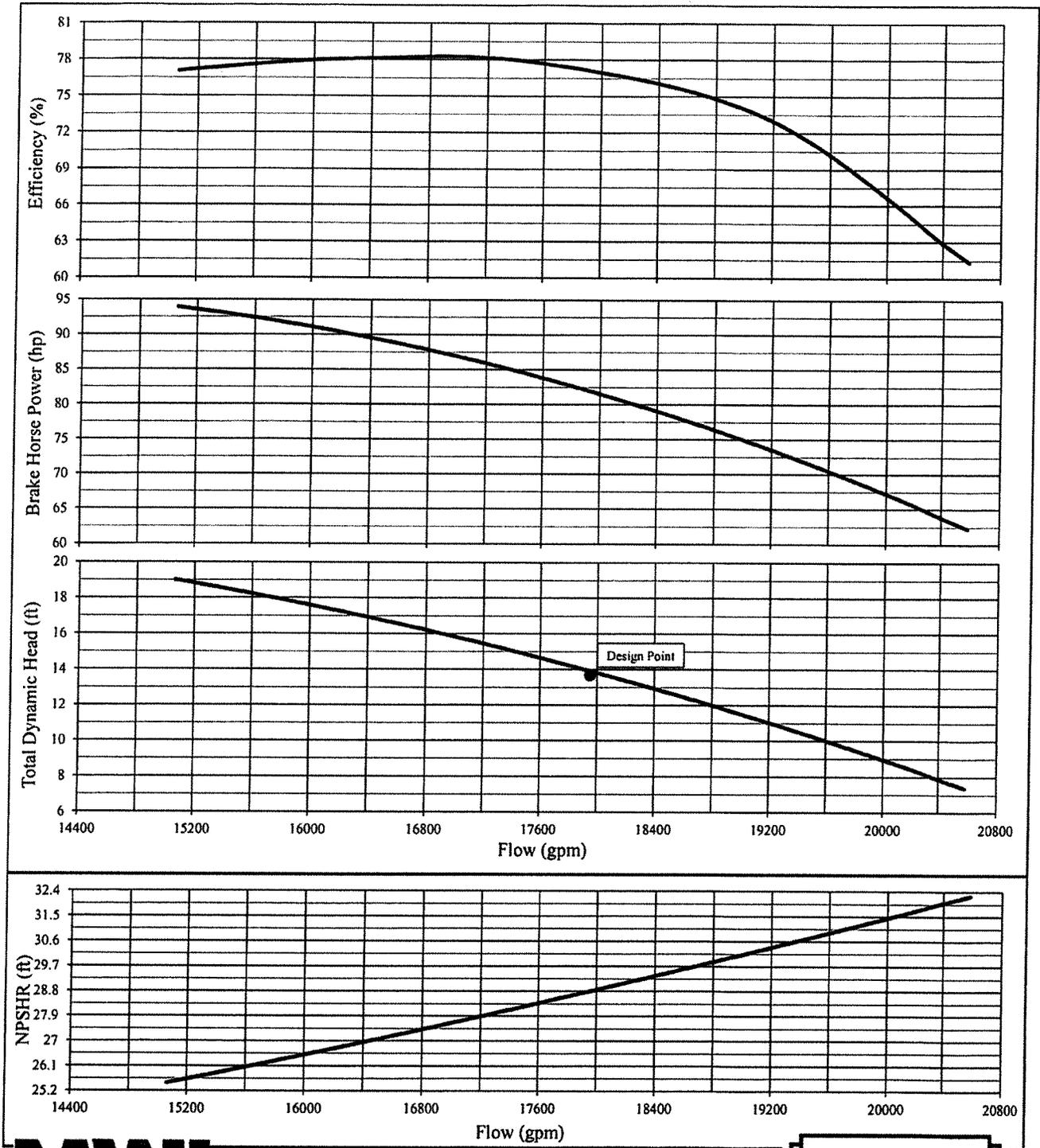


PUMP BOWL PERFORMANCE CURVE	
Project: Pontiff Playground Pump Station NW #2	
TYPE: Axial Flow	PROPELLER DIA: 24 in
MODEL NO: HAC324	SPEED: 650 RPM
INTAKE DIA: 36 in	DISCHARGE DIA:
SINGLE STAGE PERFORMANCE FOR TWO STAGES MULTIPLY HEAD AND HORSEPOWER BY 2.0 AND EFFICIENCY BY 1.0 PERFORMANCE IS BASED ON PUMPING CLEAR, NON-AERATED WATER, WITH A SPECIFIC GRAVITY OF 1.0, TEMPERATURE 85 DEG F OR LESS AND AT SEA LEVEL. PUMP PERFORMANCE MAY BE AFFECTED BY HIGHER TEMPERATURES, SPECIFIC GRAVITY, ALTITUDES AND SUMP CONDITIONS.	

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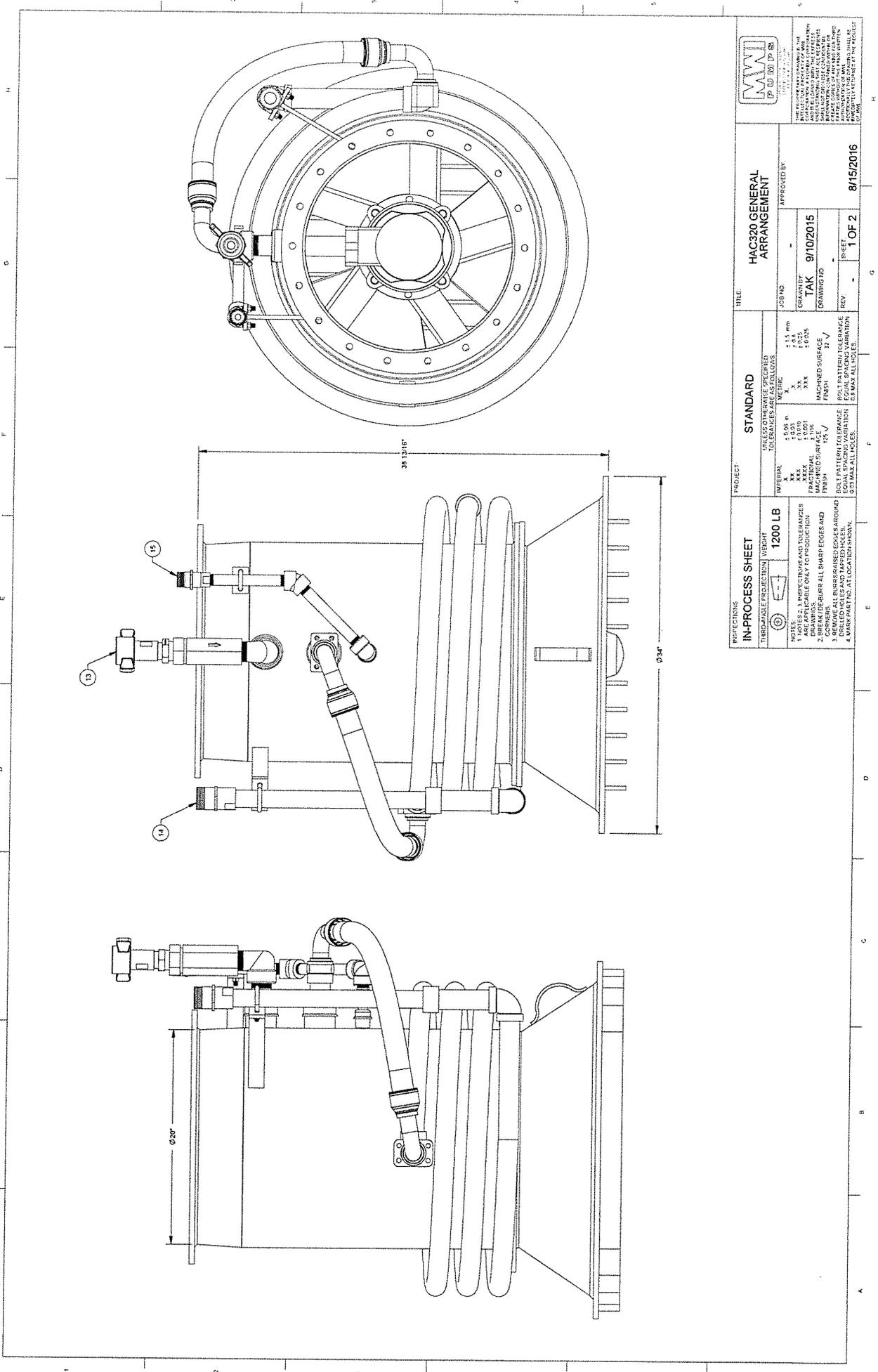


PUMP BOWL PERFORMANCE CURVE	
Project: Pontiff Playground Pump Station NW #13	
TYPE: Axial Flow	PROPELLER DIA: 24 in
MODEL NO: HAC324	SPEED: 680 RPM
INTAKE DIA: 36 in	DISCHARGE DIA:
SINGLE STAGE PERFORMANCE FOR TWO STAGES MULTIPLY HEAD AND HORSEPOWER BY 2.0 AND EFFICIENCY BY 1.0 PERFORMANCE IS BASED ON PUMPING CLEAR, NON-AERATED WATER, WITH A SPECIFIC GRAVITY OF 1.0, TEMPERATURE 85 DEG F OR LESS AND AT SEA LEVEL. PUMP PERFORMANCE MAY BE AFFECTED BY HIGHER TEMPERATURES, SPECIFIC GRAVITY, ALTITUDES AND SUMP CONDITIONS.	

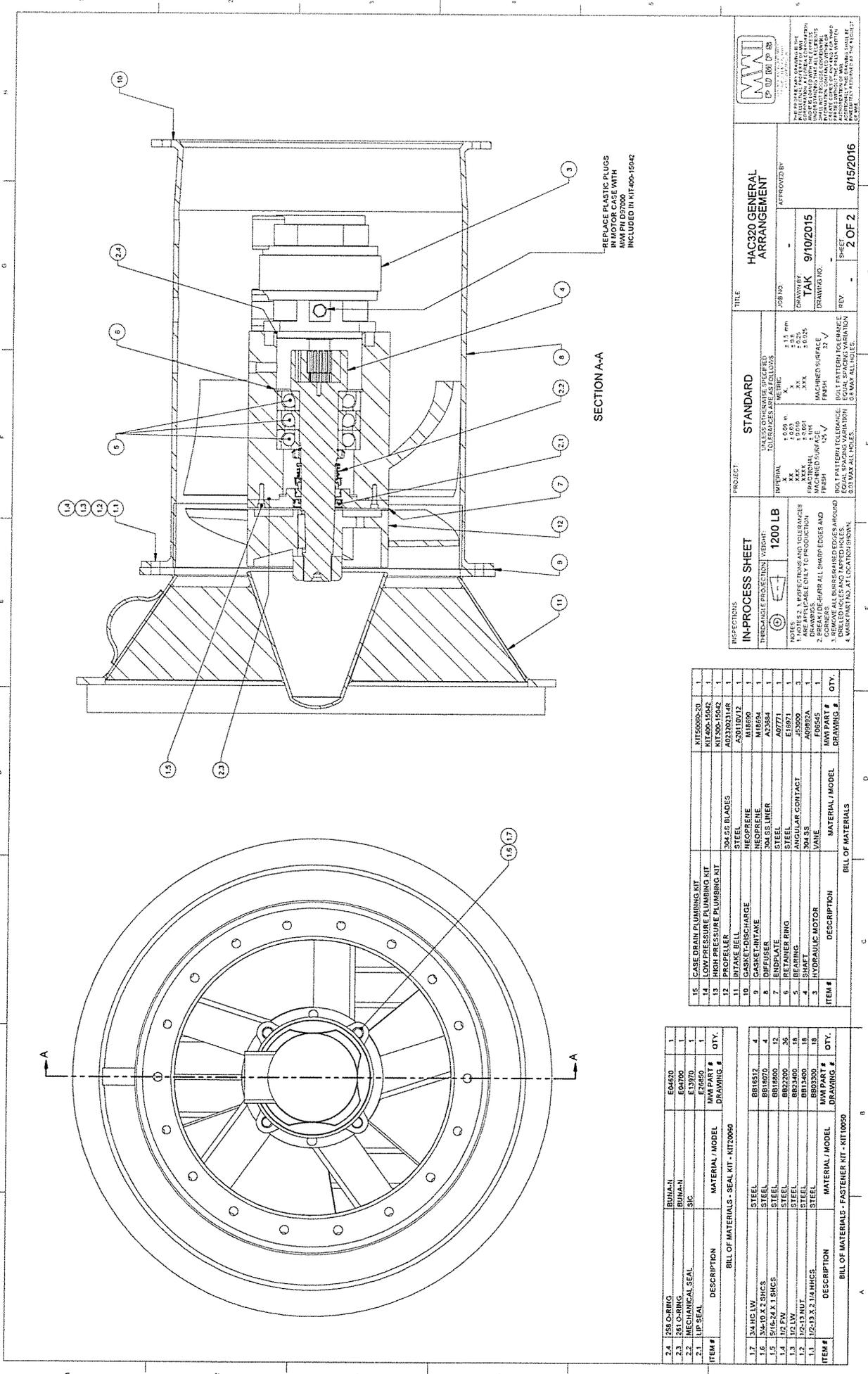
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Dearfield Beach, Florida



IN-PROCESS SHEET		STANDARD		HAC320 GENERAL ARRANGEMENT	
<p>INSTRUCTIONS</p> <p>1. REMOVE ALL BURRRS AND TOUGH ENDS</p> <p>2. REMOVE ALL BURRRS AND TOUGH ENDS</p> <p>3. REMOVE ALL BURRRS AND TOUGH ENDS</p> <p>4. MARK PART NO. AT LOCATION SHOWN.</p>	<p>WEIGHT</p> <p>1200 LB</p>	<p>UNIT</p> <p>INCHES</p>	<p>UNIT</p> <p>METRIC</p>	<p>DATE</p> <p>9/10/2015</p>	<p>APPROVED BY</p>
<p>1. REMOVE ALL BURRRS AND TOUGH ENDS</p> <p>2. REMOVE ALL BURRRS AND TOUGH ENDS</p> <p>3. REMOVE ALL BURRRS AND TOUGH ENDS</p> <p>4. MARK PART NO. AT LOCATION SHOWN.</p>	<p>1. REMOVE ALL BURRRS AND TOUGH ENDS</p> <p>2. REMOVE ALL BURRRS AND TOUGH ENDS</p> <p>3. REMOVE ALL BURRRS AND TOUGH ENDS</p> <p>4. MARK PART NO. AT LOCATION SHOWN.</p>	<p>1. REMOVE ALL BURRRS AND TOUGH ENDS</p> <p>2. REMOVE ALL BURRRS AND TOUGH ENDS</p> <p>3. REMOVE ALL BURRRS AND TOUGH ENDS</p> <p>4. MARK PART NO. AT LOCATION SHOWN.</p>	<p>1. REMOVE ALL BURRRS AND TOUGH ENDS</p> <p>2. REMOVE ALL BURRRS AND TOUGH ENDS</p> <p>3. REMOVE ALL BURRRS AND TOUGH ENDS</p> <p>4. MARK PART NO. AT LOCATION SHOWN.</p>	<p>1. REMOVE ALL BURRRS AND TOUGH ENDS</p> <p>2. REMOVE ALL BURRRS AND TOUGH ENDS</p> <p>3. REMOVE ALL BURRRS AND TOUGH ENDS</p> <p>4. MARK PART NO. AT LOCATION SHOWN.</p>	<p>1. REMOVE ALL BURRRS AND TOUGH ENDS</p> <p>2. REMOVE ALL BURRRS AND TOUGH ENDS</p> <p>3. REMOVE ALL BURRRS AND TOUGH ENDS</p> <p>4. MARK PART NO. AT LOCATION SHOWN.</p>



SECTION A-A

REPLACE PLASTIC PLUGS
IN MOTOR CASE WITH
MM PN 057000
INCLUDED IN KIT 405-1042

ITEM #	DESCRIPTION	MATERIAL / MODEL	QUANTITY
2.4	255 O-RING	ED4620	1
2.3	261 O-RING	ED4700	1
2.2	MECHANICAL SEAL	E13970	1
2.1	LIP SEAL	E26650	1
BILL OF MATERIALS - SEAL KIT - KIT2090			
1.7	1/4 IN CW	BR16312	4
1.6	3/4 IN O.D X 2 SHCS	BR14000	4
1.5	5/16-24 X 1.5 SHCS	BR14000	12
1.4	1/2 PW	BR22200	25
1.3	1/2 LW	BR21400	18
1.2	1/2-13 NUT	BR11400	18
1.1	1/2-13 X 3.1/4 HHCS	BR21300	18
ITEM #	DESCRIPTION	MATERIAL / MODEL	QUANTITY
BILL OF MATERIALS - FASTENER KIT - KIT1090			

ITEM #	DESCRIPTION	MATERIAL / MODEL	QUANTITY
15	CASE DRAIN PLUMBING KIT		1
14	LOW PRESSURE PLUMBING KIT		1
13	HIGH PRESSURE PLUMBING KIT		1
12	PROPELLER	304 SS BLADES	1
11	INTAKE BELL	STEEL	1
10	GASKET-DISCHARGE	NEOPRENE	1
9	GASKET-INTAKE	NEOPRENE	1
8	DIFFUSER	304 SS LINER	1
7	PLATE	STEEL	1
6	BEARING	STEEL	1
5	BEARING	STEEL	1
4	SHAFT	304 SS	1
3	HYDRAULIC MOTOR	VALE	1
ITEM #	DESCRIPTION	MATERIAL / MODEL	QUANTITY
BILL OF MATERIALS			

IN-PROCESS SHEET

INSPECTIONS: (C) (D) (E) (F) (G) (H)

UNLESS OTHERWISE SPECIFIED, TOLERANCES ARE AS FOLLOWS:

DIMENSIONAL	METRIC
0.000 - 1.000 in	± 0.005 in
1.000 - 3.000 in	± 0.004 in
3.000 - 6.000 in	± 0.003 in
6.000 - 12.000 in	± 0.002 in
12.000 - 24.000 in	± 0.001 in
24.000 - 48.000 in	± 0.0005 in
48.000 - 96.000 in	± 0.0002 in

NOTES: 1. PERFECT FORM AND FINISH ARE EXPECTED ONLY TO PRODUCTION 2. CORNERS: ALL SHARP EDGES AND CORNERS 3. UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE TO BE TAKEN FROM THE UNMOUNTED PART 4. MARK PART NO. AT LOCATION SHOWN

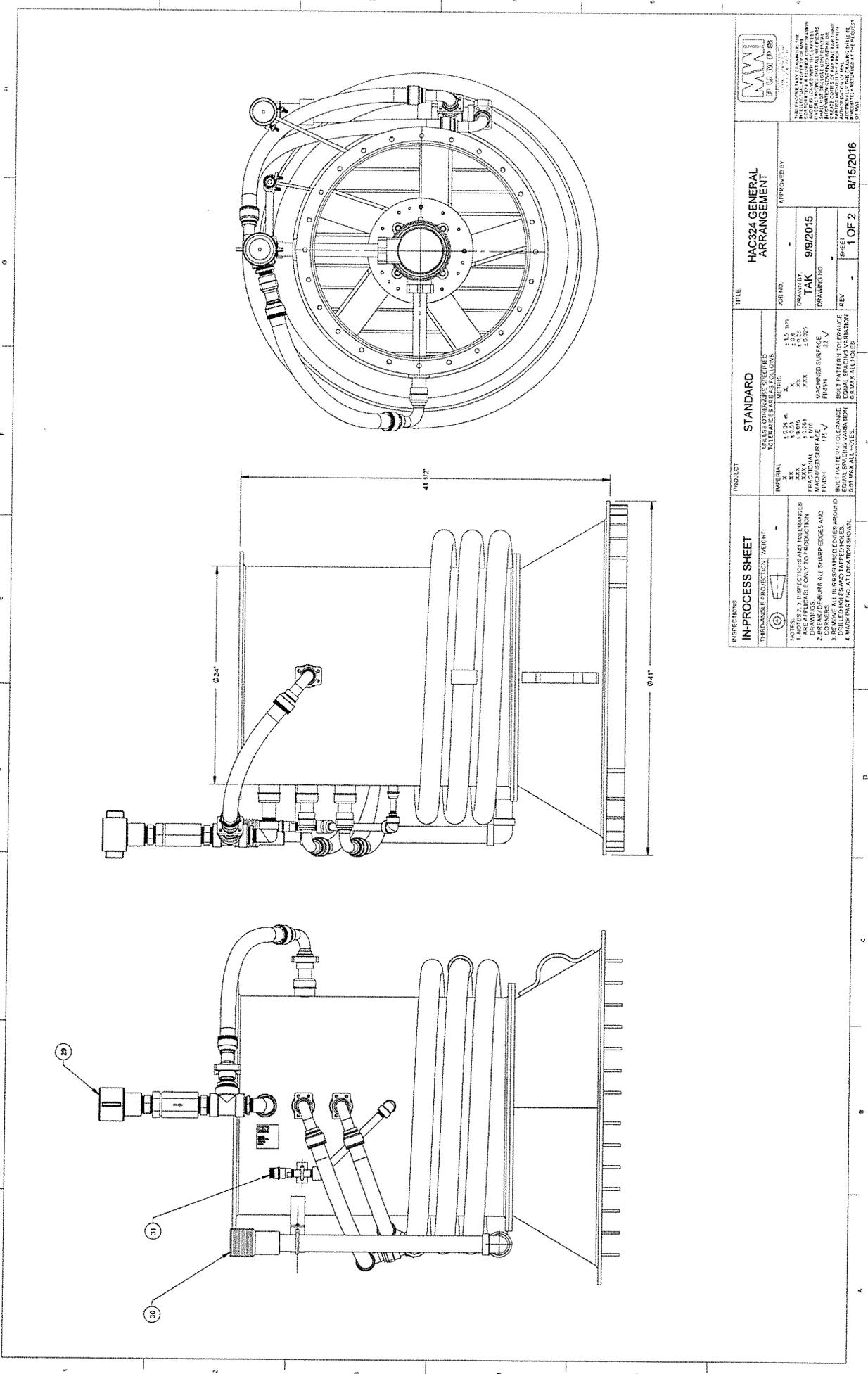
HAC320 GENERAL ARRANGEMENT

APPROVED BY: **TAK** 9/10/2015

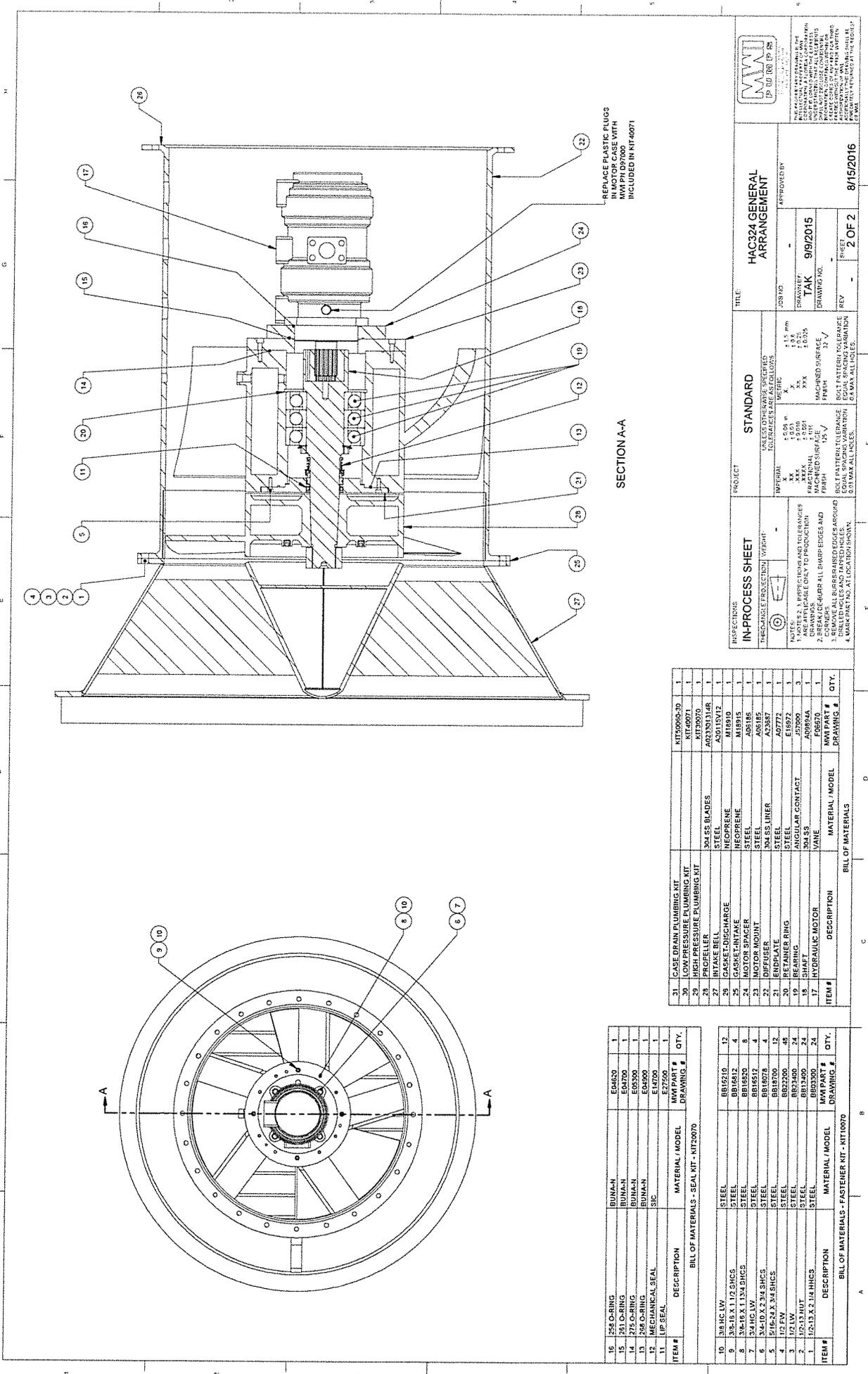
DATE: 9/10/2015

REV: 2 OF 2

8/15/2016



IN-PROCESS SHEET THE DIMENSIONS AND TOLERANCES ARE AFFIXED TO THE DRAWING AND ARE NOT TO BE CHANGED.		STANDARD UNLESS OTHERWISE SPECIFIED, TOLERANCES ARE AS FOLLOWS:		HAC324 GENERAL ARRANGEMENT APPROVED BY:	
FINISH: XX MACHINED SURFACE: XXXX BOLT PATTERN TOLERANCE: ±0.03 MAX ALL DIMS.	FINISH: XX MACHINED SURFACE: XXXX BOLT PATTERN TOLERANCE: ±0.03 MAX ALL DIMS.	FINISH: XX MACHINED SURFACE: XXXX BOLT PATTERN TOLERANCE: ±0.03 MAX ALL DIMS.	FINISH: XX MACHINED SURFACE: XXXX BOLT PATTERN TOLERANCE: ±0.03 MAX ALL DIMS.	FINISH: XX MACHINED SURFACE: XXXX BOLT PATTERN TOLERANCE: ±0.03 MAX ALL DIMS.	FINISH: XX MACHINED SURFACE: XXXX BOLT PATTERN TOLERANCE: ±0.03 MAX ALL DIMS.
NOTES: 1. DIMENSIONS AND TOLERANCES ARE AFFIXED TO THE DRAWING AND ARE NOT TO BE CHANGED. 2. DIMENSIONS FOR ALL SHARP EDGES AND CORNERS. 3. DIMENSIONS FOR ALL DIMENSIONS. 4. MARK PART NO. AT LOCATION SHOWN.		PROJECT: HAC324		TITLE: HAC324 GENERAL ARRANGEMENT	
INSPECTIONS: IN-PROCESS SHEET		STANDARD: UNLESS OTHERWISE SPECIFIED, TOLERANCES ARE AS FOLLOWS:		APPROVED BY: TAK 9/19/2015	
IN-PROCESS SHEET THE DIMENSIONS AND TOLERANCES ARE AFFIXED TO THE DRAWING AND ARE NOT TO BE CHANGED.		STANDARD UNLESS OTHERWISE SPECIFIED, TOLERANCES ARE AS FOLLOWS:		APPROVED BY: TAK 9/19/2015	
NOTES: 1. DIMENSIONS AND TOLERANCES ARE AFFIXED TO THE DRAWING AND ARE NOT TO BE CHANGED. 2. DIMENSIONS FOR ALL SHARP EDGES AND CORNERS. 3. DIMENSIONS FOR ALL DIMENSIONS. 4. MARK PART NO. AT LOCATION SHOWN.		PROJECT: HAC324		TITLE: HAC324 GENERAL ARRANGEMENT	
INSPECTIONS: IN-PROCESS SHEET		STANDARD: UNLESS OTHERWISE SPECIFIED, TOLERANCES ARE AS FOLLOWS:		APPROVED BY: TAK 9/19/2015	



REPLACE PLASTIC PLUGS
IN MOTOR CASE WITH
MMPI DP7000
INCLUDED IN KIT 4071

SECTION A-A



HAC324 GENERAL
ARRANGEMENT

APPROVED BY
TAK 9/9/2015

DATE: 9/9/2015

REV: 2 OF 2

8/15/2016

STANDARD

UNLESS OTHERWISE SPECIFIED
TOLERANCES ARE AS FOLLOWS:

MATERIAL	TOLERANCES
XX	±0.005 in
XX	±0.01 in
XX	±0.015 in
XX	±0.02 in
XX	±0.03 in
XX	±0.04 in
XX	±0.05 in
XX	±0.06 in
XX	±0.07 in
XX	±0.08 in
XX	±0.09 in
XX	±0.10 in
XX	±0.12 in
XX	±0.15 in
XX	±0.20 in
XX	±0.25 in
XX	±0.30 in
XX	±0.35 in
XX	±0.40 in
XX	±0.45 in
XX	±0.50 in
XX	±0.60 in
XX	±0.70 in
XX	±0.80 in
XX	±0.90 in
XX	±1.00 in
XX	±1.10 in
XX	±1.20 in
XX	±1.30 in
XX	±1.40 in
XX	±1.50 in
XX	±1.60 in
XX	±1.70 in
XX	±1.80 in
XX	±1.90 in
XX	±2.00 in
XX	±2.10 in
XX	±2.20 in
XX	±2.30 in
XX	±2.40 in
XX	±2.50 in
XX	±2.60 in
XX	±2.70 in
XX	±2.80 in
XX	±2.90 in
XX	±3.00 in
XX	±3.10 in
XX	±3.20 in
XX	±3.30 in
XX	±3.40 in
XX	±3.50 in
XX	±3.60 in
XX	±3.70 in
XX	±3.80 in
XX	±3.90 in
XX	±4.00 in
XX	±4.10 in
XX	±4.20 in
XX	±4.30 in
XX	±4.40 in
XX	±4.50 in
XX	±4.60 in
XX	±4.70 in
XX	±4.80 in
XX	±4.90 in
XX	±5.00 in
XX	±5.10 in
XX	±5.20 in
XX	±5.30 in
XX	±5.40 in
XX	±5.50 in
XX	±5.60 in
XX	±5.70 in
XX	±5.80 in
XX	±5.90 in
XX	±6.00 in
XX	±6.10 in
XX	±6.20 in
XX	±6.30 in
XX	±6.40 in
XX	±6.50 in
XX	±6.60 in
XX	±6.70 in
XX	±6.80 in
XX	±6.90 in
XX	±7.00 in
XX	±7.10 in
XX	±7.20 in
XX	±7.30 in
XX	±7.40 in
XX	±7.50 in
XX	±7.60 in
XX	±7.70 in
XX	±7.80 in
XX	±7.90 in
XX	±8.00 in
XX	±8.10 in
XX	±8.20 in
XX	±8.30 in
XX	±8.40 in
XX	±8.50 in
XX	±8.60 in
XX	±8.70 in
XX	±8.80 in
XX	±8.90 in
XX	±9.00 in
XX	±9.10 in
XX	±9.20 in
XX	±9.30 in
XX	±9.40 in
XX	±9.50 in
XX	±9.60 in
XX	±9.70 in
XX	±9.80 in
XX	±9.90 in
XX	±10.00 in

IN-PROCESS SHEET

INSPECTIONS

THE DRAWING IS THE PROPERTY OF MWI

NOTES: 1. UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE TO PRODUCTION UNLESS INDICATED OTHERWISE.

2. ALL DIMENSIONS ARE TO UNLESS OTHERWISE SPECIFIED.

3. CORNERS ARE TO BE ROUNDED UNLESS OTHERWISE SPECIFIED.

4. MARK PART NO. AT LOCATION SHOWN.

5. ALL DIMENSIONS ARE TO UNLESS OTHERWISE SPECIFIED.

6. UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE TO PRODUCTION UNLESS INDICATED OTHERWISE.

7. UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE TO PRODUCTION UNLESS INDICATED OTHERWISE.

8. UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE TO PRODUCTION UNLESS INDICATED OTHERWISE.

9. UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE TO PRODUCTION UNLESS INDICATED OTHERWISE.

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21. UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE TO PRODUCTION UNLESS INDICATED OTHERWISE.

22. UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE TO PRODUCTION UNLESS INDICATED OTHERWISE.

23. UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE TO PRODUCTION UNLESS INDICATED OTHERWISE.

24. UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE TO PRODUCTION UNLESS INDICATED OTHERWISE.

25. UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE TO PRODUCTION UNLESS INDICATED OTHERWISE.

26. UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE TO PRODUCTION UNLESS INDICATED OTHERWISE.

27. UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE TO PRODUCTION UNLESS INDICATED OTHERWISE.

28. UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE TO PRODUCTION UNLESS INDICATED OTHERWISE.

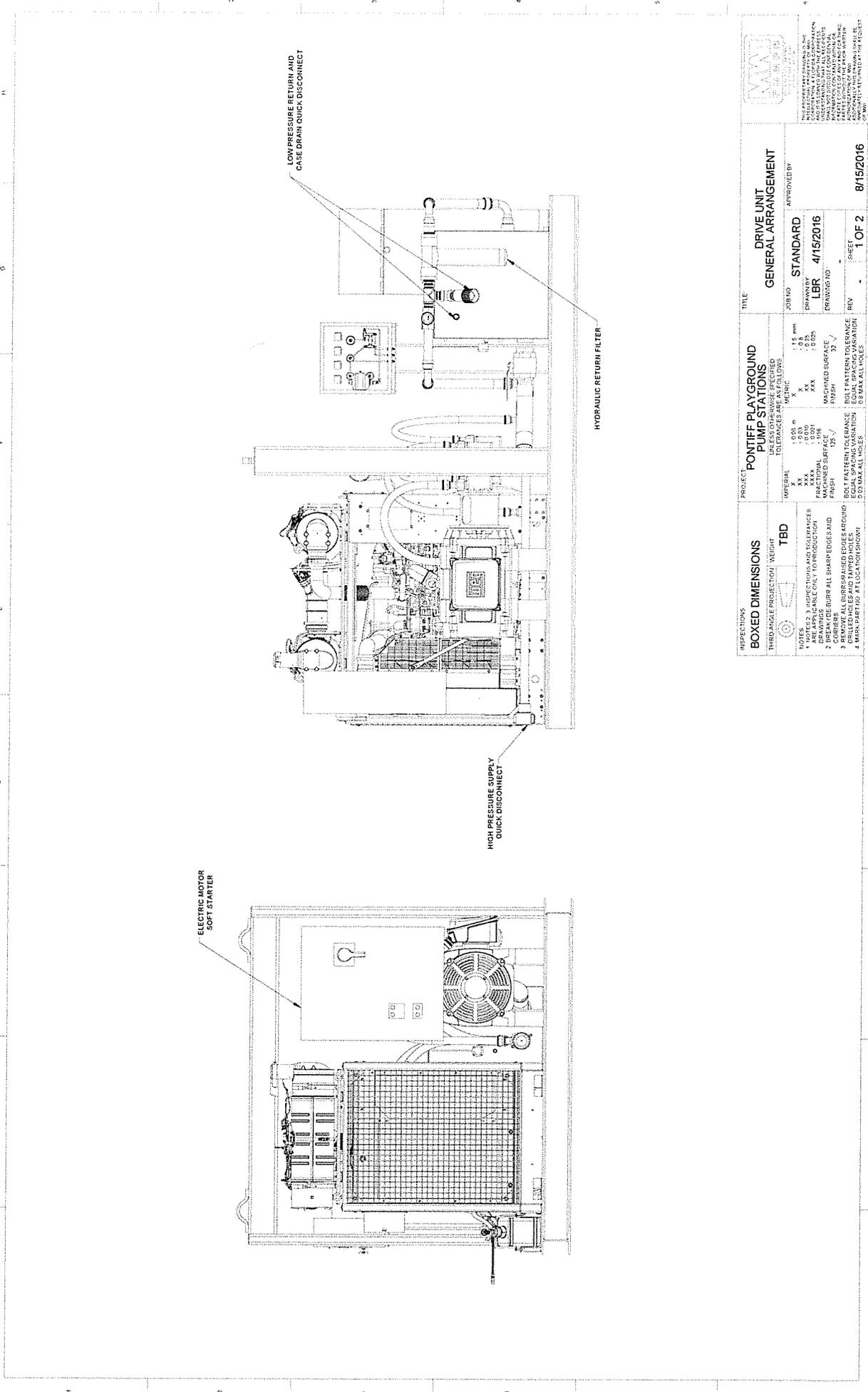
29. UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE TO PRODUCTION UNLESS INDICATED OTHERWISE.

30. UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE TO PRODUCTION UNLESS INDICATED OTHERWISE.

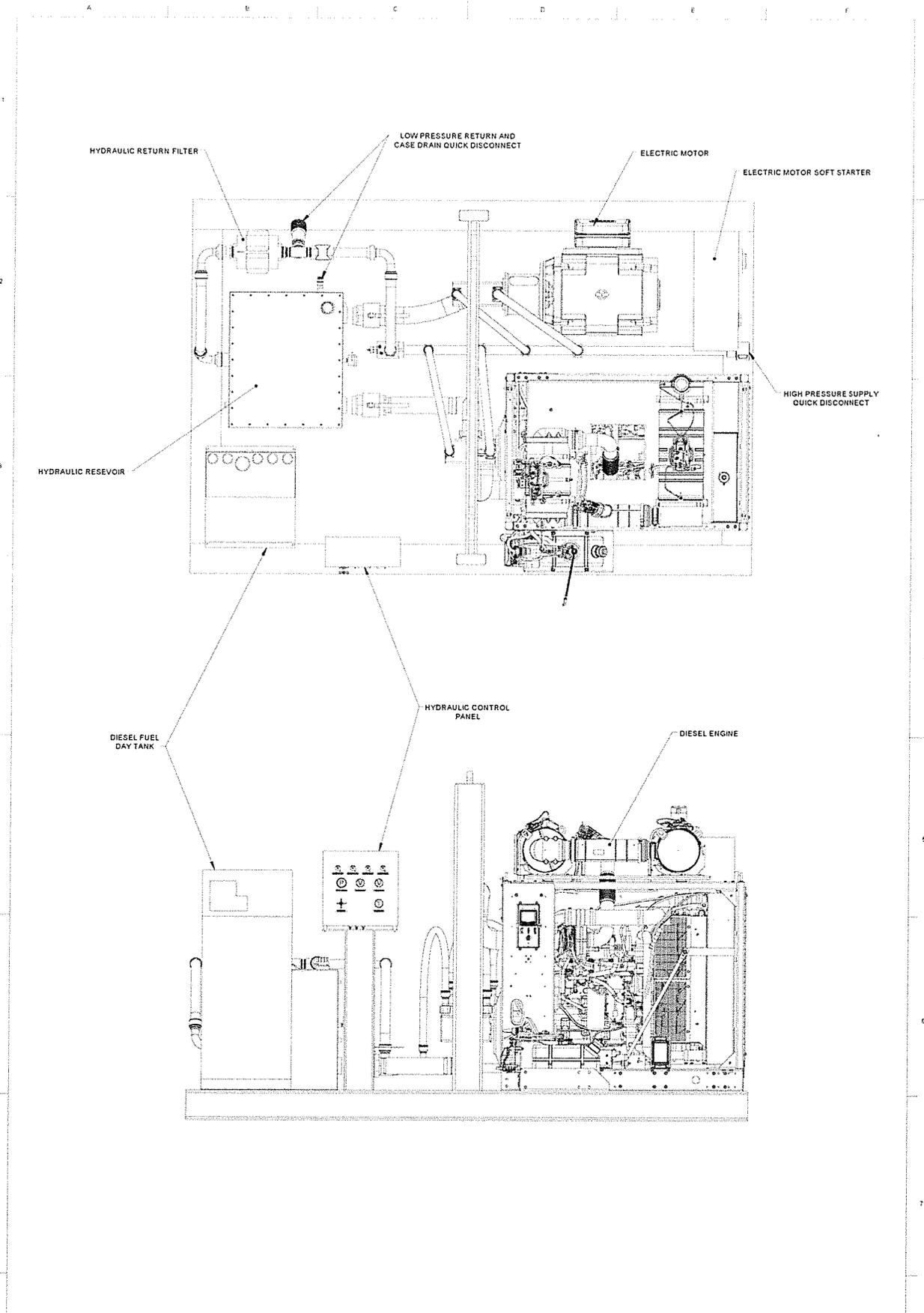
31. UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE TO PRODUCTION UNLESS INDICATED OTHERWISE.

ITEM #	DESCRIPTION	MATERIAL / MODEL	MW PART #	QTY.
BILL OF MATERIALS - SEAL KIT - KIT20070				
10	3/8 INCL W.	STEEL	BB15210	12
8	3/8 X 1 1/2 INCHS	STEEL	BB16412	4
7	3/4 INCL W.	STEEL	BB18520	8
6	3/4 X 1 1/2 INCHS	STEEL	BB18512	4
5	5/16 X 2 3/4 INCHS	STEEL	BB18700	12
4	1/2 INCH W.	STEEL	BB22200	48
3	1/2 INCH W.	STEEL	BB23400	24
2	1/2 X 13 INUT	STEEL	BB13400	24
1	1/2 X 13 X 1/4 INCHS	STEEL	BB03300	24
ITEM #	DESCRIPTION	MATERIAL / MODEL	MW PART #	QTY.

ITEM #	DESCRIPTION	MATERIAL / MODEL	MW PART #	QTY.
31	CASE DRAIN PLUMBING KIT		KIT00900-30	1
30	LOW PRESSURE PLUMBING KIT		KIT40071	1
29	HIGH PRESSURE PLUMBING KIT		KIT30048	1
28	PROPPELLER	304 SS BLADES	A0315V12	1
27	INTAKE BELL	STEEL	M18910	1
26	GASKET/DISCHARGE	NEOPRENE	M18915	1
25	GASKET/INTAKE	NEOPRENE	M18910	1
24	MOTOR SPACER	STEEL	A05185	1
23	MOTOR MOUNT	STEEL	A05185	1
22	DIFFUSER	STEEL	A02887	1
21	BEARING RING	STEEL	A07772	1
20	BEARING	304 SS	E19972	1
19	SHAFT	304 SS	A09824	1
18	HYDRAULIC MOTOR	304 SS	F06570	1
17	VANE	MATERIAL / MODEL	MW PART #	QTY.
BILL OF MATERIALS				



INSPECTIONS		PROJECT		TITLE	
BOXED DIMENSIONS	TBD	PONTIFFE PLAYGROUND PUMP STATIONS	DRIVE UNIT	GENERAL ARRANGEMENT	
THIRD ANGLE PROJECTION		TOLERANCES ARE AS FOLLOWS	STANDARD	APPROVED BY	
NOTES:		GENERAL	JOB NO.	DRAWN BY	
1. DIMENSIONS AND TOLERANCES ARE APPLICABLE ONLY TO PRODUCTION		MACHINED SURFACE	LRB	4/15/2016	
2. BREAM / DE BURR ALL SHARP EDGES AND CORNERS		FINISH	REV	1 OF 2	
3. ALL DIMENSIONS UNLESS OTHERWISE SPECIFIED ARE IN MILLIMETERS		BOLT PATTERN TOLERANCE		8/15/2016	
4. DRILLED HOLES AND TAPPED HOLES MARK PART ID AT LOCATION SHOWN		BOLT PATTERN TOLERANCE		SHEET	
		0.03 MAX ALL HOLES		1 OF 2	

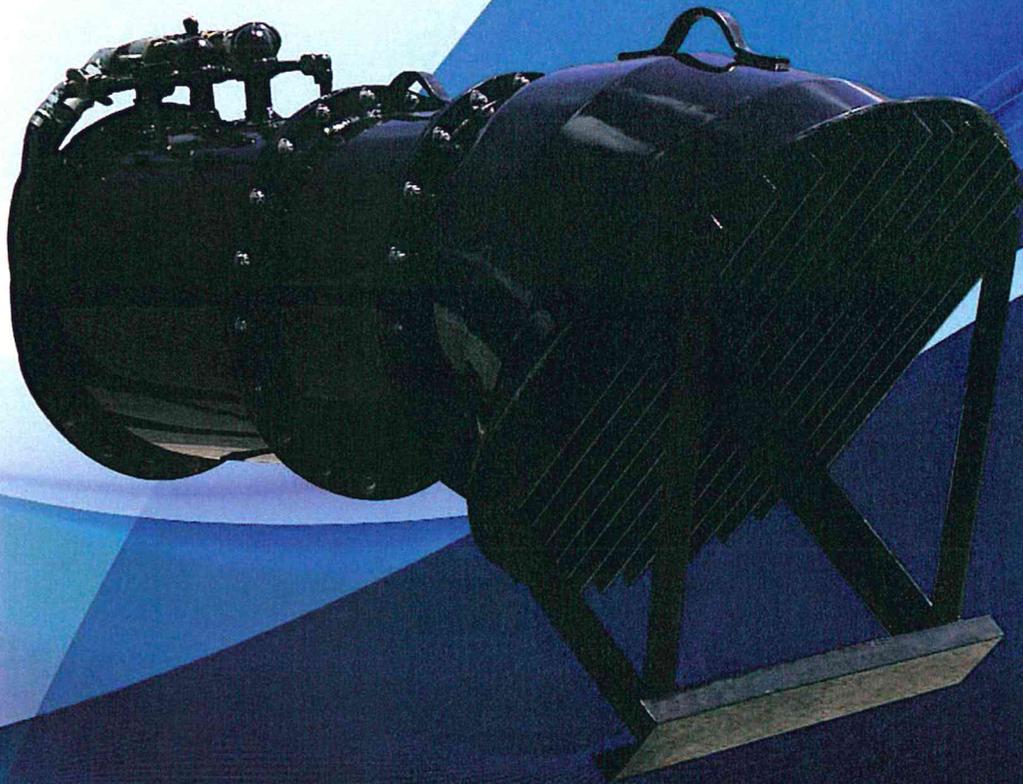


INSPECTIONS BOXED DIMENSIONS THIRD ANGLE PROJECTION WEIGHT TBD NOTES: 1. NOTES 2, 3 INSPECTIONS AND TOLERANCES ARE APPLICABLE ONLY TO PRODUCTION DRAWINGS 2. BREAK/DE-BURR ALL SHARP EDGES AND CORNERS 3. REMOVE ALL BURRS/RAISED EDGES AROUND DRILLED HOLES AND TAPPED HOLES 4. MARK PART NO. AT LOCATION SHOWN		PROJECT PONTIFF PLAYGROUND PUMP STATIONS UNLESS OTHERWISE SPECIFIED TOLERANCES ARE AS FOLLOWS <table border="1"> <tr> <th>IMPERIAL</th> <th>METRIC</th> </tr> <tr> <td>X</td> <td>X</td> </tr> <tr> <td>XX</td> <td>- 0.03</td> </tr> <tr> <td>XXX</td> <td>- 0.010</td> </tr> <tr> <td>XXXX</td> <td>- 0.001</td> </tr> <tr> <td>FRACTIONAL</td> <td>1/16</td> </tr> <tr> <td>MACHINED SURFACE FINISH</td> <td>125 √</td> </tr> <tr> <td>BOLT PATTERN TOLERANCE</td> <td>BOLT PATTERN TOLERANCE</td> </tr> <tr> <td>EQUAL SPACING VARIATION 0.03 MAX ALL HOLES</td> <td>EQUAL SPACING VARIATION 0.8 MAX ALL HOLES</td> </tr> </table>		IMPERIAL	METRIC	X	X	XX	- 0.03	XXX	- 0.010	XXXX	- 0.001	FRACTIONAL	1/16	MACHINED SURFACE FINISH	125 √	BOLT PATTERN TOLERANCE	BOLT PATTERN TOLERANCE	EQUAL SPACING VARIATION 0.03 MAX ALL HOLES	EQUAL SPACING VARIATION 0.8 MAX ALL HOLES	TITLE DRIVE UNIT GENERAL ARRANGEMENT JOB NO. STANDARD DRAWN BY LBR DATE 4/15/2016 DRAWING NO. REV. SHEET 2 OF 2 APPROVED BY DATE 8/15/2016		 <small>MWD MILWAUKEE WISCONSIN</small> THIS PROPRIETARY DRAWING IS THE INTELLECTUAL PROPERTY OF MWD CORPORATION. A FIDUCIARY CORPORATION AND IT IS CONSIDERED CONFIDENTIAL. ALL RECIPIENTS SHALL SIGN AND RETURN THIS DRAWING TO MWD CORPORATION. NO REPRODUCTION OR CREATION OF ANY KIND FOR THIRD PARTIES WITHOUT THE PRIOR WRITTEN AUTHORIZATION OF MWD. ACCIDENTALLY IF THIS DRAWING SHALL BE IMMEDIATELY RETURNED AT THE REQUEST OF MWD.
IMPERIAL	METRIC																							
X	X																							
XX	- 0.03																							
XXX	- 0.010																							
XXXX	- 0.001																							
FRACTIONAL	1/16																							
MACHINED SURFACE FINISH	125 √																							
BOLT PATTERN TOLERANCE	BOLT PATTERN TOLERANCE																							
EQUAL SPACING VARIATION 0.03 MAX ALL HOLES	EQUAL SPACING VARIATION 0.8 MAX ALL HOLES																							



Hydraulically Driven Pumps

Hydraflo™



...
Moving Water Worldwide - Reliably and Efficiently

Hydraflo Pumps from MWI

The Hydraflo is a patented, submersible pump that uses the power of hydraulics to drive the impeller via flexible hoses. This replaces a fixed motor, a long, rigid shaft and the supporting structure common to most pumps that can move very large quantities of water. The unique design allows the pump to be set up in hours - not months - usually eliminates most of the civil works necessary for installation - saving a lot of money and time, allows the pump to be portable and provides variable speed control.

Advantages

Versatility

Hydraflo pumps can be installed at any angle - vertical, horizontal or any angle in between, by simply changing the intake bell.

Fast Installation

Hydraflo pumps can be installed within a fraction of the time of conventional lineshaft pumps. A typical installation can be done in house, because they do not require any critical alignment or the extensive civil works required by other high capacity pumps.

Designed for Longer Life

Hydraflos are designed for a very long life. All components are picked for ruggedness and durability. Many Hydraflos over 25 years old are still in daily use.

Less Submergence Required

Because the standard design of MWI Hydraflo pumps have large intake passages and low speeds, they can be installed and operated continuously at minimal submergence.

Requires Less Maintenance and Costs Less to Operate

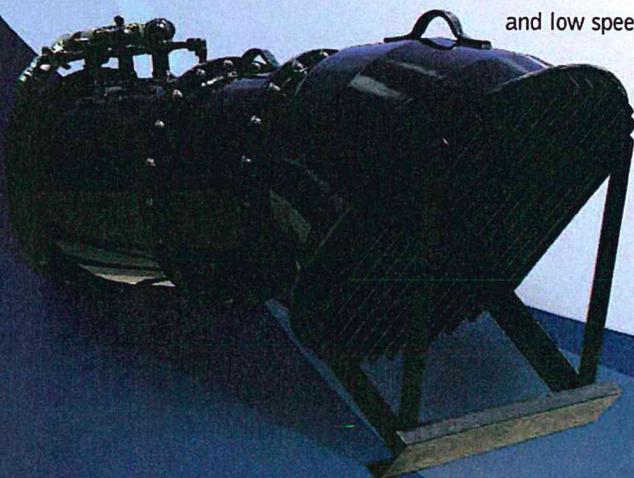
The Hydraflo is a simple, straightforward design that requires very little maintenance. When used in portable mode, pumps more water for less money and has a smaller footprint than the many centrifugal pumps that would be required to take its place. Hydraflo pumps are designed to run dry without damage to their components.

Variable Speed Pumping

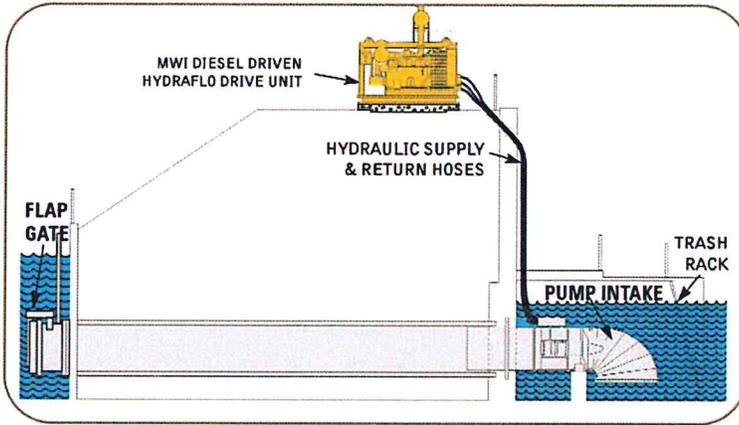
Pump speed can be varied manually by regulating engine speed. An automatic variable speed option is also available.

Environmentally Friendly

We offer several hydraulic fluid options which are readily biodegradable and meet the EPA toxicity limits. Hydraflo hydraulic tanks are small and have an engine shut down switch activated by small amounts of fluid loss.

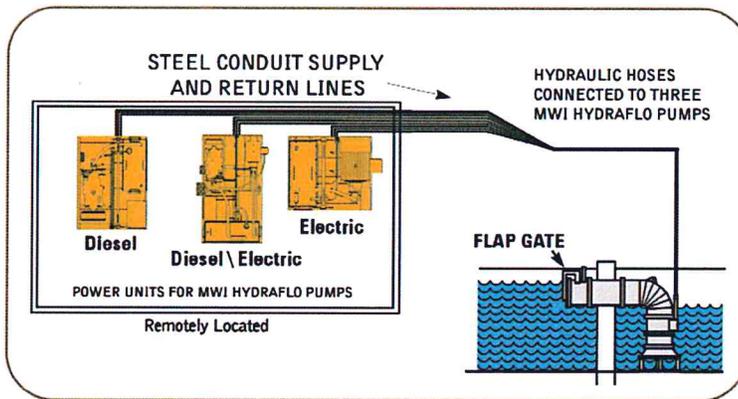


Installations ...



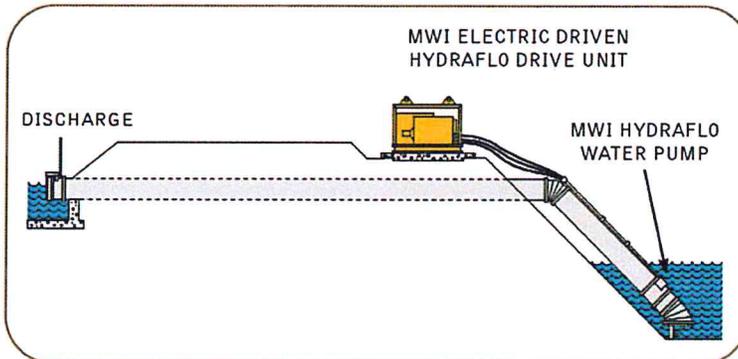
HORIZONTAL INSTALLATION

- Low profile
- Retro-fit existing pipe



VERTICAL INSTALLATION

- Dual power for emergencies
- Remote drive unit

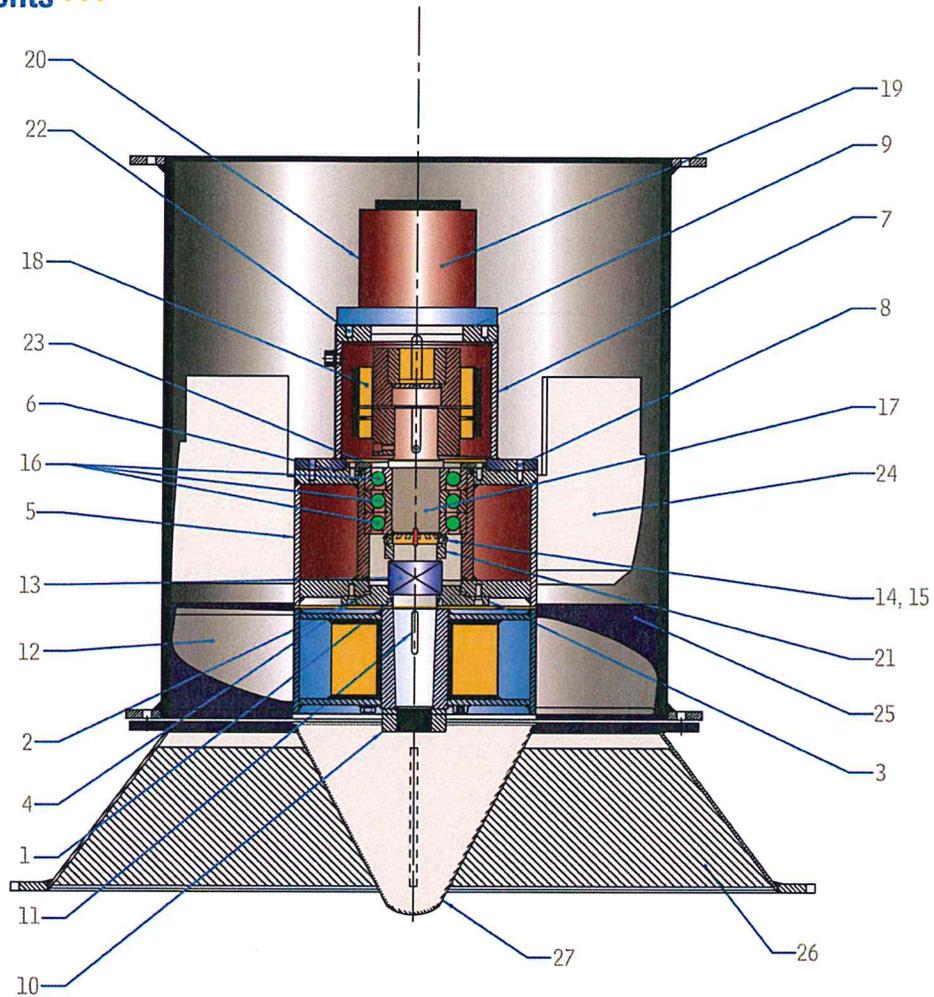


ANGLED INSTALLATION

- Low civil works
- Installable at any angle



Internal Components ...



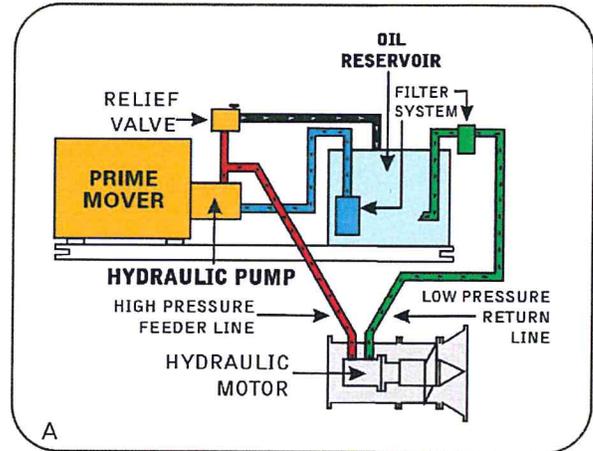
- | | |
|----------------------------------------------------------------|-------------------------------------------------|
| 1 Lip Seal (Synthetic Rubber & Stainless Steel Garter Spring) | 16 Bearings |
| 2 Bolts:Fasten End PI-Bearing Box(Grade 5) | 17 Hydraflo Shaft (304 Stainless Steel) |
| 3 End Plate (ASTM A588, Corten Steel) | 18 Shaft Coupling Assembly (Steel) |
| 4 O-Ring: End Plate / Bearing Box | 19 Hydraulic Motor (Steel Casting) |
| 5 Bearing Box (ASTM A588, Corten Steel) | 20 Mounting Flanges/ Adapters |
| 6 O-Ring: Bearing Box / Motor Mount | 21 Bronze Spacer (Bronze 660) |
| 7 Motor Mount (ASTM A242 Corten Steel) | 22 Bolts -Hydraulic Motor To Mount (Grade 5) |
| 8 Bolts:Motor Mount-Bear'g Box (Grade 5) | 23 Bearing Retainer (ASTM A242, Corten Steel) |
| 9 O-Ring: Motor Mount / Hydraulic Motor | 24 Distributor Blades (ASTM A242, Corten Steel) |
| 10 Propeller Nut (AISI 1026 Steel) | 25 Wear Ring/Liner (304 Stainless Steel) |
| 11 Propeller Key (AISI 1018 Steel) | 26 Guide Blades |
| 12 Propeller(S/ S Blades,A588 Corten Steel) | 27 Guide Hub |
| 13 Mechanical Seal Assembly (Ceramic & Stainless Steel Spring) | |
| 14 Bearing Lock-Nut (ANSI C1015 Steel) | |
| 15 Bearing Lock-Washer (ANSI C1015 Steel) | |

Due to our continual improvement of our products, we reserve the right to change designs and specifications.

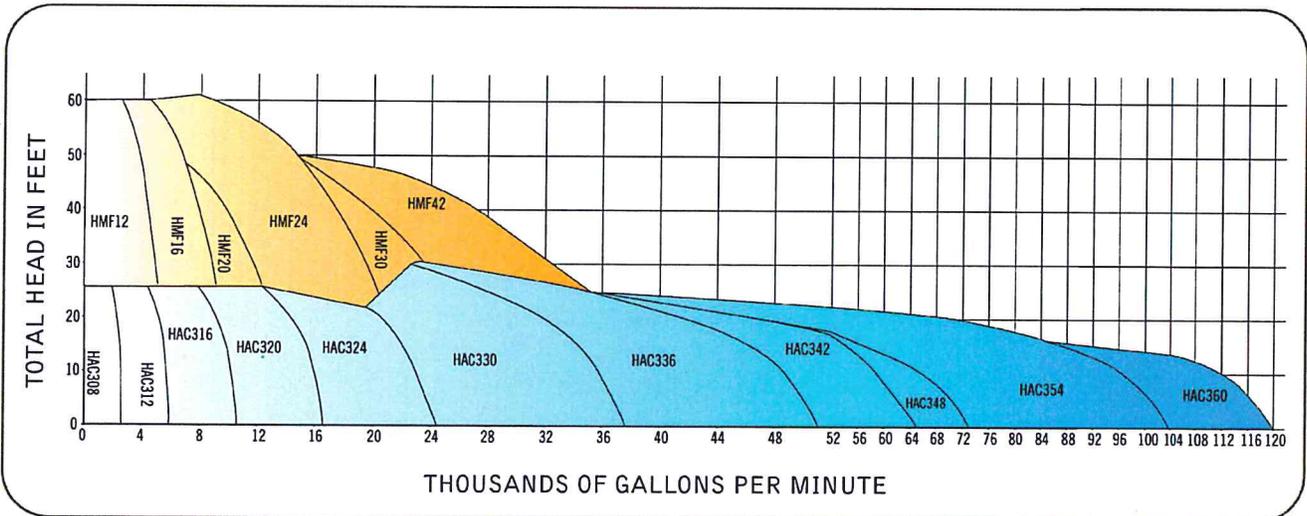
Method of Operation ...

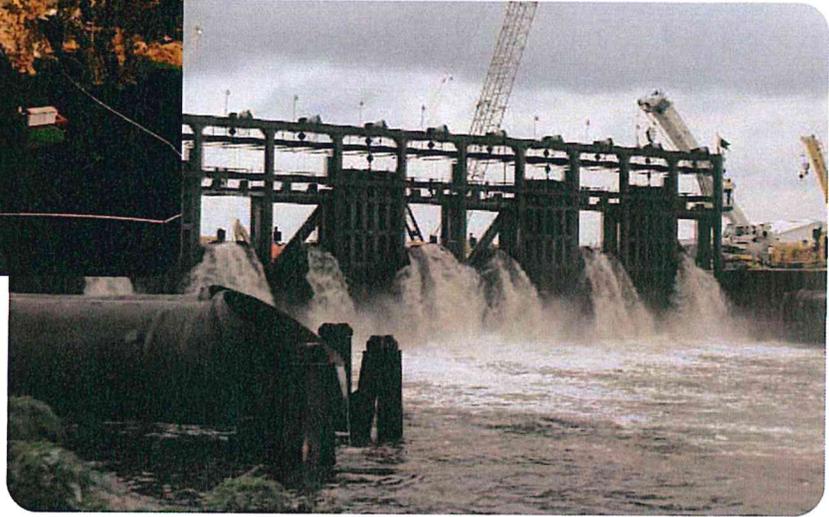
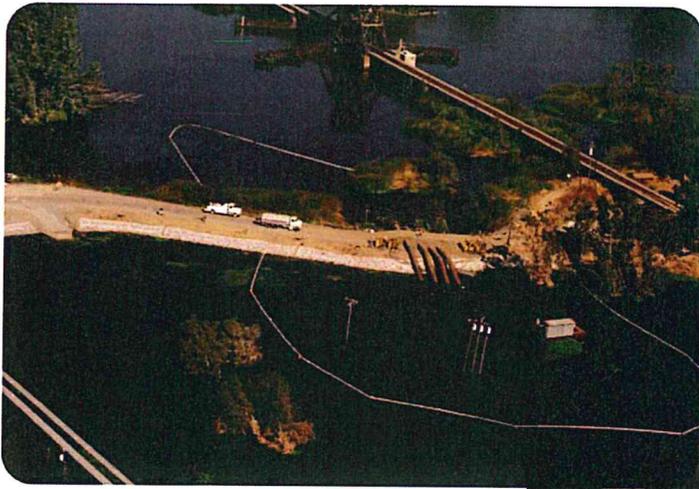
Schematic A shows how the hydraulic system works. Note that the prime mover can be a diesel engine, electric motor or a combination of both. It drives a hydraulic pump which in turn supplies oil to the hydraulic motor in the water pump. This spins the hydraulic motor which is directly connected to the propeller. The hydraulic oil is then returned to the oil reservoir through the return filter. Then, the hydraulic oil returns through a strainer and back to the hydraulic pump, completing the circuit.

A relief valve from the high pressure side to the oil reservoir, serves to by-pass the power transmission fluid and divert flow in the event that an object gets lodged in the propeller. This is a very important safety feature available only with Hydrflo systems which protects all components from shock loads. Where variable flows are needed (such as in sewage effluent or "piped in" stormwater pumping), the propeller speeds can be infinitely adjusted through the hydraulic power transmission system to match up with any combination of water flows and head conditions.



Performance curves for each bowl size are available upon request.

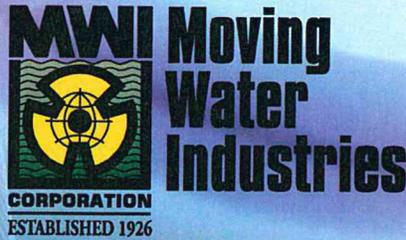




MWI's international headquarters and extensive manufacturing capabilities are located in Deerfield Beach, Florida, very close to the original business. The manufacturing facilities are spread over 4 city blocks and total nearly 300,000 ft², to include a 10,000 ft² test lab. The company has a facility in Egypt and representatives throughout the United States, Latin America, Middle East, Africa and Asia.

The Hydraflo™ is protected by one or more of the following patents and patents pending:

US Patents: #4,138,202, #6,447,260,
#6,520,750, #4,188,788, #6,113,356,
#4,350,476, #4,138,202, #3,907,463,
#4,070,135, #4,797,067, #3,270,677



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MOVING WATER INDUSTRIES
INTERNATIONAL HEADQUARTERS

201 N. Federal Highway Deerfield Beach, Florida 33441 USA
Phone: (954) 426-1500 Fax: (954) 426-1582 E-mail: info@mwicorp.com www.mwicorp.com



Established 1926

Manufacturers

Moving Water Worldwide - Reliably and Efficiently

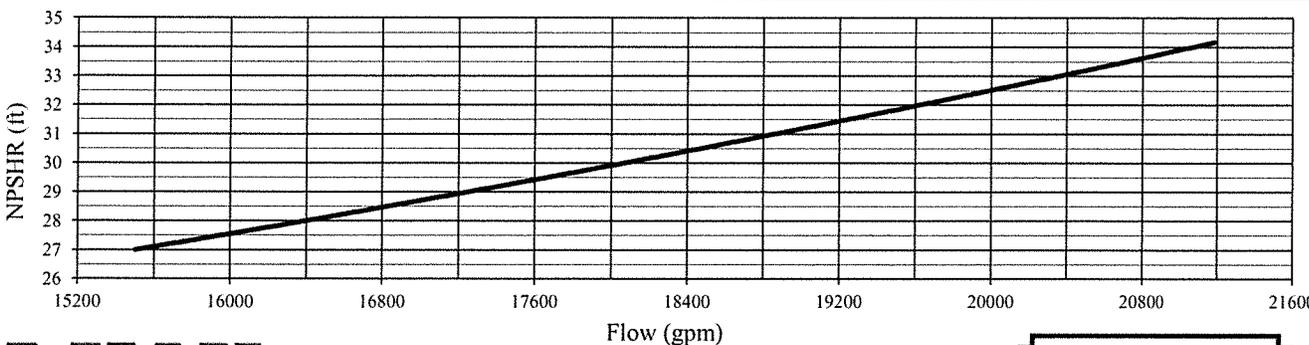
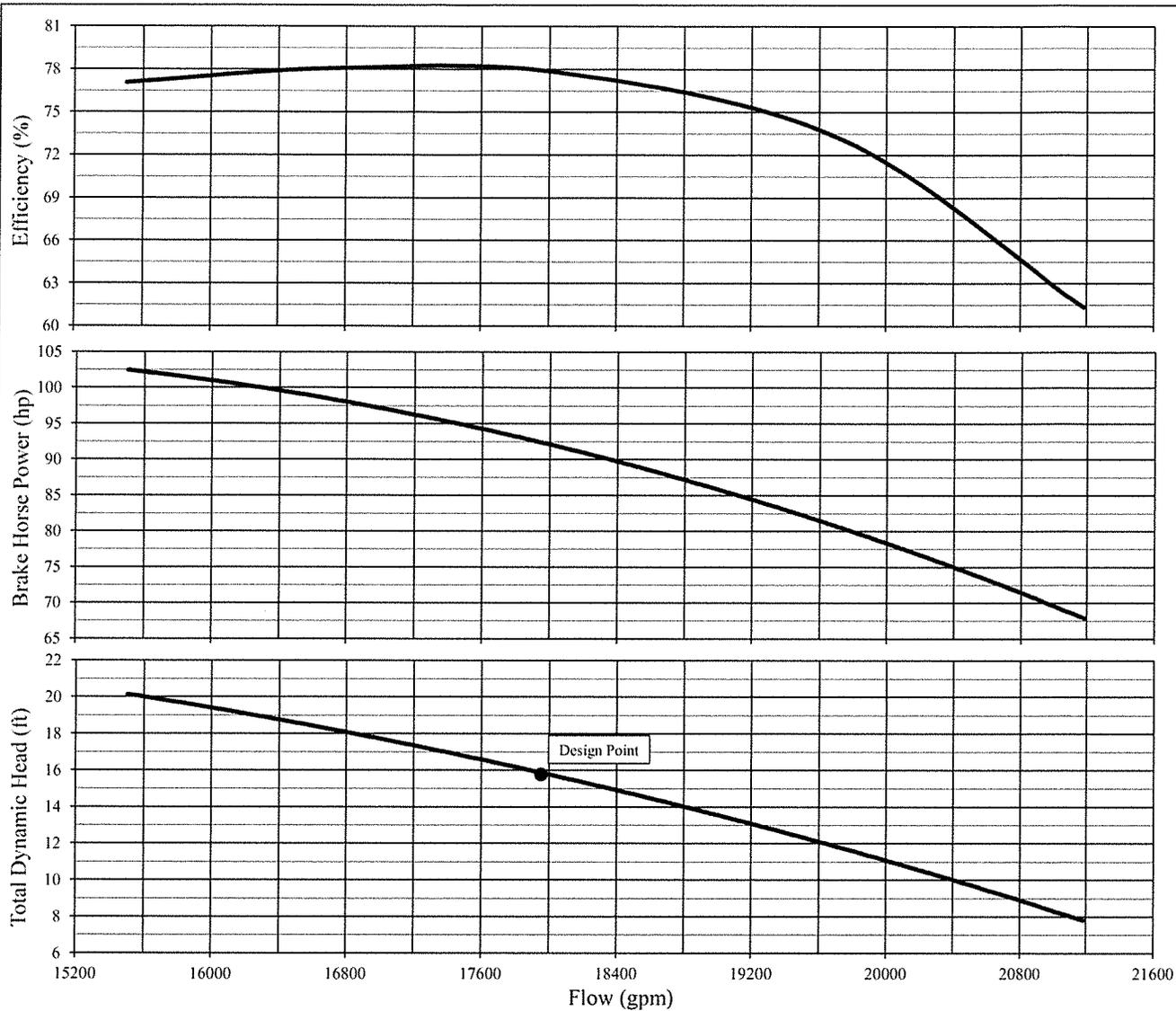
To whom it may concern,

We hereby certify that our testing facility meets all requirements of the Hydraulic Institute Standards, and that testing shall be conducted in accordance with procedures described in the Hydraulic Institute Standards, USA.

Thank you,

A handwritten signature in blue ink, appearing to read 'Daren Eller', written over a horizontal line.

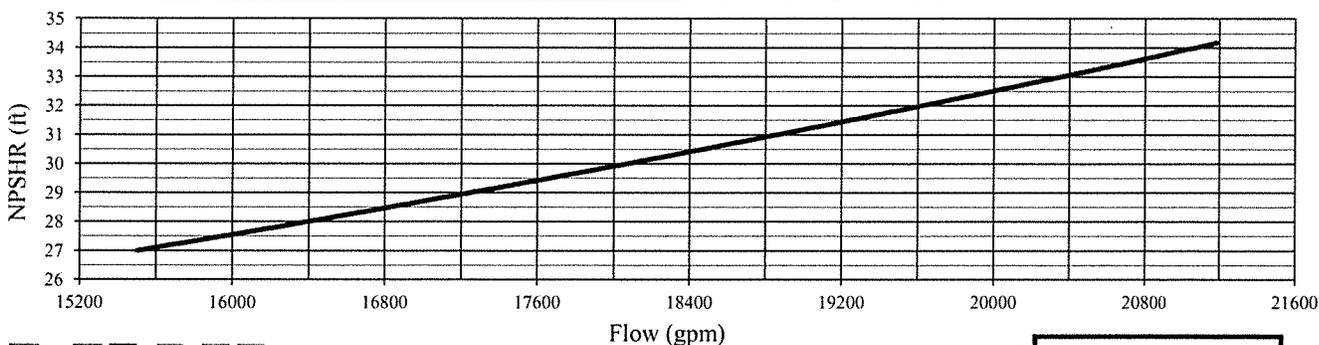
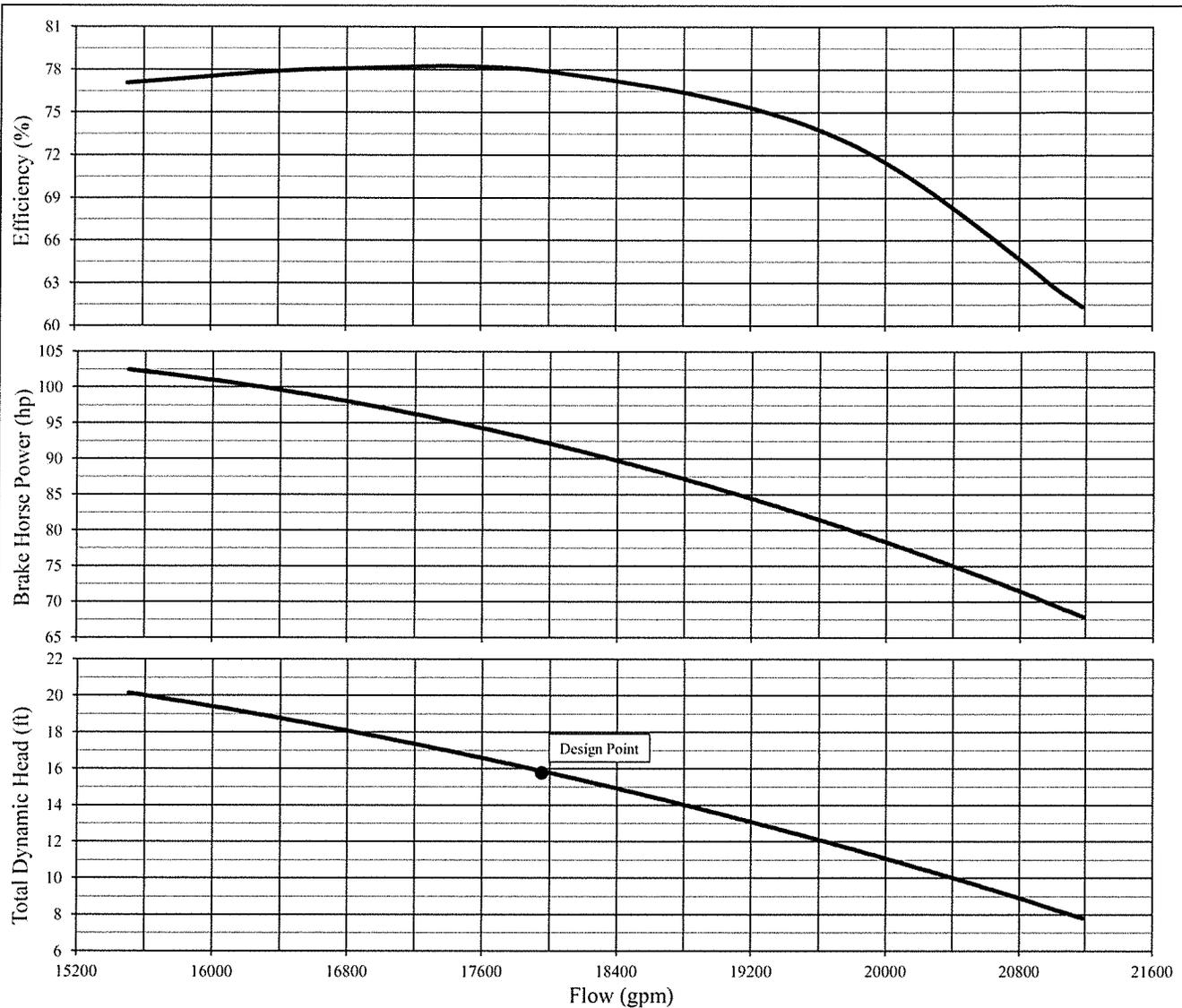
Daren Eller, P.E.
Vice President Engineering
Moving Waters Industries



PUMP BOWL PERFORMANCE CURVE	
Project: Pontiff Playground Pump Station Gilmore #14	
TYPE: Axial Flow	PROPELLER DIA: 24 in
MODEL NO: HAC324	SPEED: 700 RPM
INTAKE DIA: 36 in	DISCHARGE DIA:
SINGLE STAGE PERFORMANCE FOR TWO STAGES MULTIPLY HEAD AND HORSEPOWER BY 2.0 AND EFFICIENCY BY 1.0 PERFORMANCE IS BASED ON PUMPING CLEAR, NON-AERATED WATER, WITH A SPECIFIC GRAVITY OF 1.0. TEMPERATURE 85 DEG F OR LESS AND AT SEA LEVEL. PUMP PERFORMANCE MAY BE AFFECTED BY HIGHER TEMPERATURES, SPECIFIC GRAVITY, ALTITUDES AND SUMP CONDITIONS.	

IT IS HEREBY CERTIFIED THAT THIS CURVE REPRESENTS THE TRUE PERFORMANCE CHARACTERISTICS OF THE MWI PUMP MODEL SHOWN AND WAS OBTAINED BY SCALE MODEL TEST AND CALCULATIONS IN ACCORDANCE WITH STANDARDS OF THE HYDRAULIC INSTITUTE.

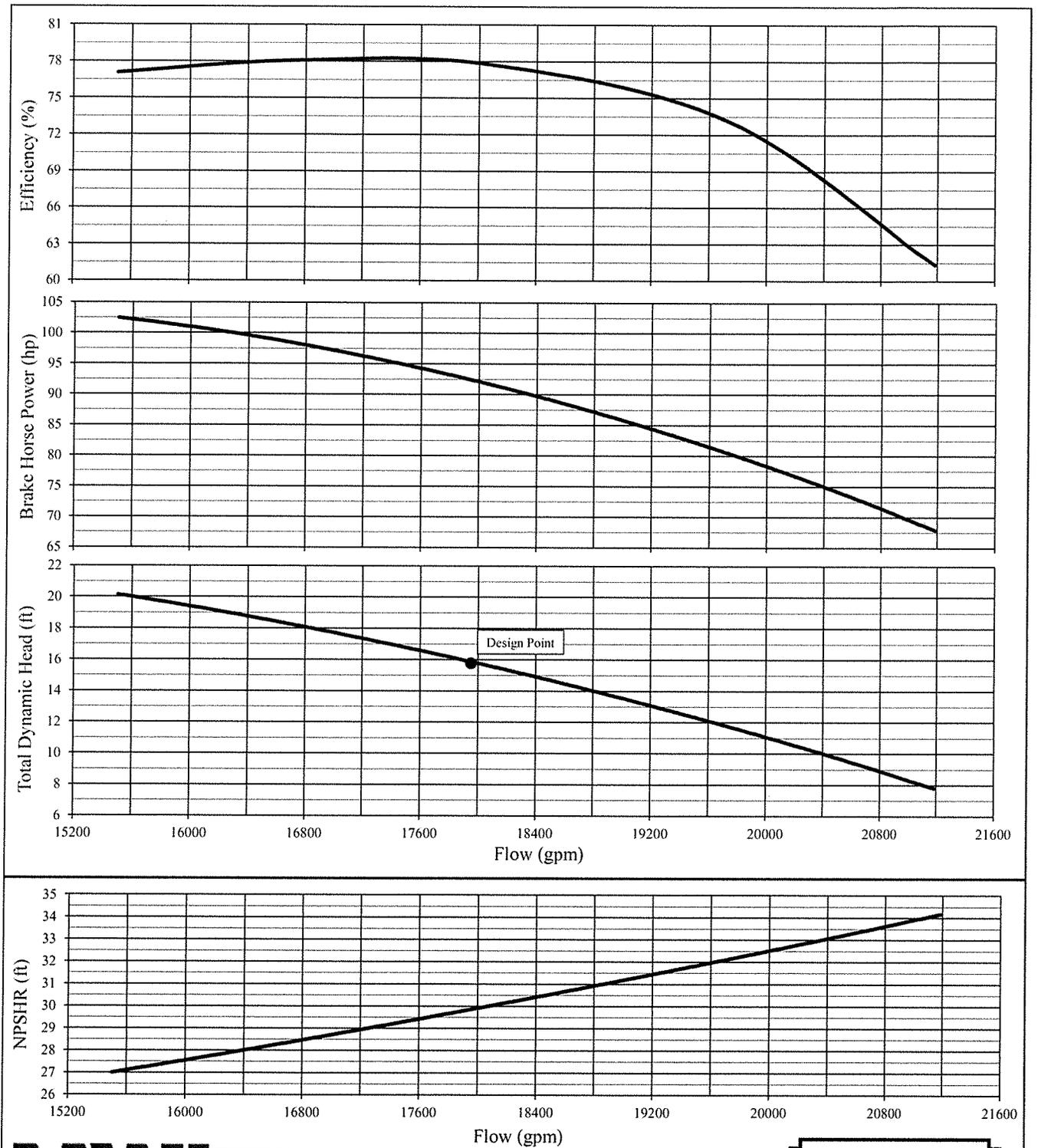
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 Deerfield Beach, Florida



PUMP BOWL PERFORMANCE CURVE	
Project: Pontiff Playground Pump Station Gilmore #14	
TYPE: Axial Flow	PROPELLER DIA: 24 in
MODEL NO: HAC324	SPEED: 700 RPM
INTAKE DIA: 36 in	DISCHARGE DIA:
SINGLE STAGE PERFORMANCE FOR TWO STAGES MULTIPLY HEAD AND HORSEPOWER BY 2.0 AND EFFICIENCY BY 1.0 PERFORMANCE IS BASED ON PUMPING CLEAR, NON-AERATED WATER, WITH A SPECIFIC GRAVITY OF 1.0, TEMPERATURE 85 DEG F OR LESS AND AT SEA LEVEL. PUMP PERFORMANCE MAY BE AFFECTED BY HIGHER TEMPERATURES, SPECIFIC GRAVITY, ALTITUDES AND SUMP CONDITIONS.	

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PUMP BOWL PERFORMANCE CURVE

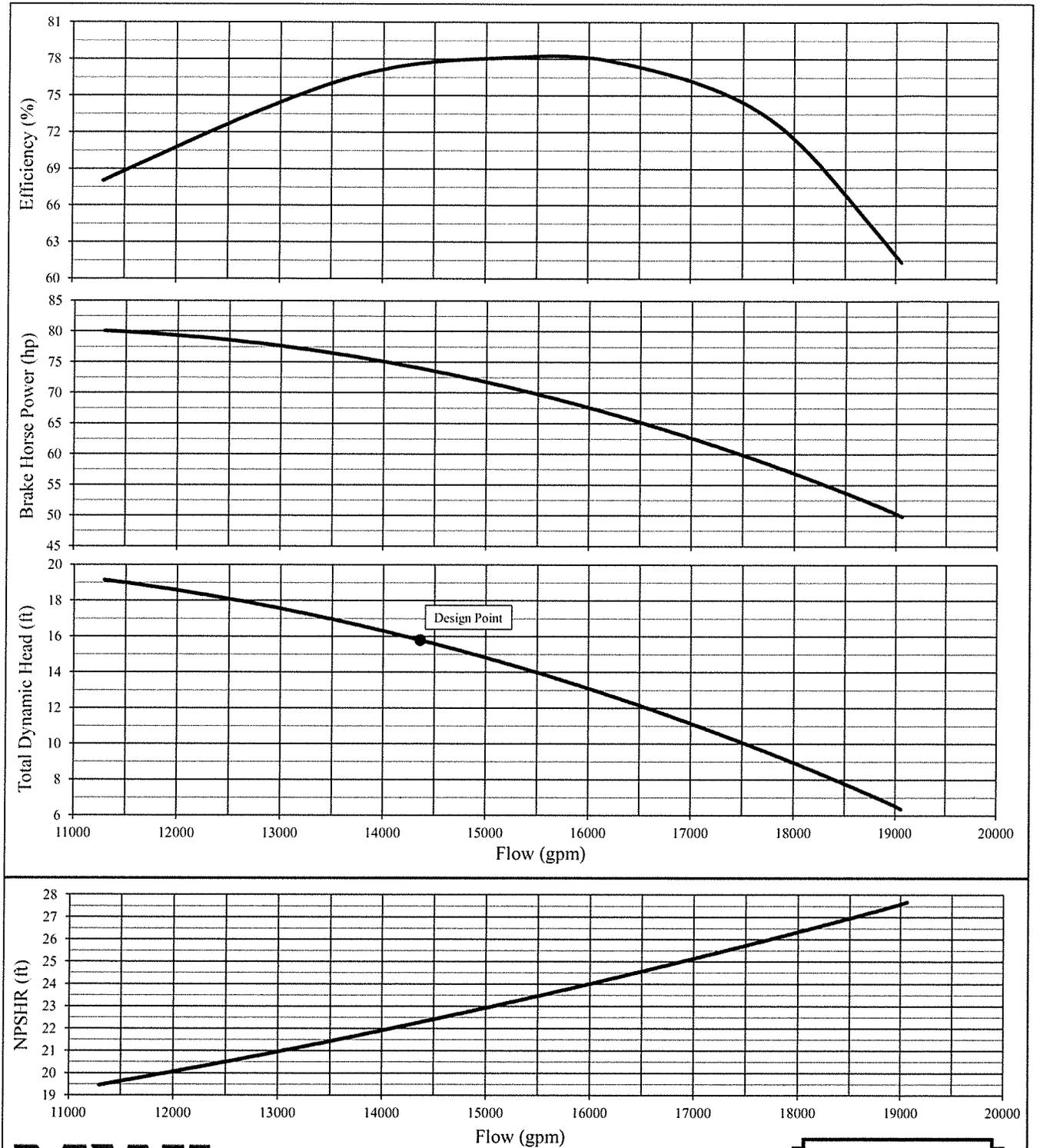
Project: Pontiff Playground Pump Station Gilmore #14

TYPE: Axial Flow	PROPELLER DIA: 24 in
MODEL NO: HAC324	SPEED: 700 RPM
INTAKE DIA: 36 in	DISCHARGE DIA:

SINGLE STAGE PERFORMANCE
 FOR TWO STAGES MULTIPLY HEAD AND HORSEPOWER BY 2.0 AND EFFICIENCY BY 1.0
 PERFORMANCE IS BASED ON PUMPING CLEAR, NON-AERATED WATER, WITH A SPECIFIC
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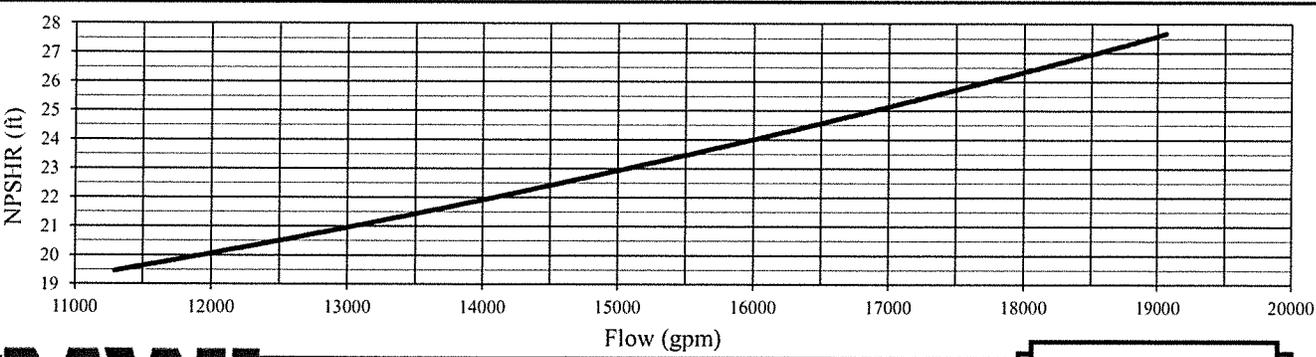
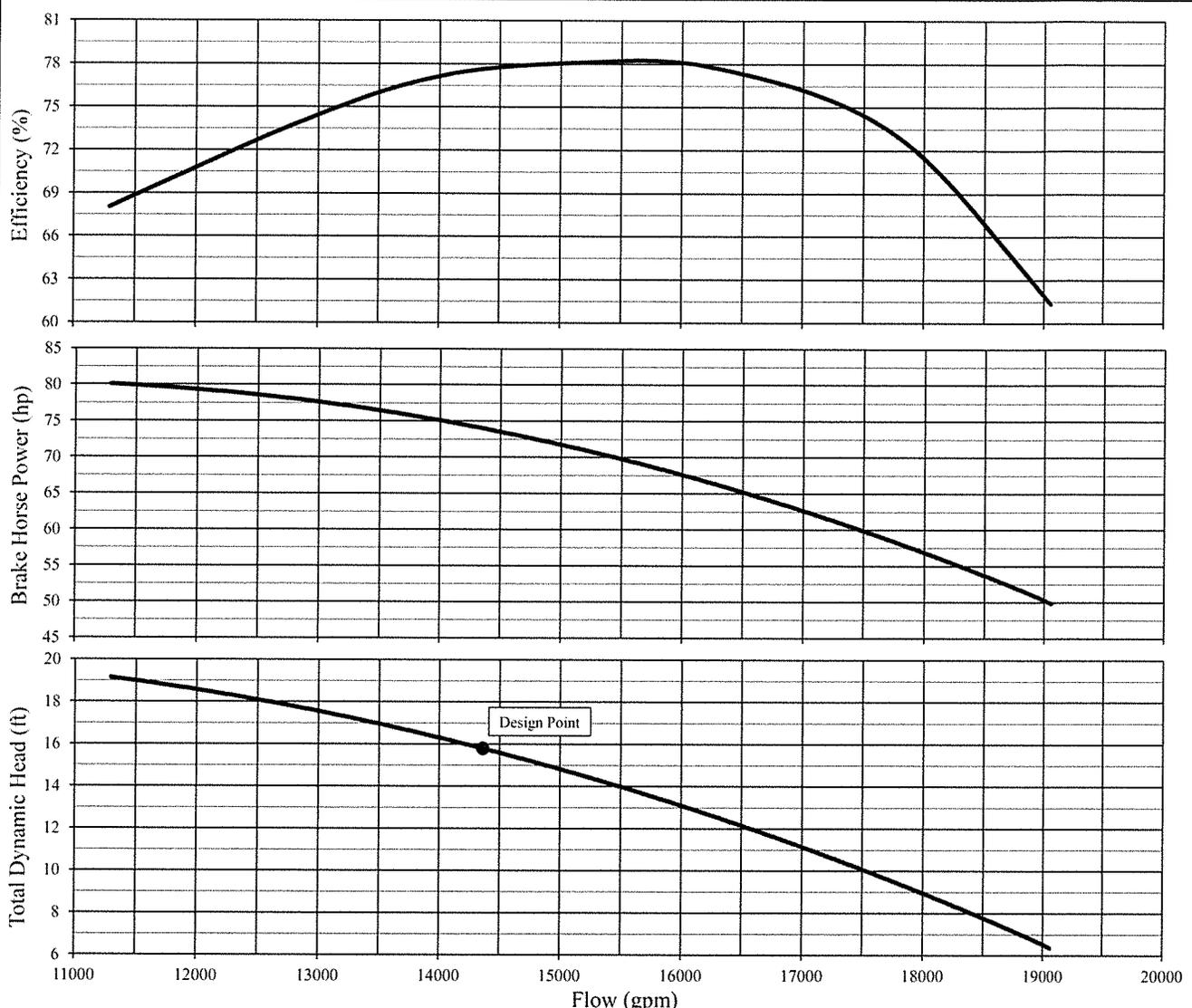


PUMP BOWL PERFORMANCE CURVE	
Project: Pontiff Playground Pump Station Mag #3	
TYPE: Axial Flow	PROPELLER DIA: 24 in
MODEL NO: HAC324	SPEED: 630 RPM
INTAKE DIA: 36 in	DISCHARGE DIA:
SINGLE STAGE PERFORMANCE FOR TWO STAGES MULTIPLY HEAD AND HORSEPOWER BY 2.0 AND EFFICIENCY BY 1.0 PERFORMANCE IS BASED ON PUMPING CLEAR, NON-AERATED WATER, WITH A SPECIFIC GRAVITY OF 1.0, TEMPERATURE 85 DEG F OR LESS AND AT SEA LEVEL. PUMP PERFORMANCE MAY BE AFFECTED BY HIGHER TEMPERATURES, SPECIFIC GRAVITY, ALTITUDES AND SUMP CONDITIONS.	

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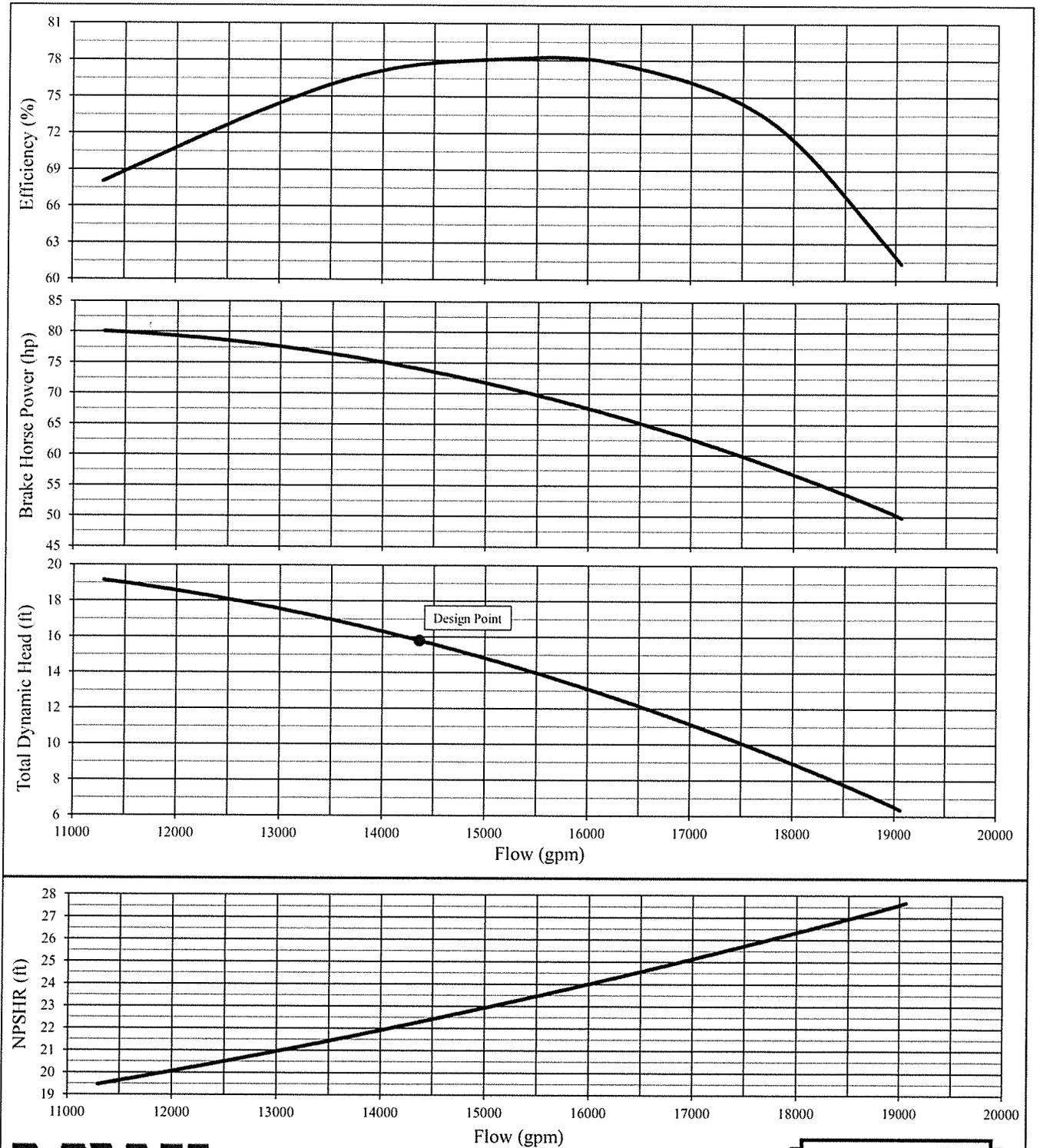
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Deerfield Beach, Florida



PUMP BOWL PERFORMANCE CURVE	
Project: Pontiff Playground Pump Station Mag #3	
TYPE: Axial Flow	PROPELLER DIA: 24 in
MODEL NO: HAC324	SPEED: 630 RPM
INTAKE DIA: 36 in	DISCHARGE DIA:
SINGLE STAGE PERFORMANCE FOR TWO STAGES MULTIPLY HEAD AND HORSEPOWER BY 2.0 AND EFFICIENCY BY 1.0 PERFORMANCE IS BASED ON PUMPING CLEAR, NON-AERATED WATER, WITH A SPECIFIC GRAVITY OF 1.0, TEMPERATURE 85 DEG F OR LESS AND AT SEA LEVEL. PUMP PERFORMANCE MAY BE AFFECTED BY HIGHER TEMPERATURES, SPECIFIC GRAVITY, ALTITUDES AND SUMP CONDITIONS.	

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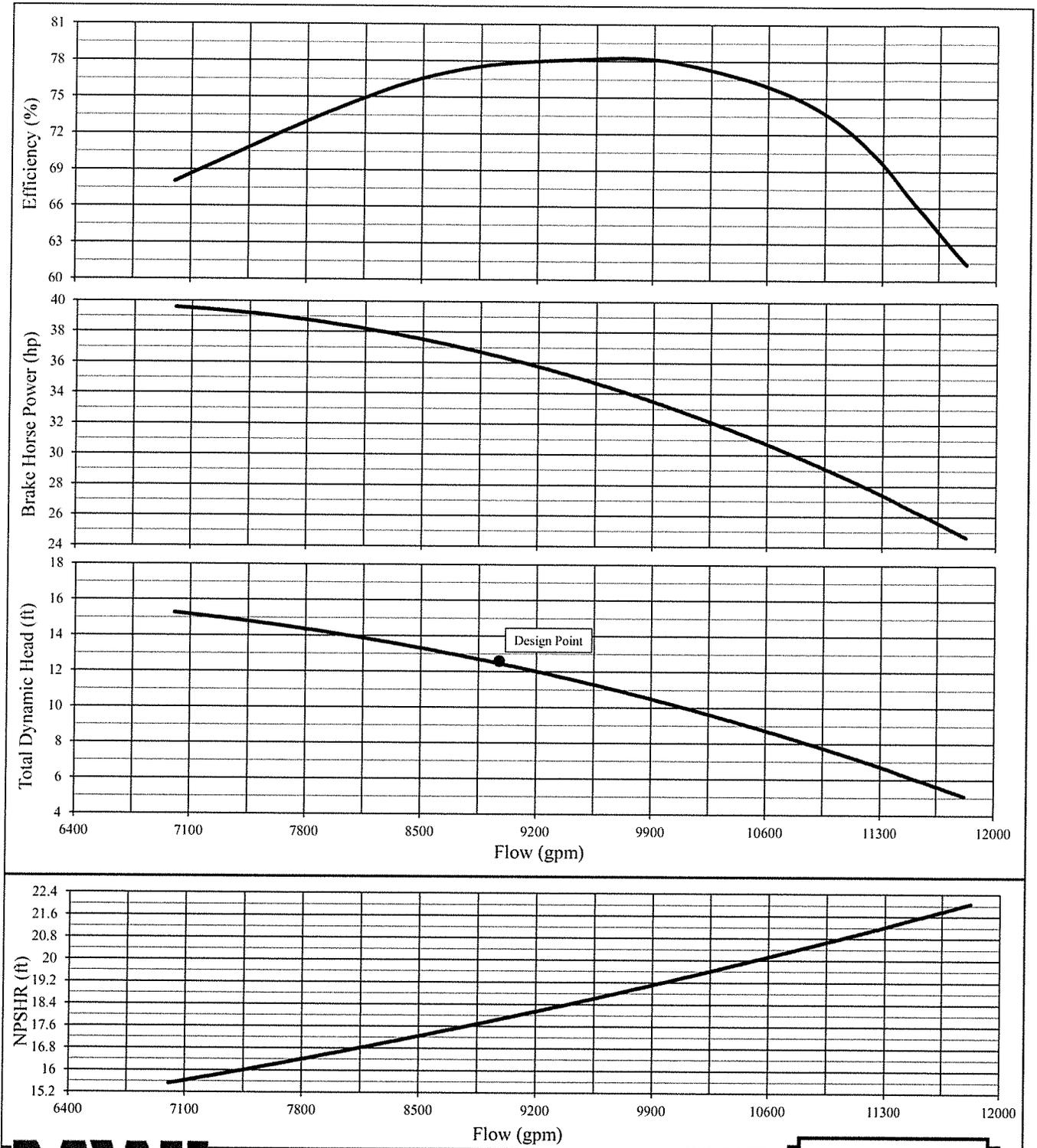




PUMP BOWL PERFORMANCE CURVE	
Project: Pontiff Playground Pump Station Mag #3	
TYPE: Axial Flow	PROPELLER DIA: 24 in
MODEL NO: HAC324	SPEED: 630 RPM
INTAKE DIA: 36 in	DISCHARGE DIA:
SINGLE STAGE PERFORMANCE FOR TWO STAGES MULTIPLY HEAD AND HORSEPOWER BY 2.0 AND EFFICIENCY BY 1.0 PERFORMANCE IS BASED ON PUMPING CLEAR, NON-AERATED WATER, WITH A SPECIFIC GRAVITY OF 1.0, TEMPERATURE 85 DEG F OR LESS AND AT SEA LEVEL. PUMP PERFORMANCE MAY BE AFFECTED BY HIGHER TEMPERATURES, SPECIFIC GRAVITY, ALTITUDES AND SUMP CONDITIONS.	

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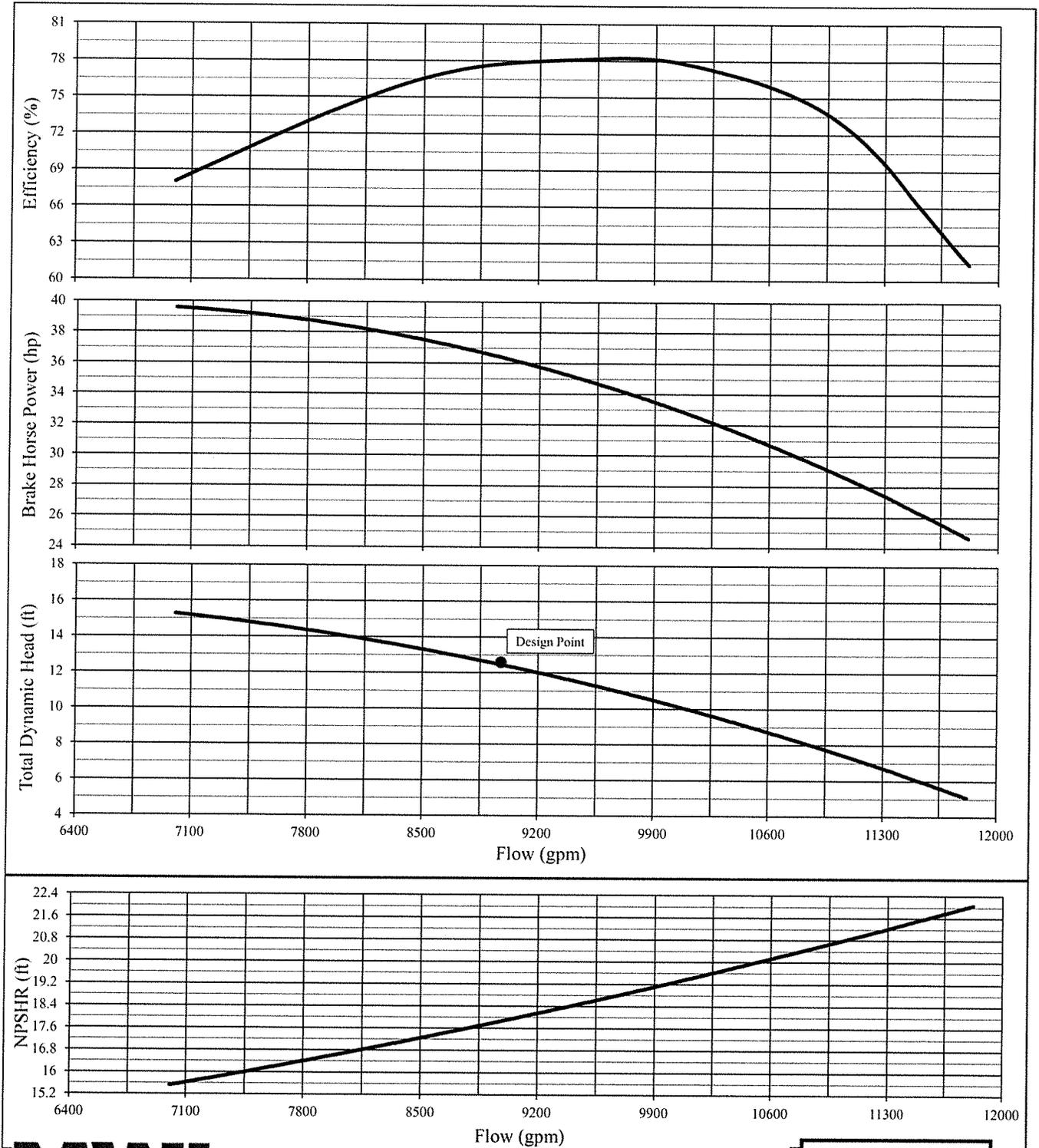


PUMP BOWL PERFORMANCE CURVE	
Project: Pontiff Playground Pump Station NE#4	
TYPE: Axial Flow	PROPELLER DIA: 20 in
MODEL NO: HAC320	SPEED: 675 RPM
INTAKE DIA: 30 in	DISCHARGE DIA:
SINGLE STAGE PERFORMANCE FOR TWO STAGES MULTIPLY HEAD AND HORSEPOWER BY 2.0 AND EFFICIENCY BY 1.0 PERFORMANCE IS BASED ON PUMPING CLEAR, NON-AERATED WATER, WITH A SPECIFIC GRAVITY OF 1.0, TEMPERATURE 85 DEG F OR LESS AND AT SEA LEVEL. PUMP PERFORMANCE MAY BE AFFECTED BY HIGHER TEMPERATURES, SPECIFIC GRAVITY, ALTITUDES AND SUMP CONDITIONS.	

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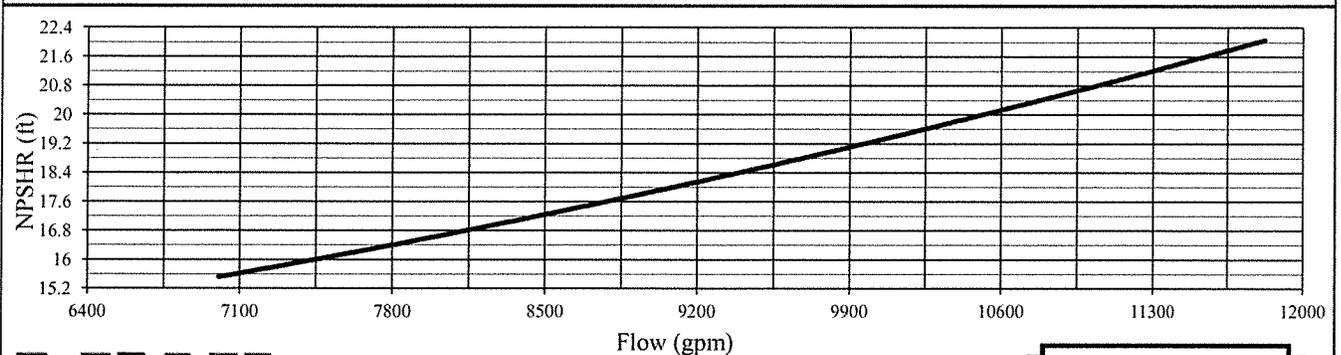
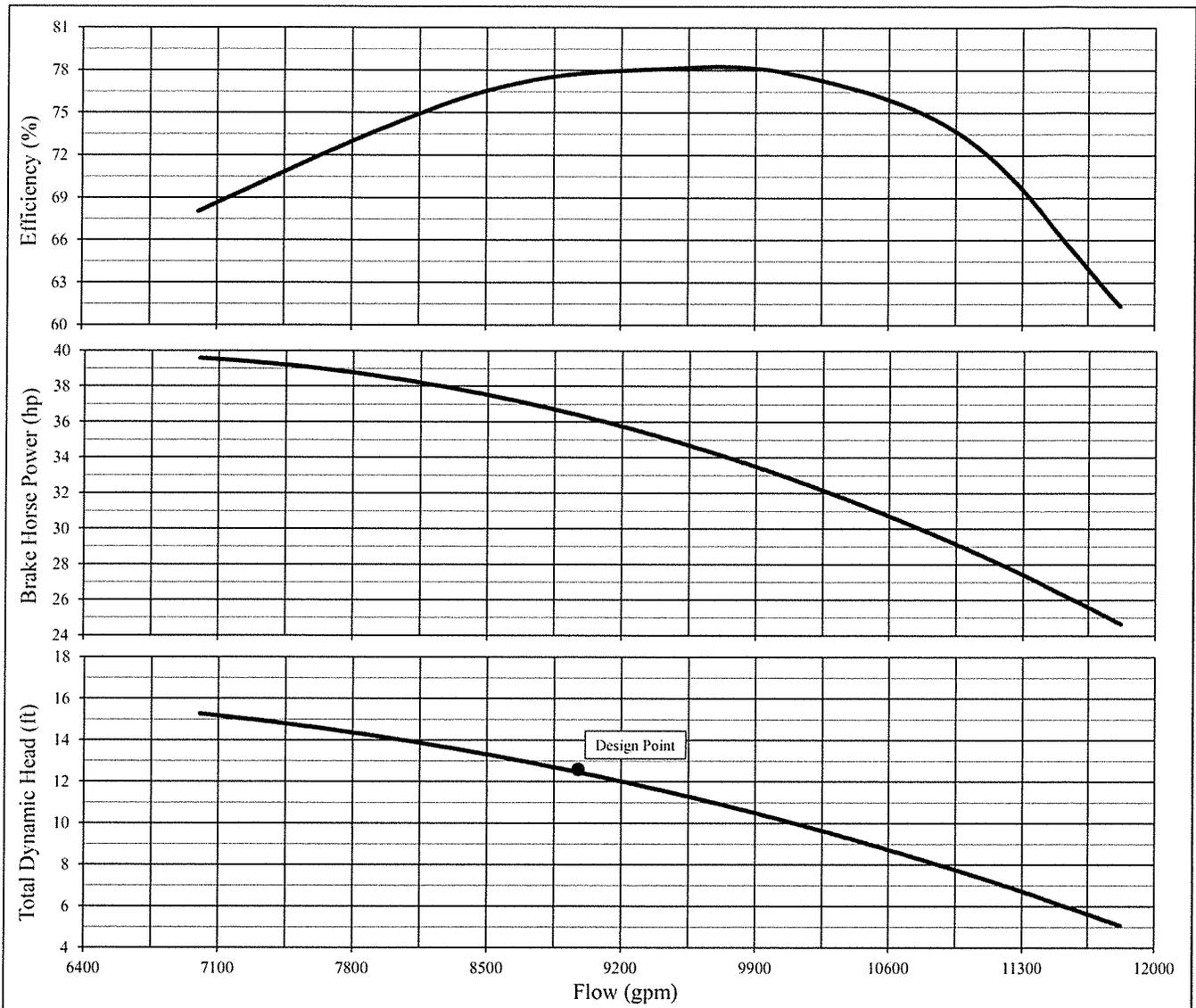


PUMP BOWL PERFORMANCE CURVE	
Project: Pontiff Playground Pump Station NE#4	
TYPE: Axial Flow	PROPELLER DIA: 20 in
MODEL NO: HAC320	SPEED: 675 RPM
INTAKE DIA: 30 in	DISCHARGE DIA:
SINGLE STAGE PERFORMANCE FOR TWO STAGES MULTIPLY HEAD AND HORSEPOWER BY 2.0 AND EFFICIENCY BY 1.0 PERFORMANCE IS BASED ON PUMPING CLEAR, NON-AERATED WATER, WITH A SPECIFIC GRAVITY OF 1.0, TEMPERATURE 85 DEG F OR LESS AND AT SEA LEVEL. PUMP PERFORMANCE MAY BE AFFECTED BY HIGHER TEMPERATURES, SPECIFIC GRAVITY, ALTITUDES AND SUMP CONDITIONS.	

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PUMP BOWL PERFORMANCE CURVE

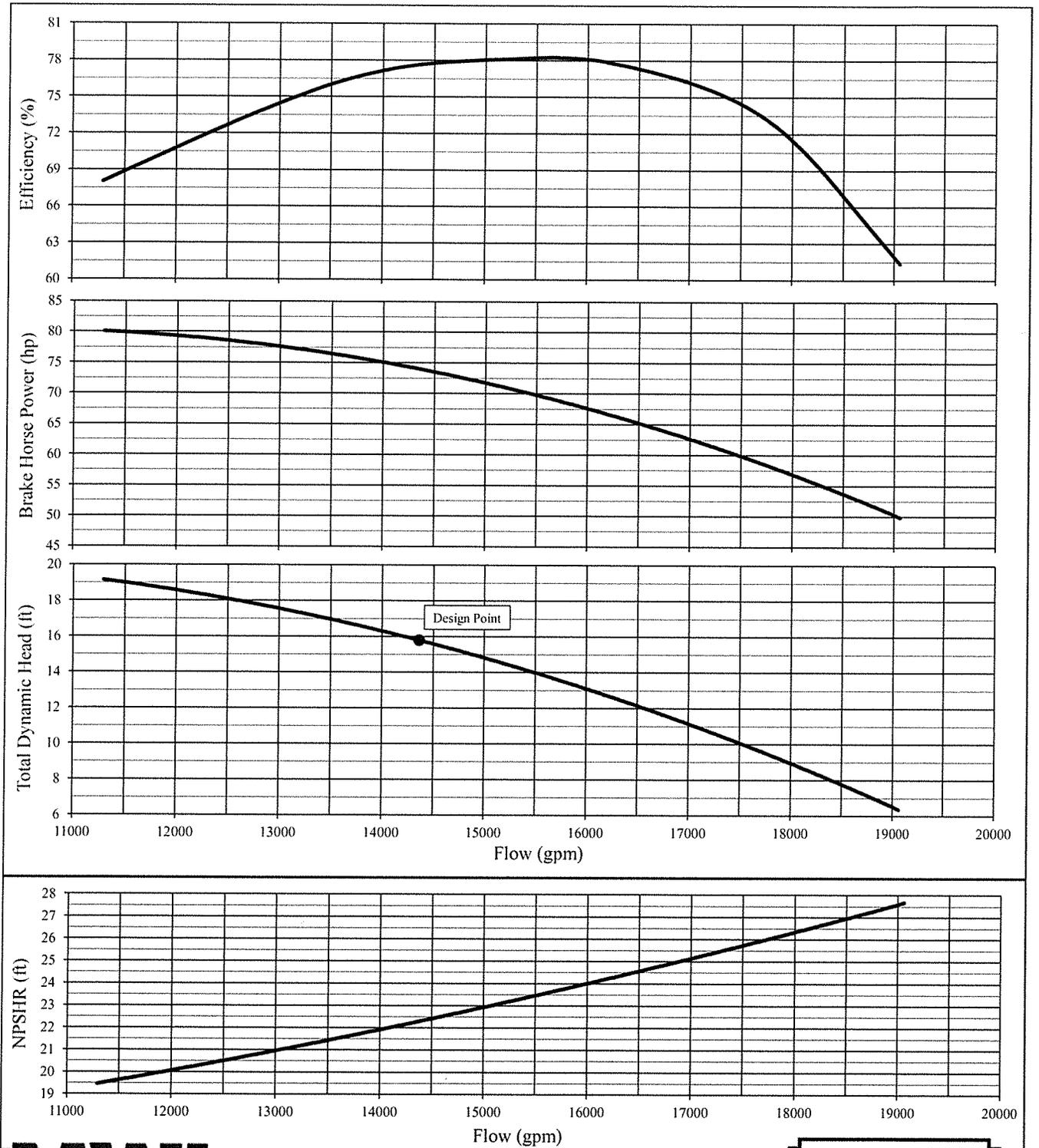
Project: Pontiff Playground Pump Station NE#4

TYPE: Axial Flow	PROPELLER DIA: 20 in
MODEL NO: HAC320	SPEED: 675 RPM
INTAKE DIA: 30 in	DISCHARGE DIA:

SINGLE STAGE PERFORMANCE
FOR TWO STAGES MULTIPLY HEAD AND HORSEPOWER BY 2.0 AND EFFICIENCY BY 1.0
PERFORMANCE IS BASED ON PUMPING CLEAR, NON-AERATED WATER, WITH A SPECIFIC GRAVITY OF 1.0, TEMPERATURE 85 DEG F OR LESS AND AT SEA LEVEL. PUMP PERFORMANCE MAY BE AFFECTED BY HIGHER TEMPERATURES, SPECIFIC GRAVITY, ALTITUDES AND SUMP CONDITIONS.

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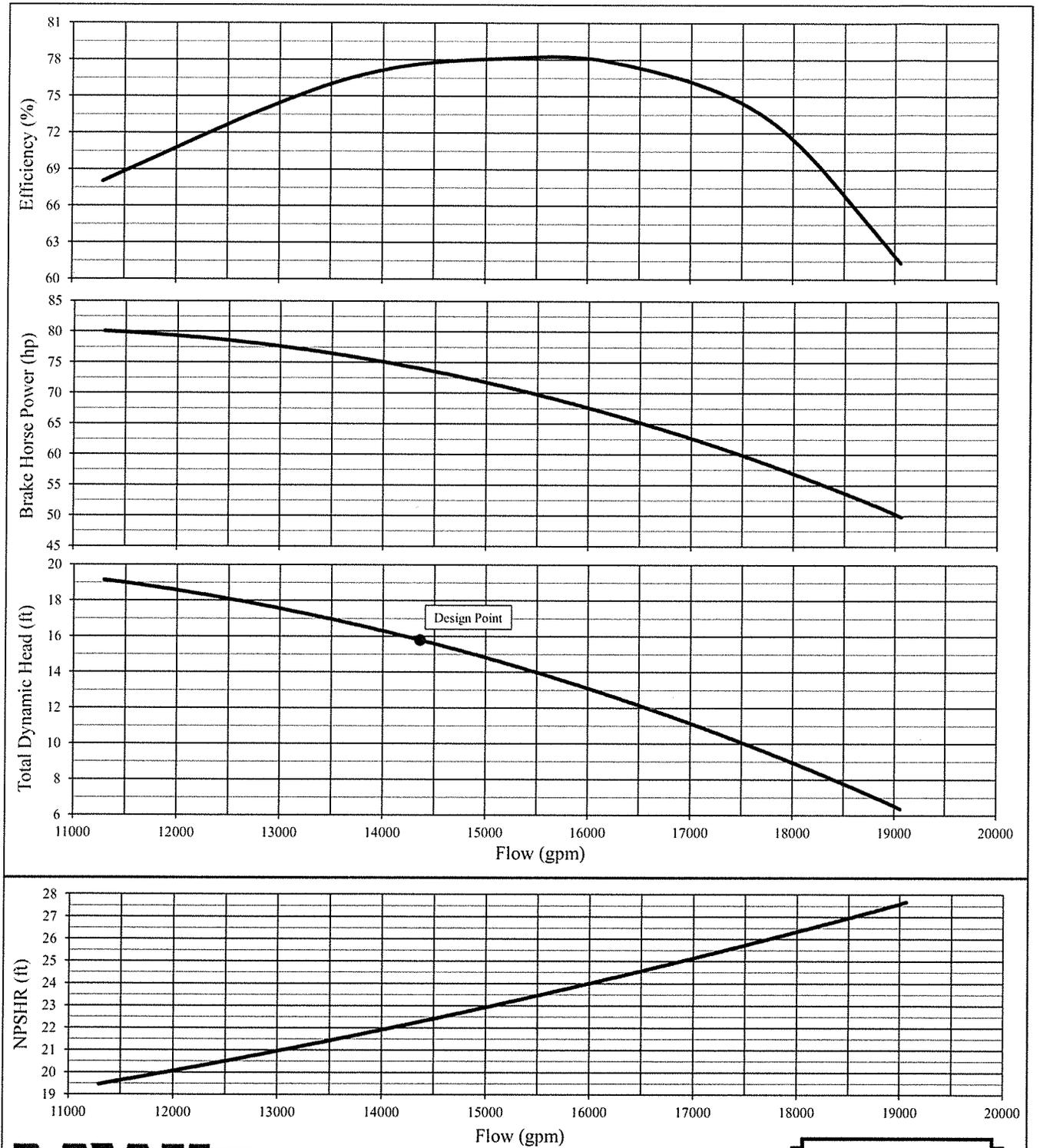


PUMP BOWL PERFORMANCE CURVE	
Project: Pontiff Playground Pump Station Mag #7	
TYPE: Axial Flow	PROPELLER DIA: 24 in
MODEL NO: HAC324	SPEED: 630 RPM
INTAKE DIA: 36 in	DISCHARGE DIA:
SINGLE STAGE PERFORMANCE FOR TWO STAGES MULTIPLY HEAD AND HORSEPOWER BY 2.0 AND EFFICIENCY BY 1.0 PERFORMANCE IS BASED ON PUMPING CLEAR, NON-AERATED WATER, WITH A SPECIFIC GRAVITY OF 1.0, TEMPERATURE 85 DEG F OR LESS AND AT SEA LEVEL. PUMP PERFORMANCE MAY BE AFFECTED BY HIGHER TEMPERATURES, SPECIFIC GRAVITY, ALTITUDES AND SUMP CONDITIONS.	

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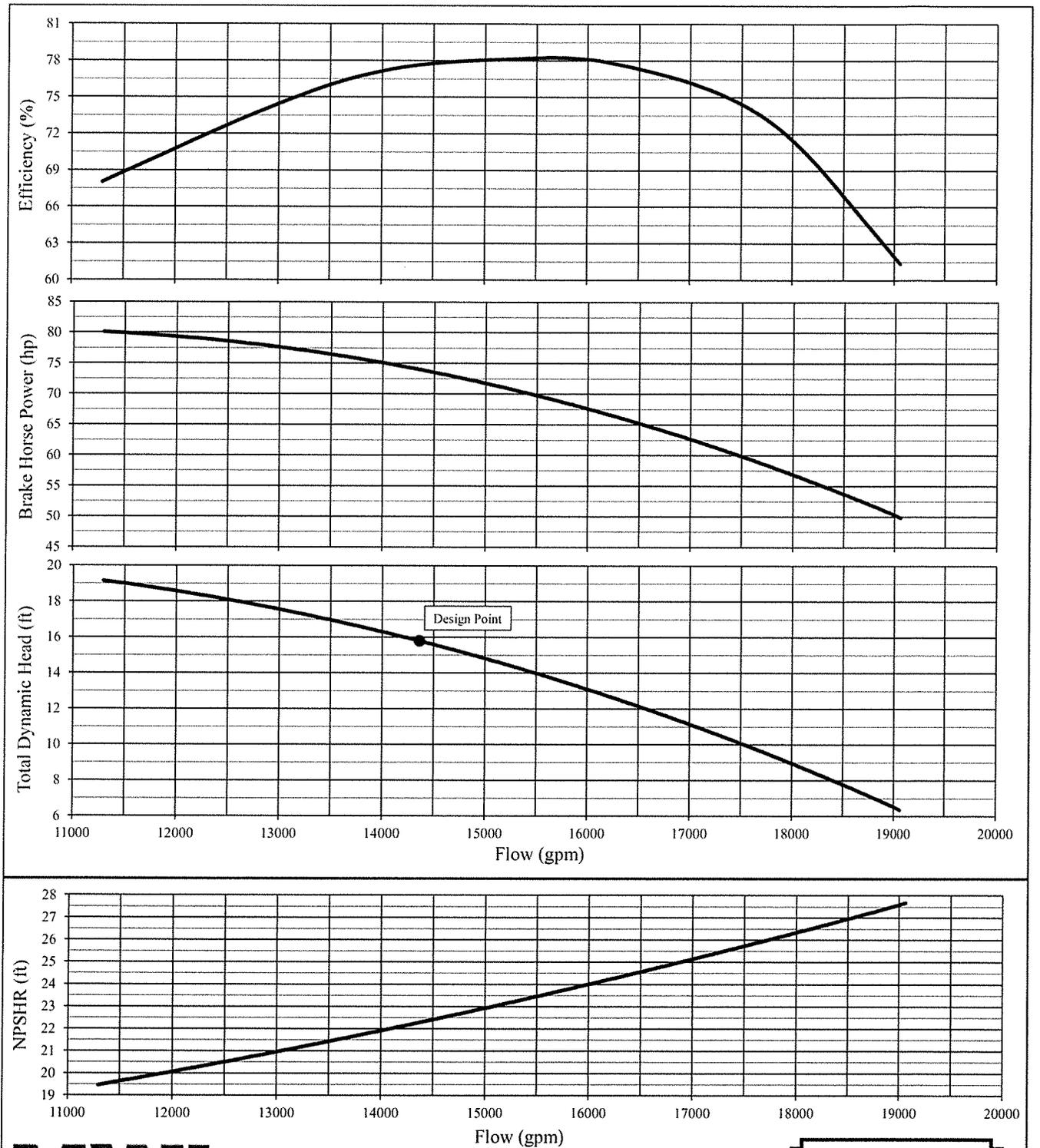


PUMP BOWL PERFORMANCE CURVE	
Project: Pontiff Playground Pump Station Mag #7	
TYPE: Axial Flow	PROPELLER DIA: 24 in
MODEL NO: HAC324	SPEED: 630 RPM
INTAKE DIA: 36 in	DISCHARGE DIA:
SINGLE STAGE PERFORMANCE FOR TWO STAGES MULTIPLY HEAD AND HORSEPOWER BY 2.0 AND EFFICIENCY BY 1.0 PERFORMANCE IS BASED ON PUMPING CLEAR, NON-AERATED WATER, WITH A SPECIFIC GRAVITY OF 1.0, TEMPERATURE 85 DEG F OR LESS AND AT SEA LEVEL. PUMP PERFORMANCE MAY BE AFFECTED BY HIGHER TEMPERATURES, SPECIFIC GRAVITY, ALTITUDES AND SUMP CONDITIONS.	

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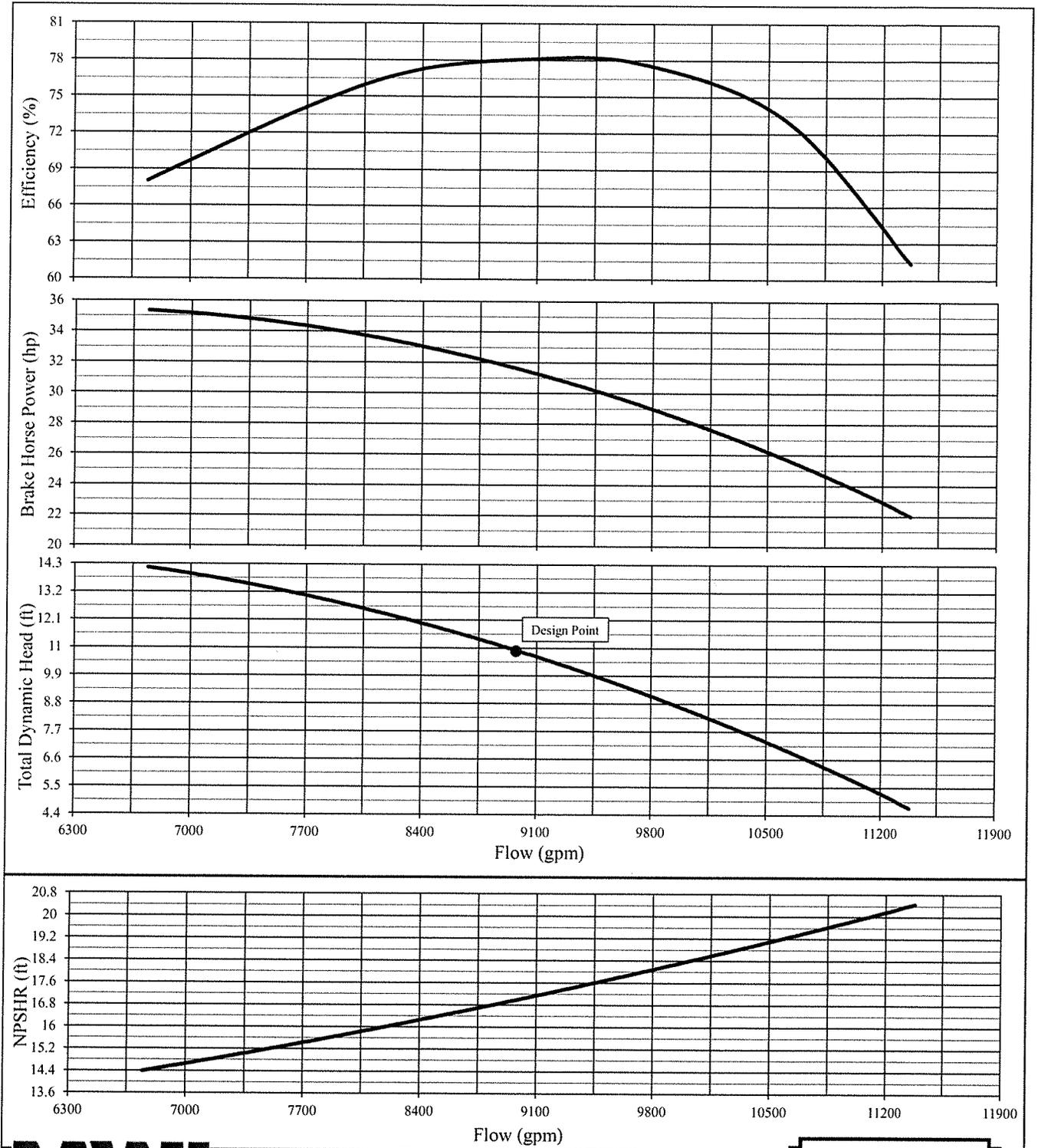


PUMP BOWL PERFORMANCE CURVE	
Project: Pontiff Playground Pump Station Mag #7	
TYPE: Axial Flow	PROPELLER DIA: 24 in
MODEL NO: HAC324	SPEED: 630 RPM
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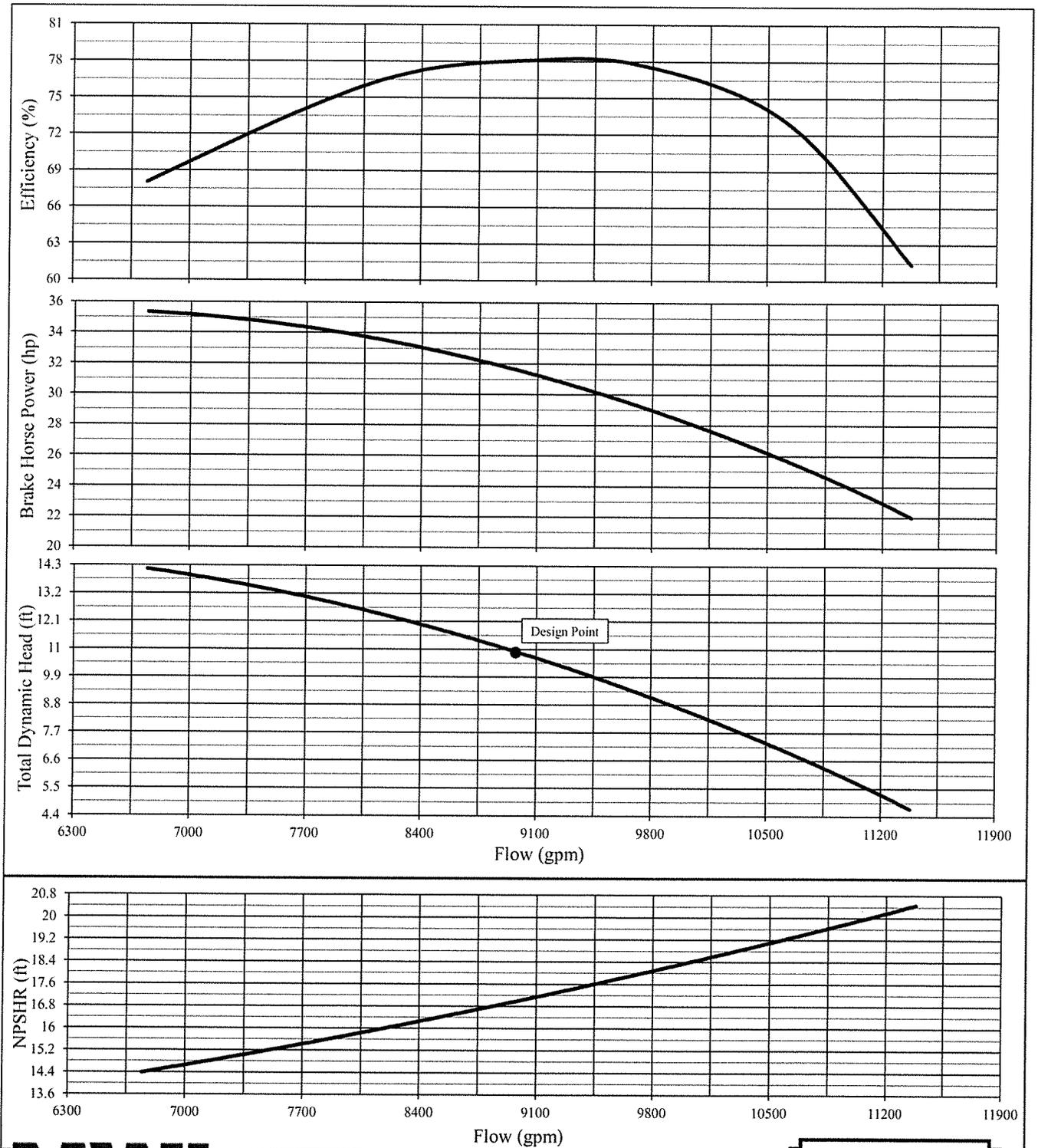


PUMP BOWL PERFORMANCE CURVE	
Project: Pontiff Playground Pump Station Northline #3	
TYPE: Axial Flow	PROPELLER DIA: 20 in
MODEL NO: HAC320	SPEED: 650 RPM
INTAKE DIA: 30 in	DISCHARGE DIA:
SINGLE STAGE PERFORMANCE	
FOR TWO STAGES MULTIPLY HEAD AND HORSEPOWER BY 2.0 AND EFFICIENCY BY 1.0	
PERFORMANCE IS BASED ON PUMPING CLEAR, NON-AERATED WATER, WITH A SPECIFIC GRAVITY OF 1.0, TEMPERATURE 85 DEG F OR LESS AND AT SEA LEVEL. PUMP PERFORMANCE MAY BE AFFECTED BY HIGHER TEMPERATURES, SPECIFIC GRAVITY, ALTITUDES AND SUMP CONDITIONS.	

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PUMP BOWL PERFORMANCE CURVE

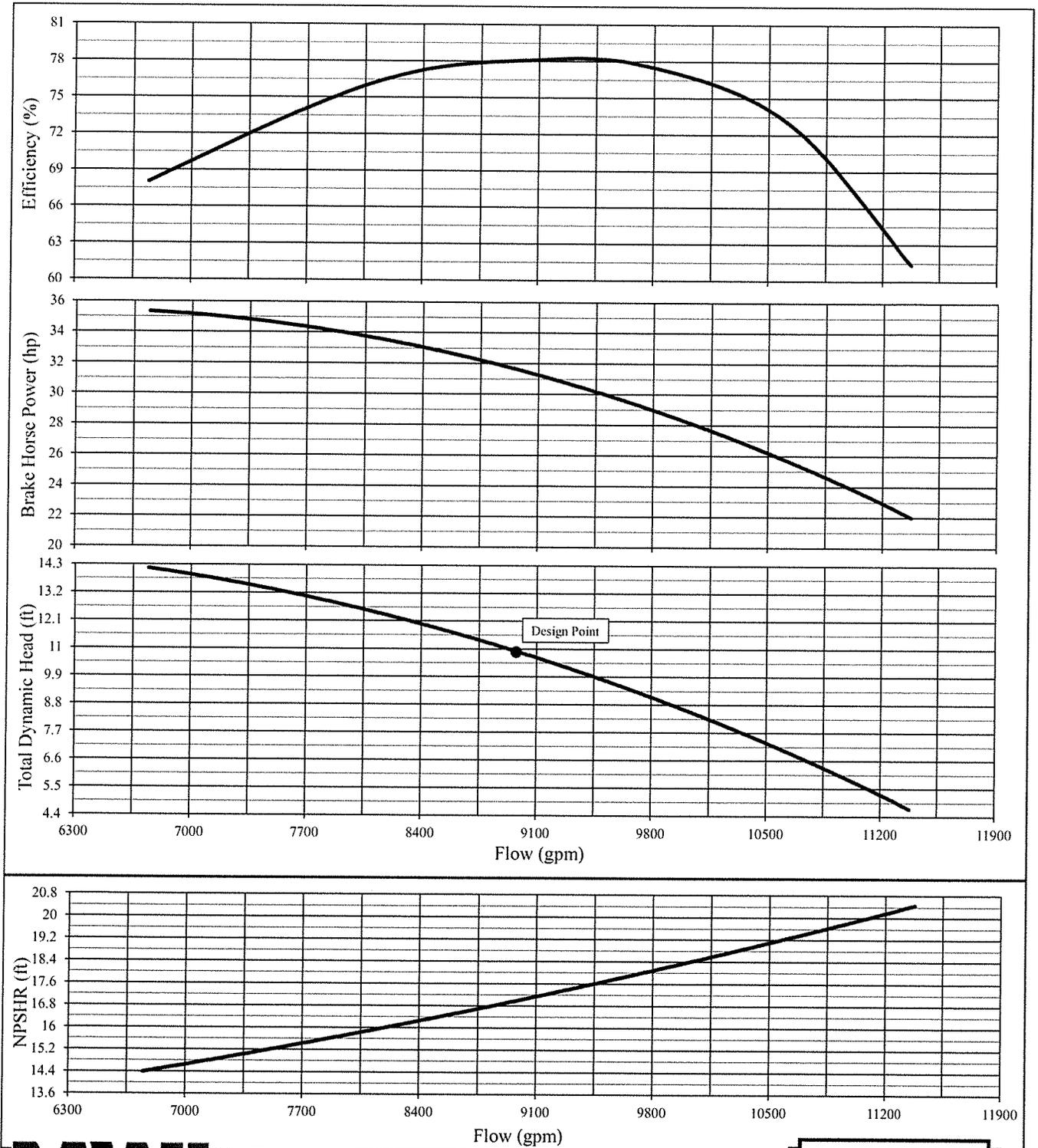
Project: Pontiff Playground Pump Station Northline #3

TYPE: Axial Flow	PROPELLER DIA: 20 in
MODEL NO: HAC320	SPEED: 650 RPM
INTAKE DIA: 30 in	DISCHARGE DIA:

SINGLE STAGE PERFORMANCE
 FOR TWO STAGES MULTIPLY HEAD AND HORSEPOWER BY 2.0 AND EFFICIENCY BY 1.0
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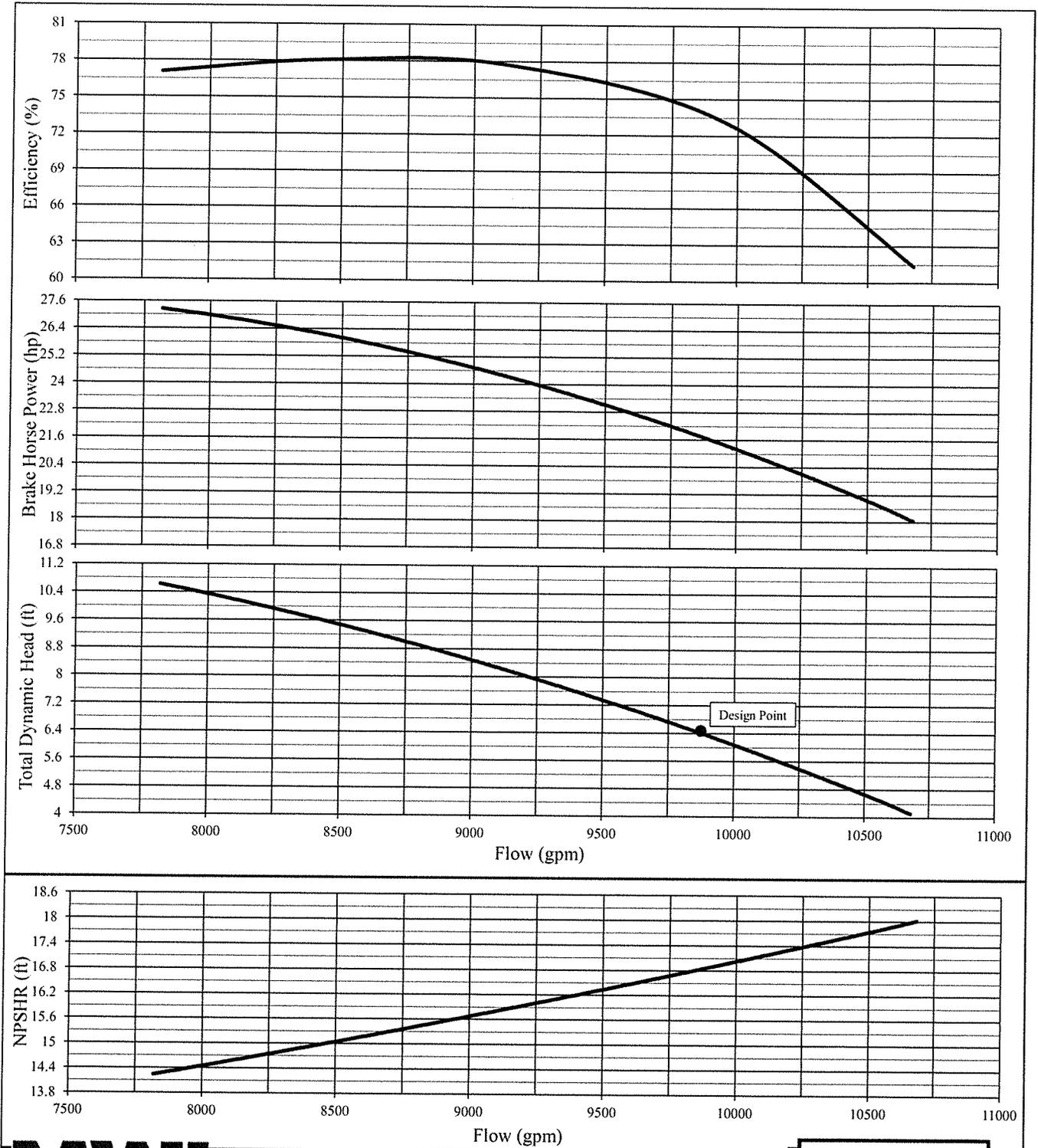


PUMP BOWL PERFORMANCE CURVE	
Project: Pontiff Playground Pump Station Northline #3	
TYPE: Axial Flow	PROPELLER DIA: 20 in
MODEL NO: HAC320	SPEED: 650 RPM
INTAKE DIA: 30 in	DISCHARGE DIA:
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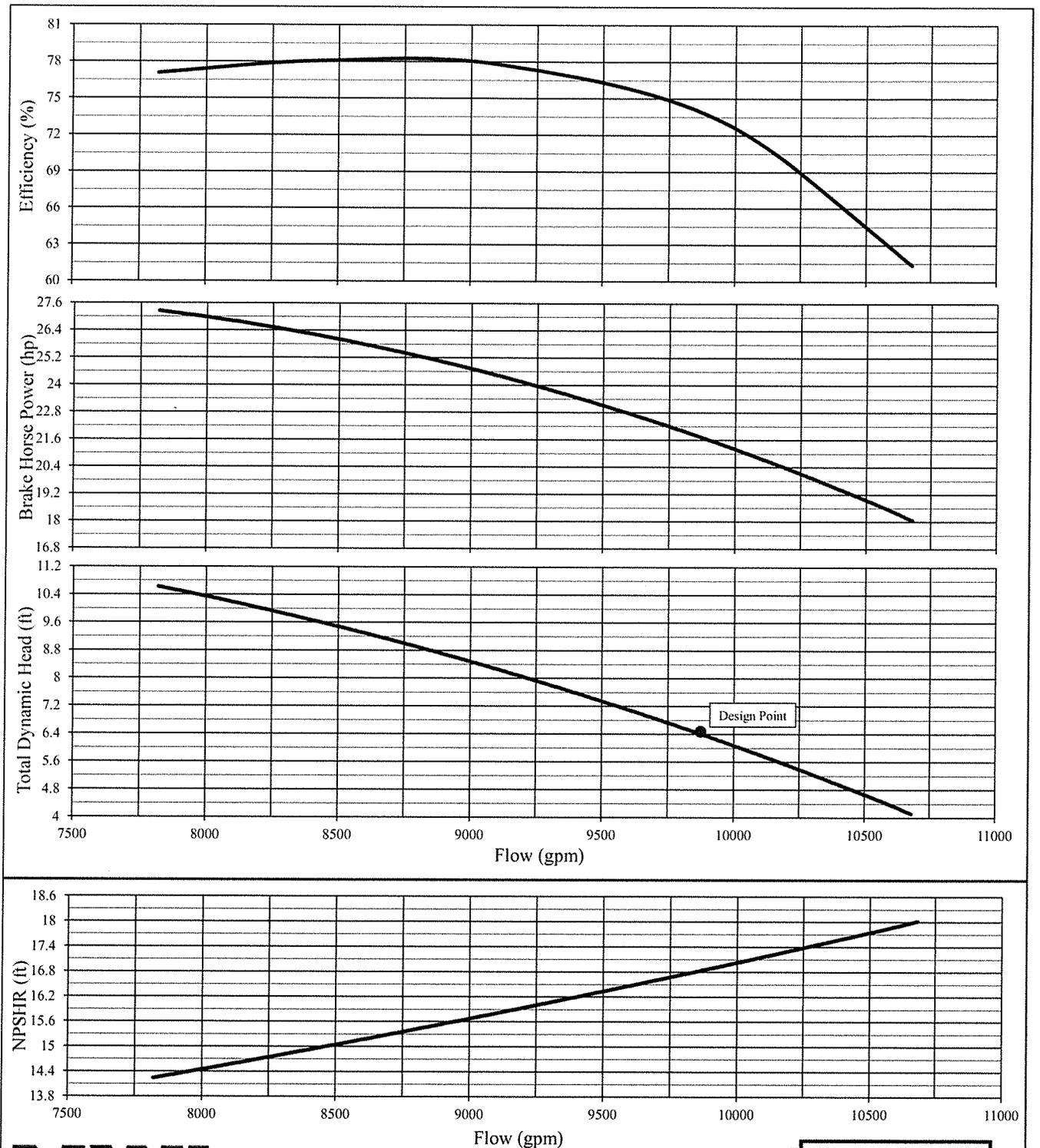


PUMP BOWL PERFORMANCE CURVE	
Project: Pontiff Playground Pump Station Nassau #6	
TYPE: Axial Flow	PROPELLER DIA: 20 in
MODEL NO: HAC320	SPEED: 610 RPM
INTAKE DIA: 30 in	DISCHARGE DIA:
SINGLE STAGE PERFORMANCE FOR TWO STAGES MULTIPLY HEAD AND HORSEPOWER BY 2.0 AND EFFICIENCY BY 1.0 PERFORMANCE IS BASED ON PUMPING CLEAR, NON-AERATED WATER, WITH A SPECIFIC GRAVITY OF 1.0, TEMPERATURE 85 DEG F OR LESS AND AT SEA LEVEL. PUMP PERFORMANCE MAY BE AFFECTED BY HIGHER TEMPERATURES, SPECIFIC GRAVITY, ALTITUDES AND SUMP CONDITIONS.	

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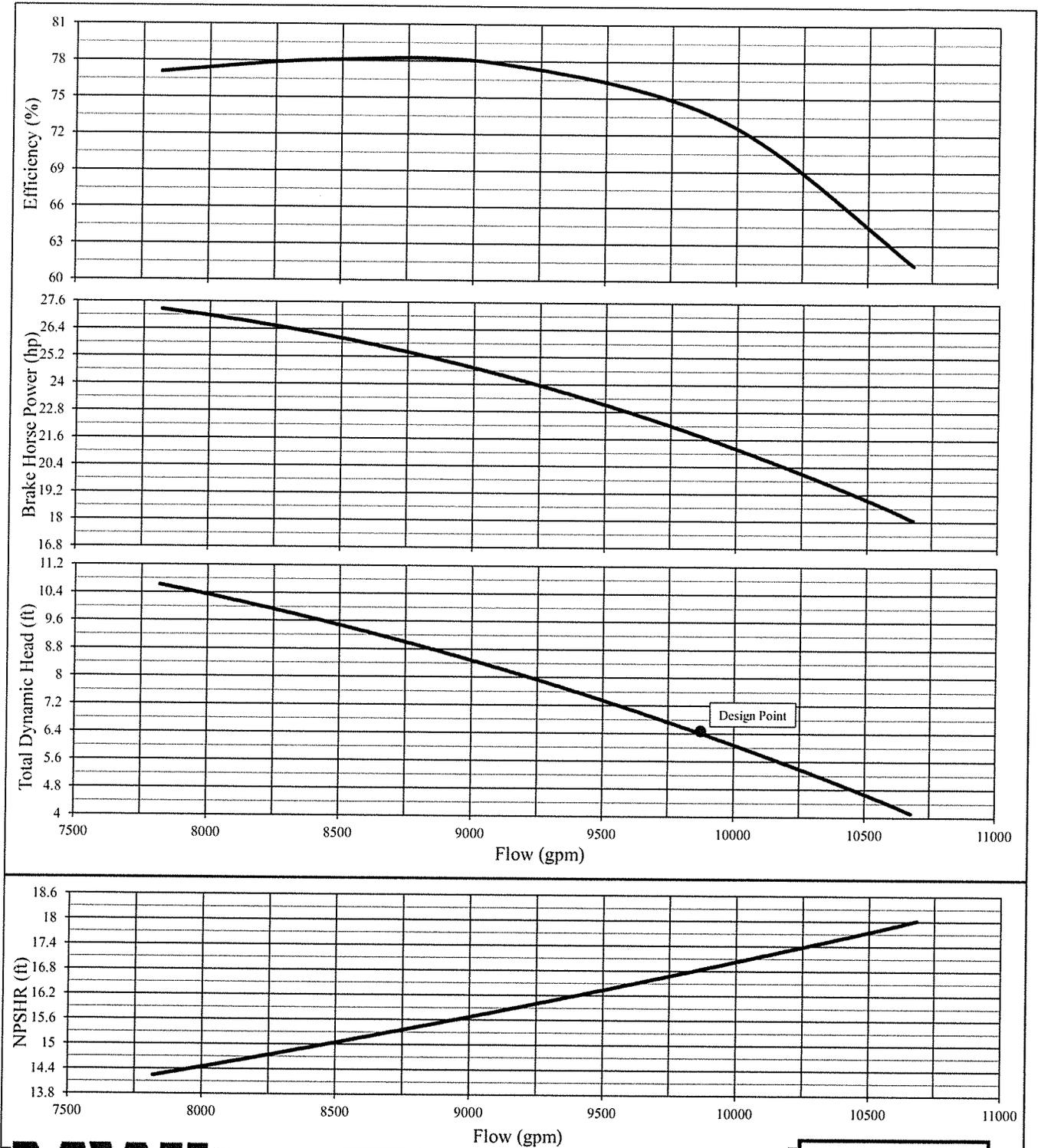


PUMP BOWL PERFORMANCE CURVE	
Project: Pontiff Playground Pump Station Nassau #6	
TYPE: Axial Flow	PROPELLER DIA: 20 in
MODEL NO: HAC320	SPEED: 610 RPM
INTAKE DIA: 30 in	DISCHARGE DIA:
SINGLE STAGE PERFORMANCE FOR TWO STAGES MULTIPLY HEAD AND HORSEPOWER BY 2.0 AND EFFICIENCY BY 1.0 PERFORMANCE IS BASED ON PUMPING CLEAR, NON-AERATED WATER, WITH A SPECIFIC GRAVITY OF 1.0, TEMPERATURE 85 DEG F OR LESS AND AT SEA LEVEL. PUMP PERFORMANCE MAY BE AFFECTED BY HIGHER TEMPERATURES, SPECIFIC GRAVITY, ALTITUDES AND SUMP CONDITIONS.	

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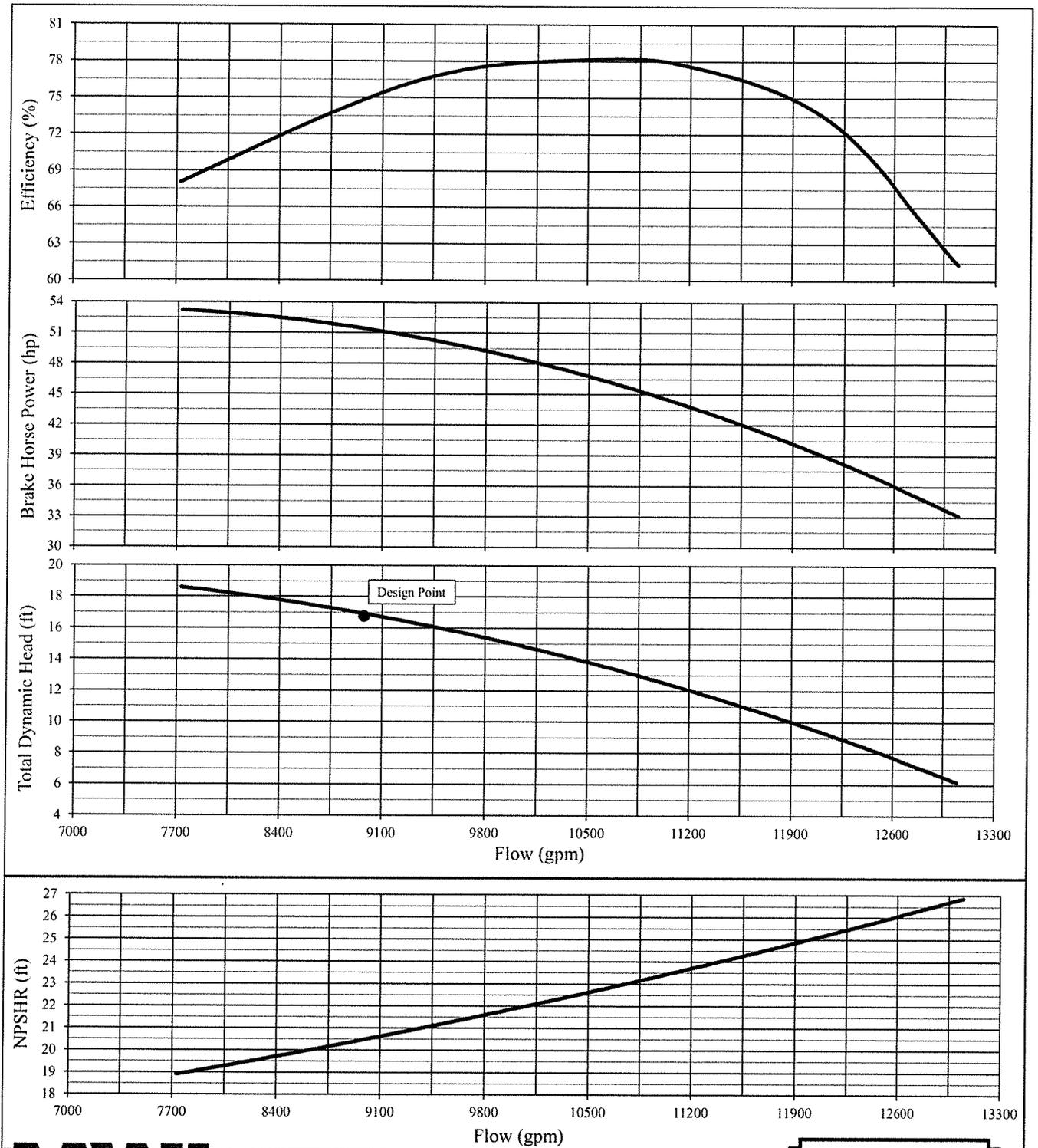


PUMP BOWL PERFORMANCE CURVE	
Project: Pontiff Playground Pump Station Nassau #6	
TYPE: Axial Flow	PROPELLER DIA: 20 in
MODEL NO: HAC320	SPEED: 610 RPM
INTAKE DIA: 30 in	DISCHARGE DIA:
SINGLE STAGE PERFORMANCE FOR TWO STAGES MULTIPLY HEAD AND HORSEPOWER BY 2.0 AND EFFICIENCY BY 1.0 PERFORMANCE IS BASED ON PUMPING CLEAR, NON-AERATED WATER, WITH A SPECIFIC GRAVITY OF 1.0, TEMPERATURE 85 DEG F OR LESS AND AT SEA LEVEL. PUMP PERFORMANCE MAY BE AFFECTED BY HIGHER TEMPERATURES, SPECIFIC GRAVITY, ALTITUDES AND SUMP CONDITIONS.	

IT IS HEREBY CERTIFIED THAT THIS CURVE REPRESENTS THE TRUE PERFORMANCE CHARACTERISTICS OF THE MWI PUMP MODEL SHOWN AND WAS OBTAINED BY SCALE MODEL TEST AND CALCULATIONS IN ACCORDANCE WITH STANDARDS OF THE HYDRAULIC INSTITUTE.

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PUMP BOWL PERFORMANCE CURVE

Project: Pontiff Playground Pump Station SW#1

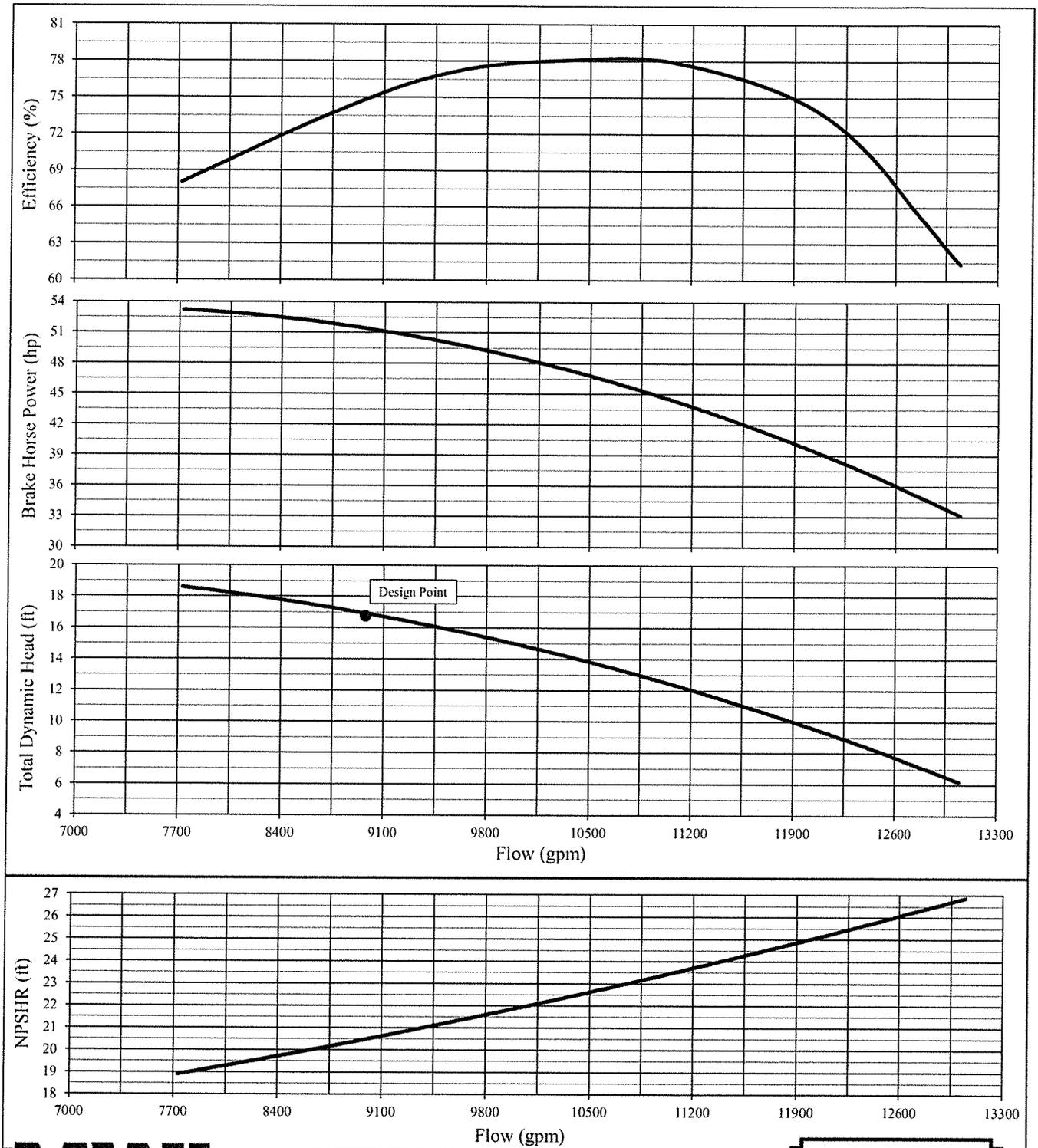
TYPE: Axial Flow	PROPELLER DIA: 20 in
MODEL NO: HAC320	SPEED: 745 RPM
INTAKE DIA: 30 in	DISCHARGE DIA:

SINGLE STAGE PERFORMANCE
 FOR TWO STAGES MULTIPLY HEAD AND HORSEPOWER BY 2.0 AND EFFICIENCY BY 1.0
 PERFORMANCE IS BASED ON PUMPING CLEAR, NON-AERATED WATER, WITH A SPECIFIC
 GRAVITY OF 1.0, TEMPERATURE 85 DEG F OR LESS AND AT SEA LEVEL. PUMP
 PERFORMANCE MAY BE AFFECTED BY HIGHER TEMPERATURES, SPECIFIC GRAVITY,
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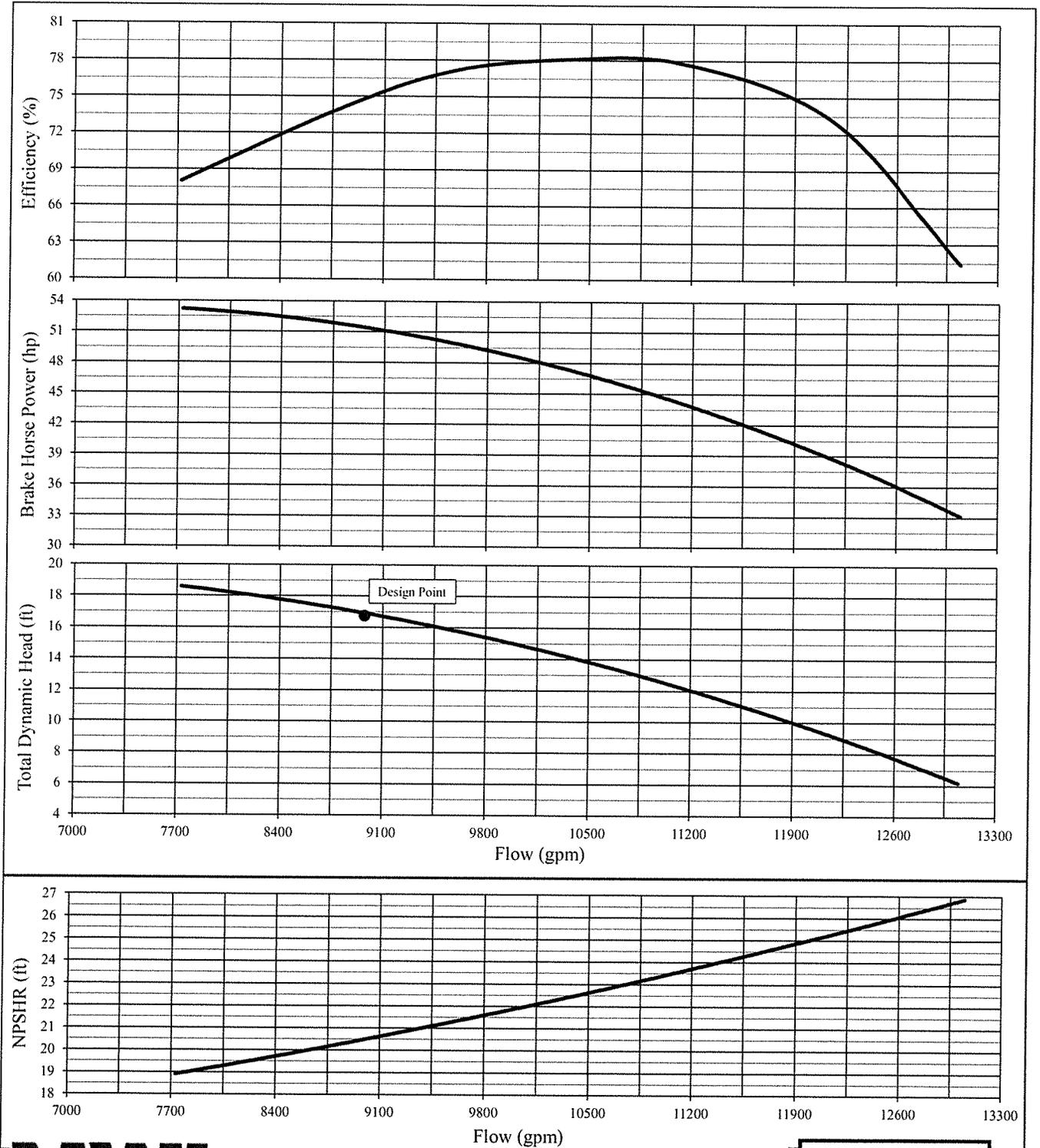


PUMP BOWL PERFORMANCE CURVE	
Project: Pontiff Playground Pump Station SW#1	
TYPE: Axial Flow	PROPELLER DIA: 20 in
MODEL NO: HAC320	SPEED: 745 RPM
INTAKE DIA: 30 in	DISCHARGE DIA:
SINGLE STAGE PERFORMANCE FOR TWO STAGES MULTIPLY HEAD AND HORSEPOWER BY 2.0 AND EFFICIENCY BY 1.0 PERFORMANCE IS BASED ON PUMPING CLEAR, NON-AERATED WATER, WITH A SPECIFIC GRAVITY OF 1.0, TEMPERATURE 85 DEG F OR LESS AND AT SEA LEVEL. PUMP PERFORMANCE MAY BE AFFECTED BY HIGHER TEMPERATURES, SPECIFIC GRAVITY, ALTITUDES AND SUMP CONDITIONS.	

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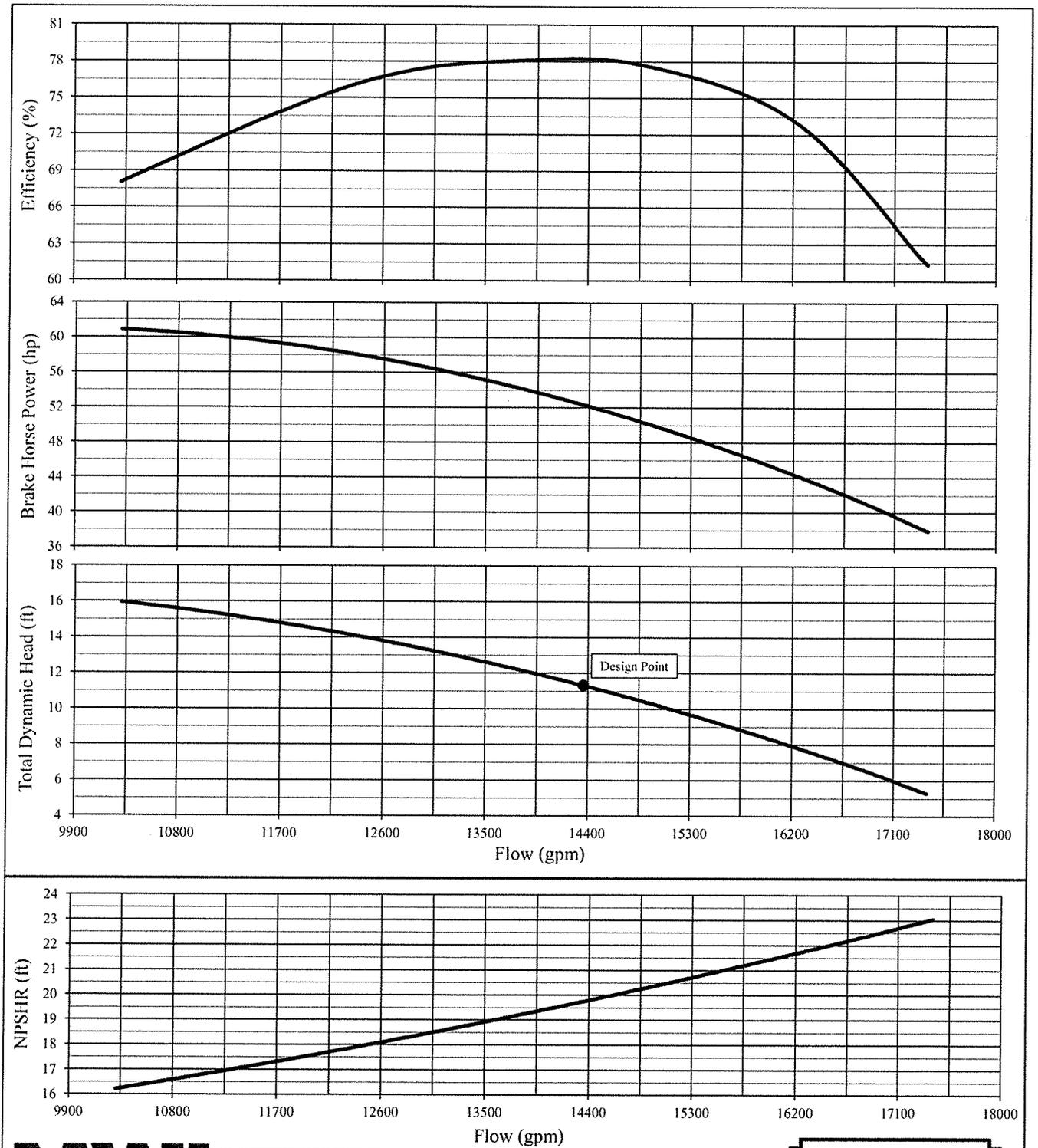


PUMP BOWL PERFORMANCE CURVE	
Project: Pontiff Playground Pump Station SW#1	
TYPE: Axial Flow	PROPELLER DIA: 20 in
MODEL NO: HAC320	SPEED: 745 RPM
INTAKE DIA: 30 in	DISCHARGE DIA:
SINGLE STAGE PERFORMANCE FOR TWO STAGES MULTIPLY HEAD AND HORSEPOWER BY 2.0 AND EFFICIENCY BY 1.0 PERFORMANCE IS BASED ON PUMPING CLEAR, NON-AERATED WATER, WITH A SPECIFIC GRAVITY OF 1.0, TEMPERATURE 85 DEG F OR LESS AND AT SEA LEVEL. PUMP PERFORMANCE MAY BE AFFECTED BY HIGHER TEMPERATURES, SPECIFIC GRAVITY, ALTITUDES AND SUMP CONDITIONS.	

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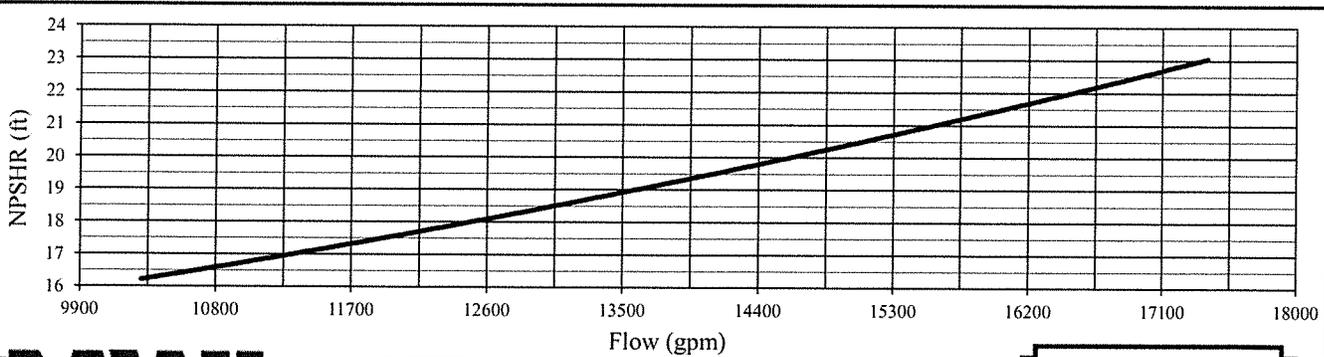
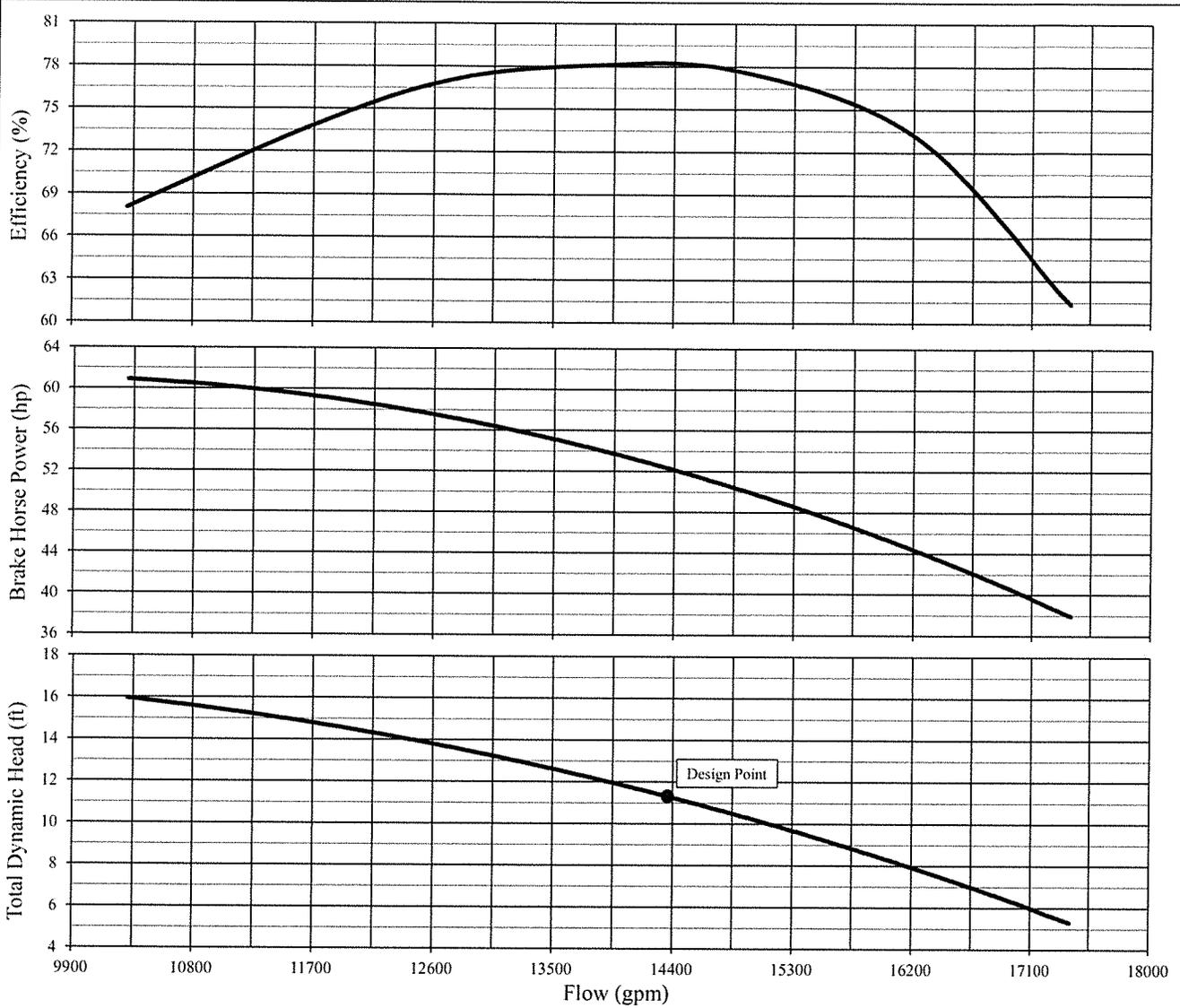


PUMP BOWL PERFORMANCE CURVE	
Project: Pontiff Playground Pump Station Earhart #8	
TYPE: Axial Flow	PROPELLER DIA: 24 in
MODEL NO: HAC324	SPEED: 575 RPM
INTAKE DIA: 36 in	DISCHARGE DIA:
SINGLE STAGE PERFORMANCE FOR TWO STAGES MULTIPLY HEAD AND HORSEPOWER BY 2.0 AND EFFICIENCY BY 1.0 PERFORMANCE IS BASED ON PUMPING CLEAR, NON-AERATED WATER, WITH A SPECIFIC GRAVITY OF 1.0, TEMPERATURE 85 DEG F OR LESS AND AT SEA LEVEL. PUMP PERFORMANCE MAY BE AFFECTED BY HIGHER TEMPERATURES, SPECIFIC GRAVITY, ALTITUDES AND SUMP CONDITIONS.	

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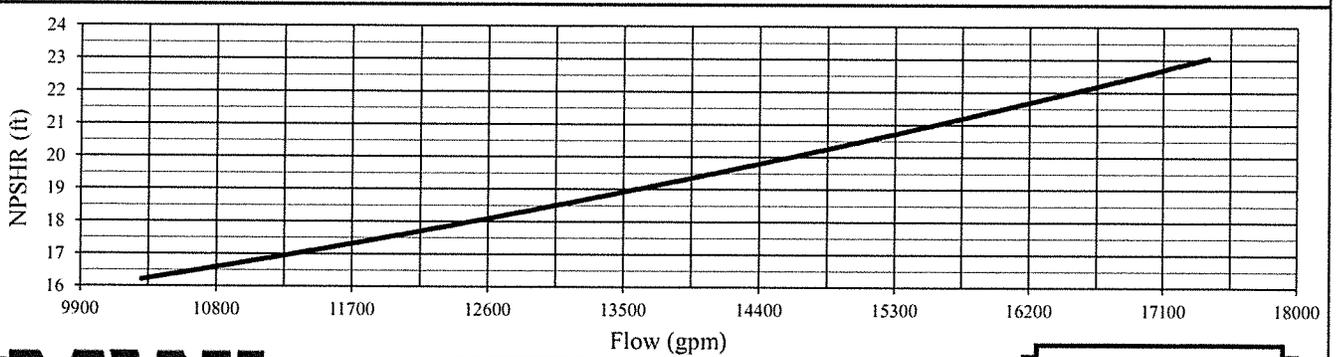
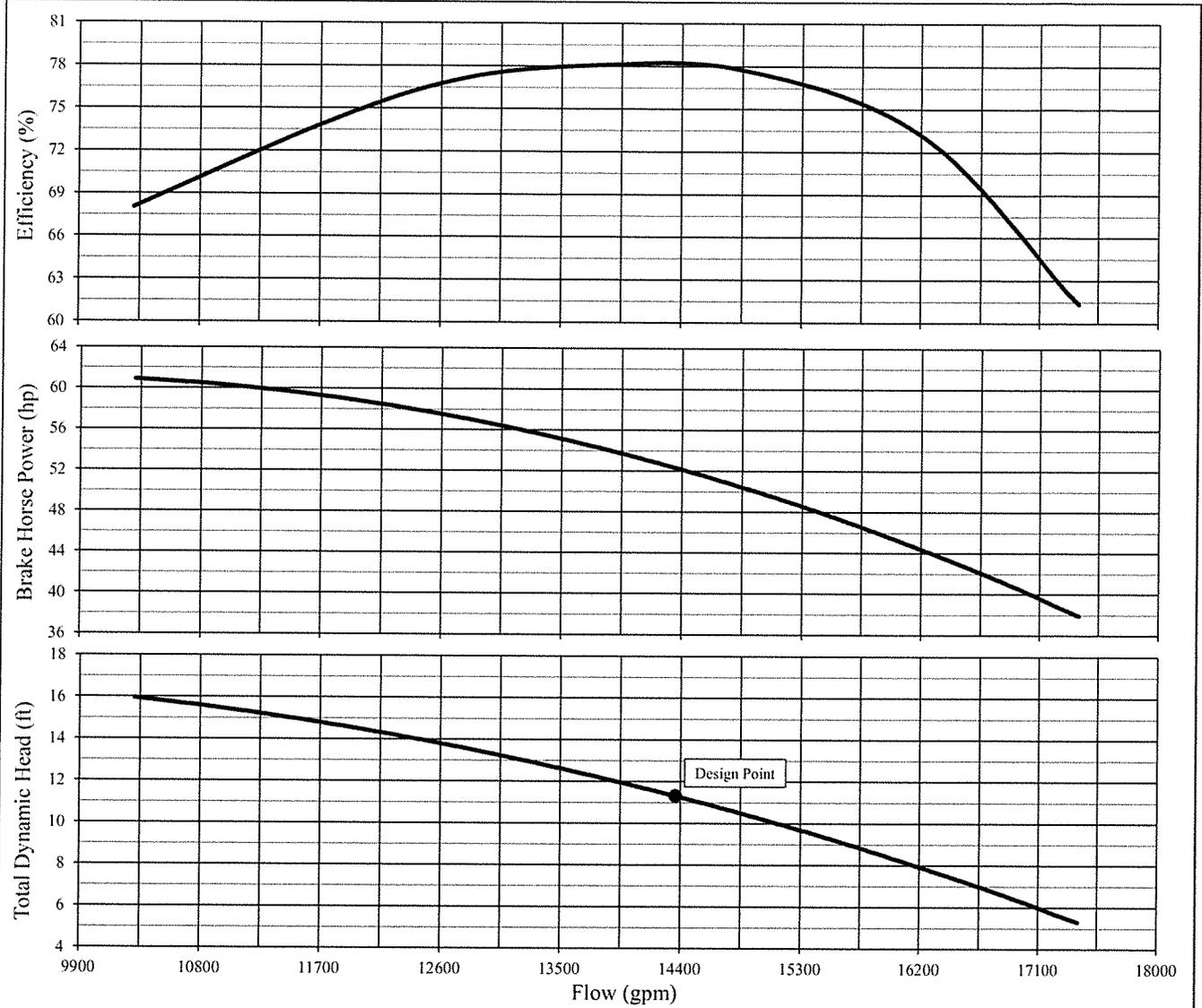


PUMP BOWL PERFORMANCE CURVE	
Project: Pontiff Playground Pump Station Earhart #8	
TYPE: Axial Flow	PROPELLER DIA: 24 in
MODEL NO: HAC324	SPEED: 575 RPM
INTAKE DIA: 36 in	DISCHARGE DIA:
SINGLE STAGE PERFORMANCE FOR TWO STAGES MULTIPLY HEAD AND HORSEPOWER BY 2.0 AND EFFICIENCY BY 1.0 PERFORMANCE IS BASED ON PUMPING CLEAR, NON-AERATED WATER, WITH A SPECIFIC GRAVITY OF 1.0, TEMPERATURE 55 DEG F OR LESS AND AT SEA LEVEL. PUMP PERFORMANCE MAY BE AFFECTED BY HIGHER TEMPERATURES, SPECIFIC GRAVITY, ALTITUDES AND SUMP CONDITIONS.	

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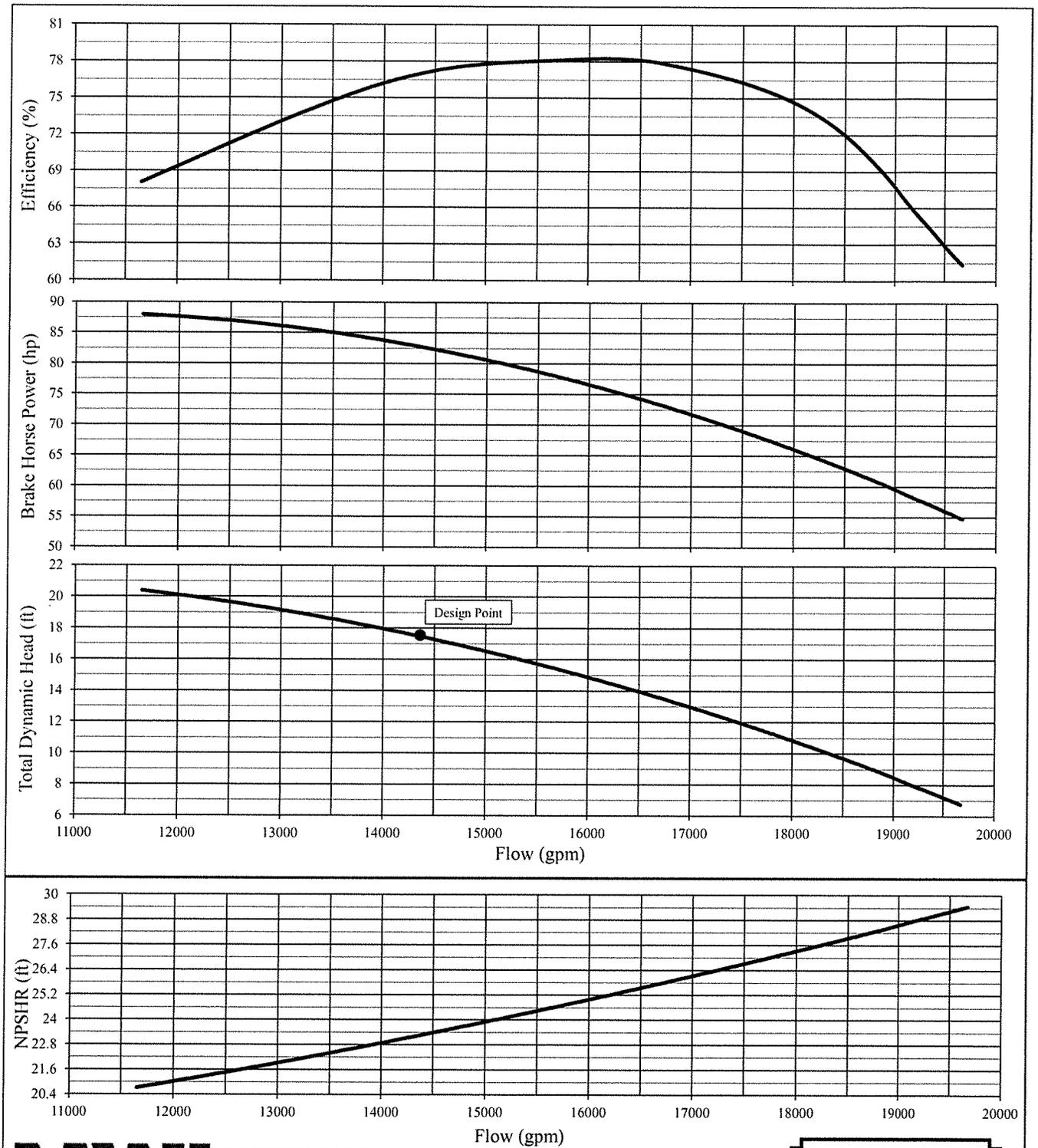


PUMP BOWL PERFORMANCE CURVE	
Project: Pontiff Playground Pump Station Earhart #8	
TYPE: Axial Flow	PROPELLER DIA: 24 in
MODEL NO: HAC324	SPEED: 575 RPM
INTAKE DIA: 36 in	DISCHARGE DIA:
SINGLE STAGE PERFORMANCE FOR TWO STAGES MULTIPLY HEAD AND HORSEPOWER BY 2.0 AND EFFICIENCY BY 1.0 PERFORMANCE IS BASED ON PUMPING CLEAR, NON-AERATED WATER, WITH A SPECIFIC GRAVITY OF 1.0, TEMPERATURE 85 DEG F OR LESS AND AT SEA LEVEL. PUMP PERFORMANCE MAY BE AFFECTED BY HIGHER TEMPERATURES, SPECIFIC GRAVITY, ALTITUDES AND SUMP CONDITIONS.	

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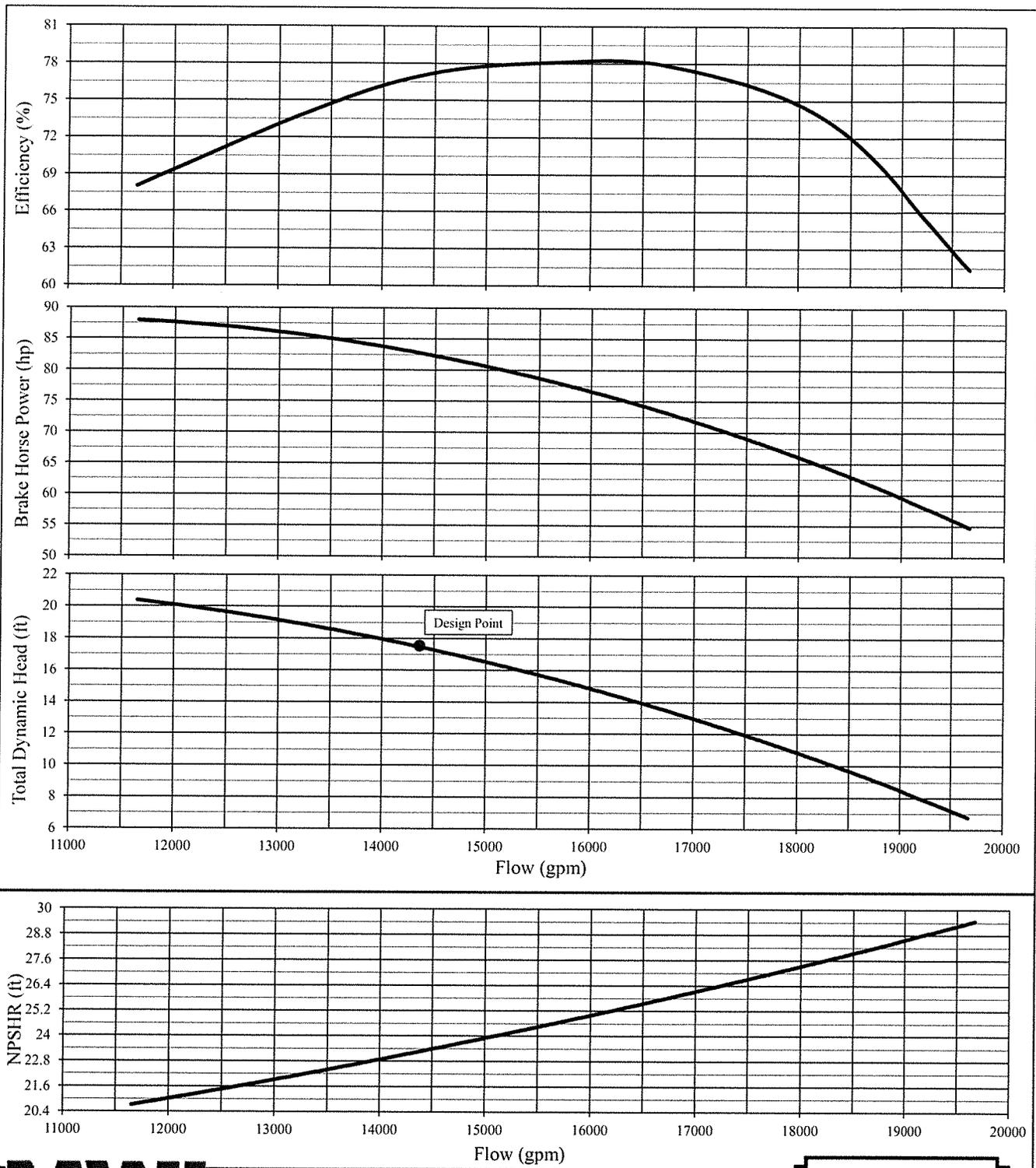


PUMP BOWL PERFORMANCE CURVE	
Project: Pontiff Playground Pump Station NW #2	
TYPE: Axial Flow	PROPELLER DIA: 24 in
MODEL NO: HAC324	SPEED: 650 RPM
INTAKE DIA: 36 in	DISCHARGE DIA:
SINGLE STAGE PERFORMANCE FOR TWO STAGES MULTIPLY HEAD AND HORSEPOWER BY 2.0 AND EFFICIENCY BY 1.0 PERFORMANCE IS BASED ON PUMPING CLEAR, NON-AERATED WATER, WITH A SPECIFIC GRAVITY OF 1.0, TEMPERATURE 85 DEG F OR LESS AND AT SEA LEVEL. PUMP PERFORMANCE MAY BE AFFECTED BY HIGHER TEMPERATURES, SPECIFIC GRAVITY, ALTITUDES AND SUMP CONDITIONS.	

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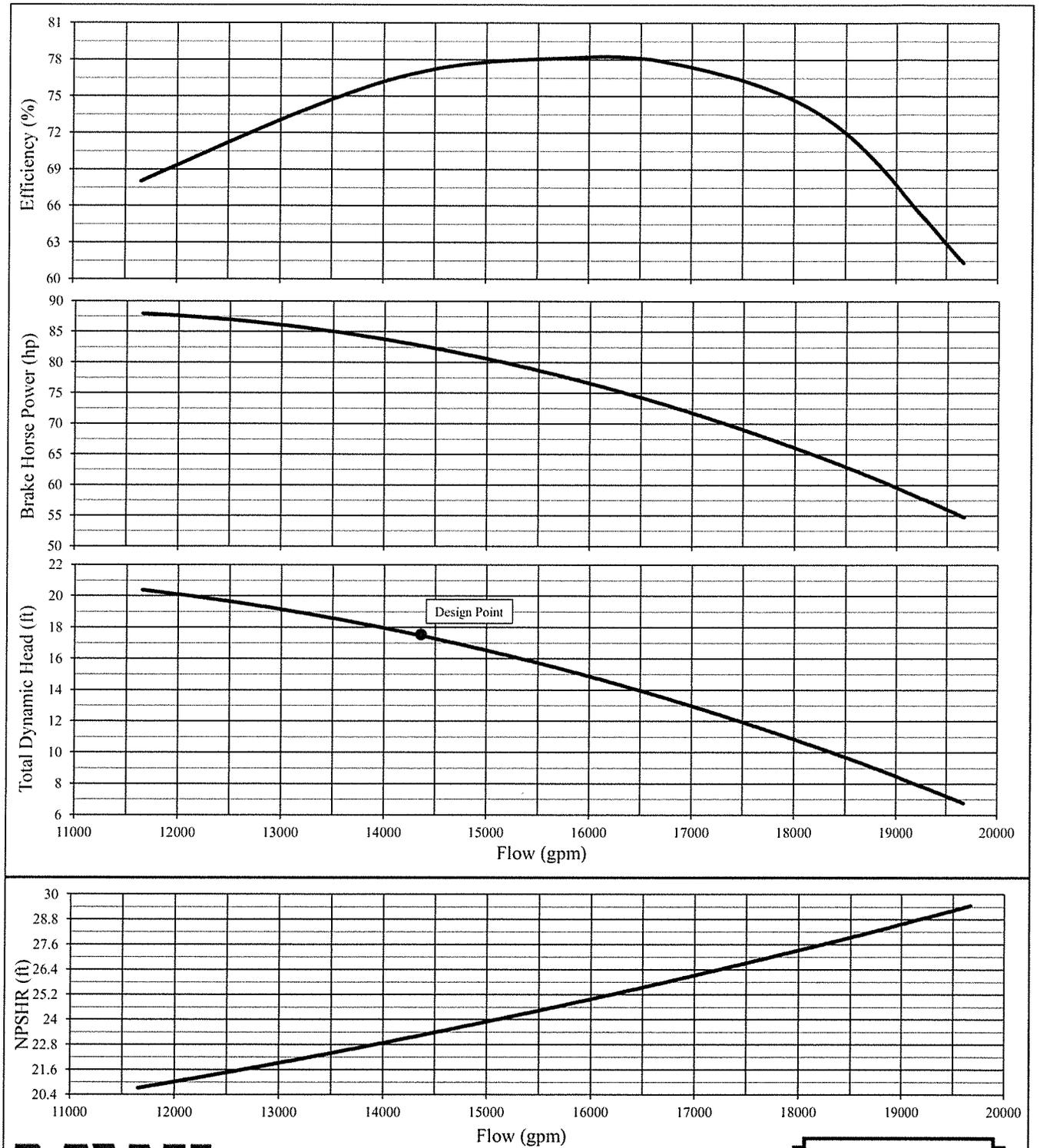


PUMP BOWL PERFORMANCE CURVE	
Project: Pontiff Playground Pump Station NW #2	
TYPE: Axial Flow	PROPELLER DIA: 24 in
MODEL NO: HAC324	SPEED: 650 RPM
INTAKE DIA: 36 in	DISCHARGE DIA:
SINGLE STAGE PERFORMANCE FOR TWO STAGES MULTIPLY HEAD AND HORSEPOWER BY 2.0 AND EFFICIENCY BY 1.0 PERFORMANCE IS BASED ON PUMPING CLEAR, NON-AERATED WATER, WITH A SPECIFIC GRAVITY OF 1.0, TEMPERATURE 85 DEG F OR LESS AND AT SEA LEVEL. PUMP PERFORMANCE MAY BE AFFECTED BY HIGHER TEMPERATURES, SPECIFIC GRAVITY, ALTITUDES AND SUMP CONDITIONS.	

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PUMP BOWL PERFORMANCE CURVE

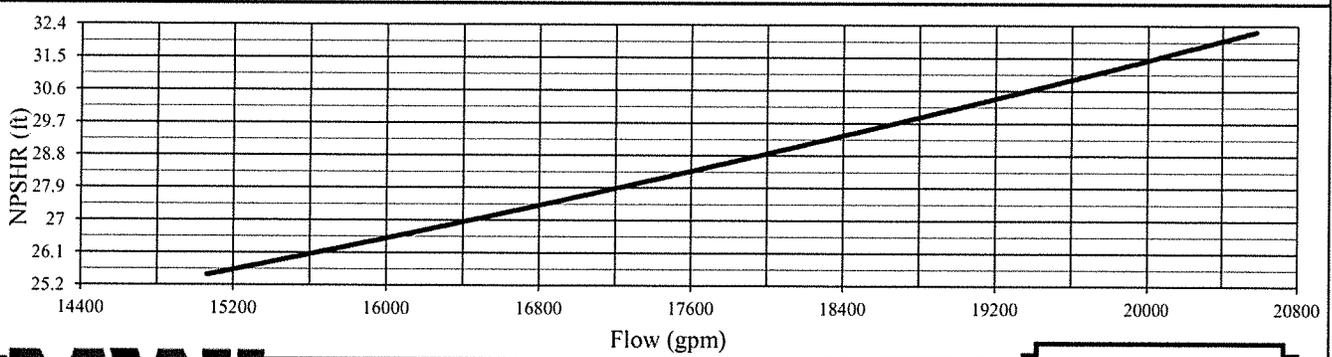
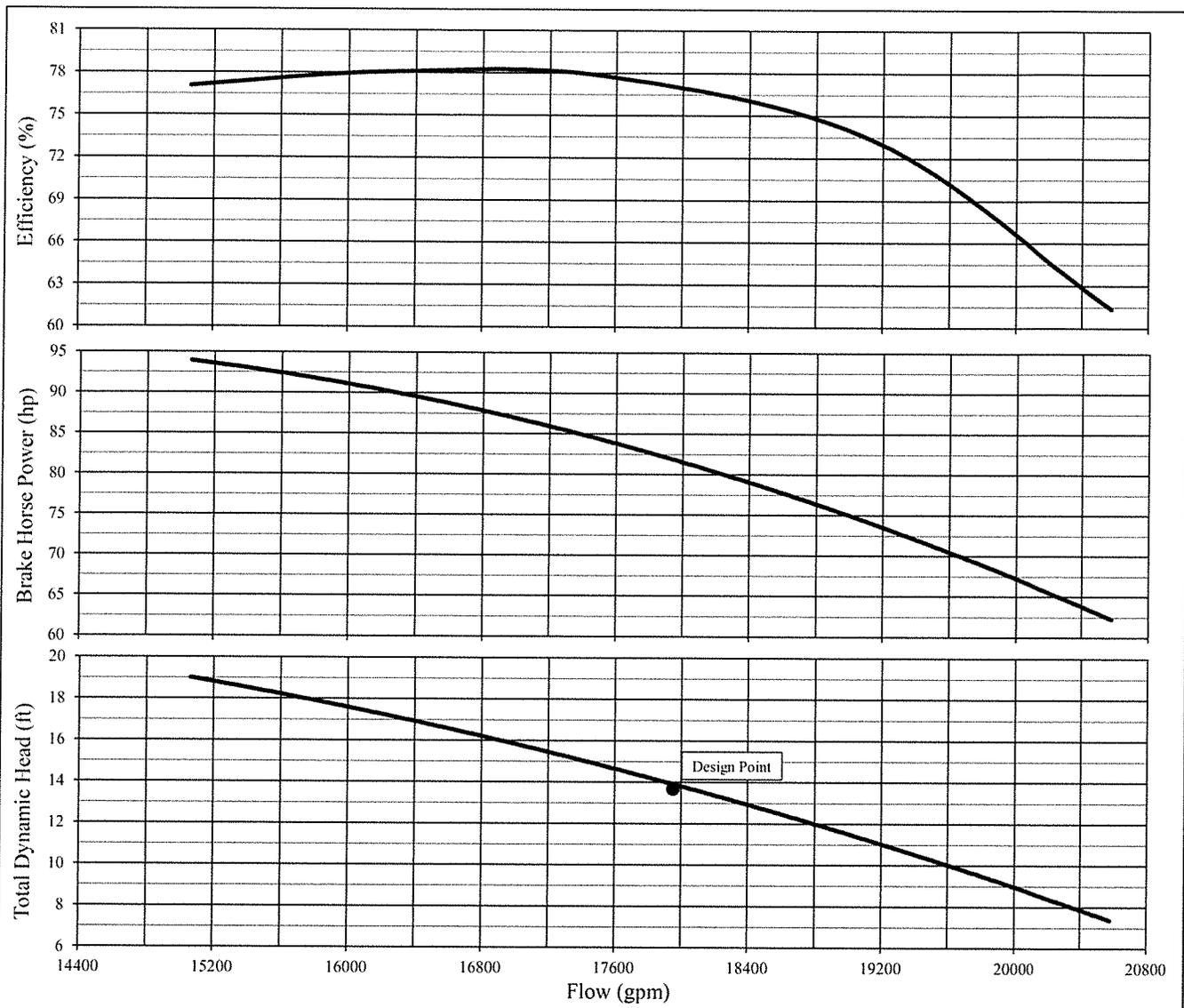
Project: Pontiff Playground Pump Station NW #2

TYPE: Axial Flow	PROPELLER DIA: 24 in
MODEL NO: HAC324	SPEED: 650 RPM
INTAKE DIA: 36 in	DISCHARGE DIA:

SINGLE STAGE PERFORMANCE
 FOR TWO STAGES MULTIPLY HEAD AND HORSEPOWER BY 2.0 AND EFFICIENCY BY 1.0
 PERFORMANCE IS BASED ON PUMPING CLEAR, NON-AERATED WATER, WITH A SPECIFIC GRAVITY OF 1.0, TEMPERATURE 85 DEG F OR LESS AND AT SEA LEVEL. PUMP PERFORMANCE MAY BE AFFECTED BY HIGHER TEMPERATURES, SPECIFIC GRAVITY, ALTITUDES AND SUMP CONDITIONS.

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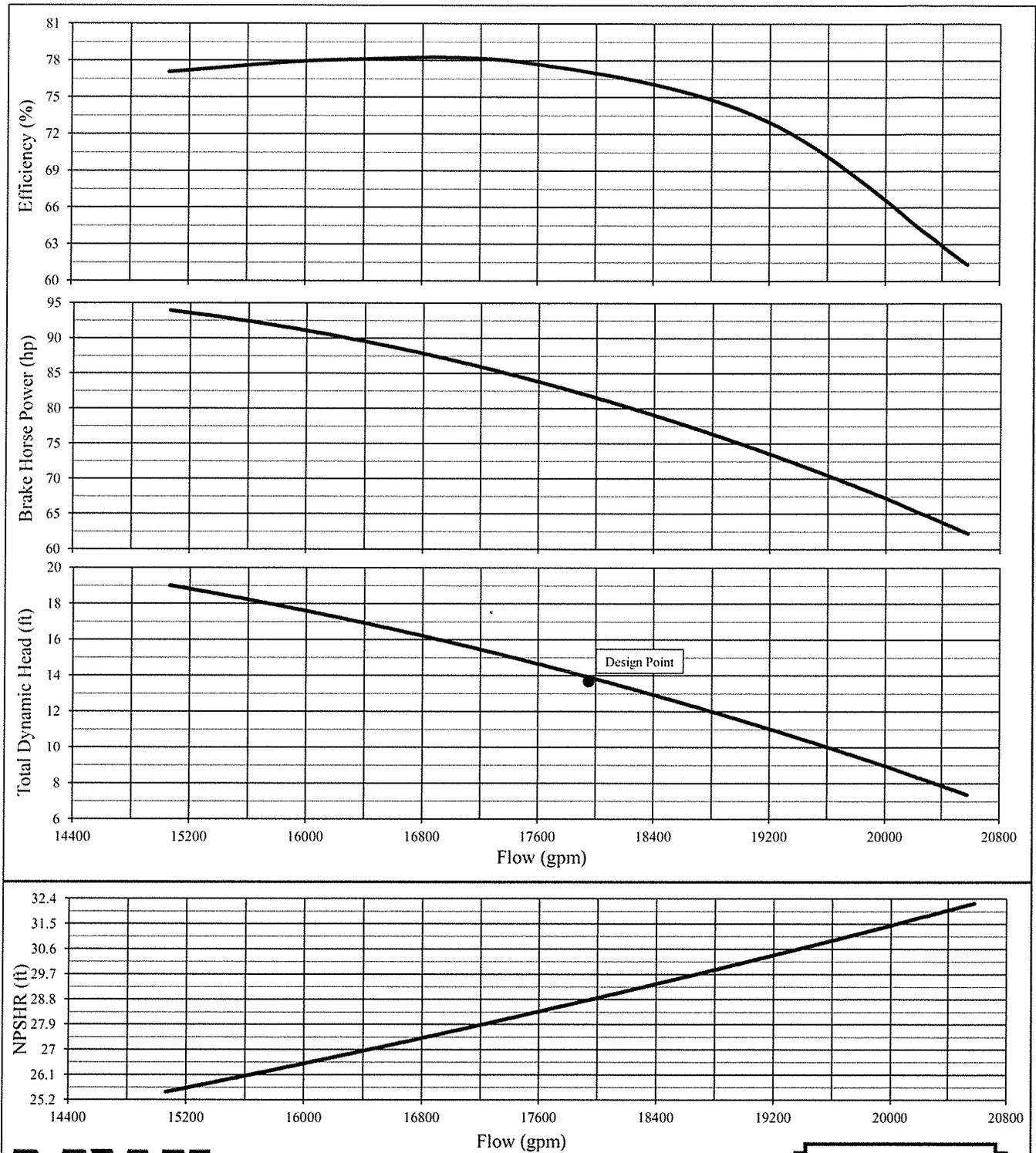


PUMP BOWL PERFORMANCE CURVE	
Project: Pontiff Playground Pump Station NW #13	
TYPE: Axial Flow	PROPELLER DIA: 24 in
MODEL NO: HAC324	SPEED: 680 RPM
INTAKE DIA: 36 in	DISCHARGE DIA:
SINGLE STAGE PERFORMANCE FOR TWO STAGES MULTIPLY HEAD AND HORSEPOWER BY 2.0 AND EFFICIENCY BY 1.0 PERFORMANCE IS BASED ON PUMPING CLEAR, NON-AERATED WATER, WITH A SPECIFIC GRAVITY OF 1.0. TEMPERATURE 85 DEG F OR LESS AND AT SEA LEVEL. PUMP PERFORMANCE MAY BE AFFECTED BY HIGHER TEMPERATURES, SPECIFIC GRAVITY, ALTITUDES AND SUMP CONDITIONS.	

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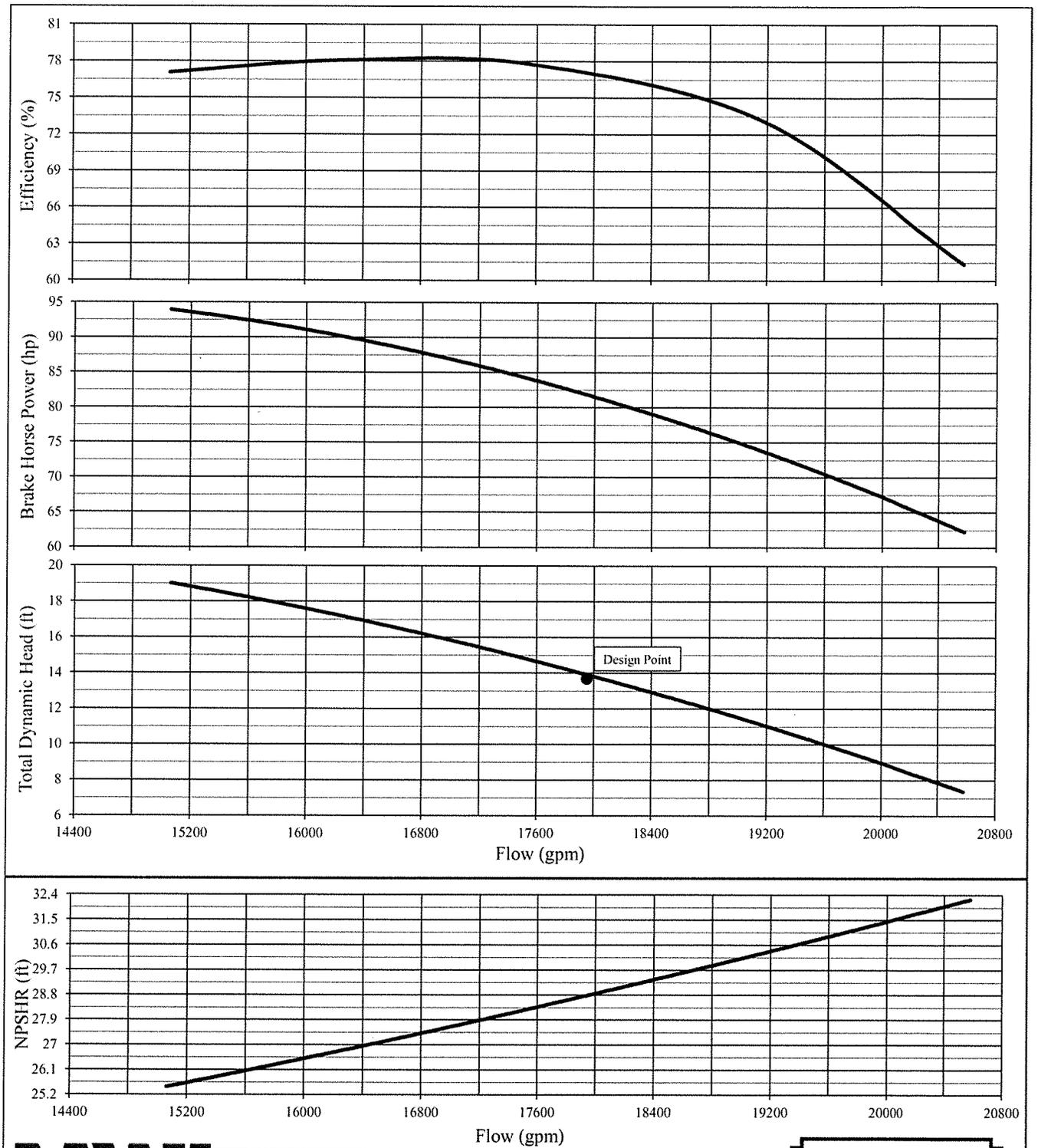


PUMP BOWL PERFORMANCE CURVE	
Project: Pontiff Playground Pump Station NW #13	
TYPE: Axial Flow	PROPELLER DIA: 24 in
MODEL NO: HAC324	SPEED: 680 RPM
INTAKE DIA: 36 in	DISCHARGE DIA:
SINGLE STAGE PERFORMANCE FOR TWO STAGES MULTIPLY HEAD AND HORSEPOWER BY 2.0 AND EFFICIENCY BY 1.0 PERFORMANCE IS BASED ON PUMPING CLEAR, NON-AERATED WATER, WITH A SPECIFIC GRAVITY OF 1.0, TEMPERATURE 85 DEG F OR LESS AND AT SEA LEVEL. PUMP PERFORMANCE MAY BE AFFECTED BY HIGHER TEMPERATURES, SPECIFIC GRAVITY, ALTITUDES AND SUMP CONDITIONS.	

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PUMP BOWL PERFORMANCE CURVE

Project: Pontiff Playground Pump Station NW #13

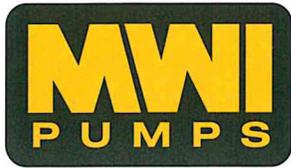
TYPE: Axial Flow	PROPELLER DIA: 24 in
MODEL NO: HAC324	SPEED: 680 RPM
INTAKE DIA: 36 in	DISCHARGE DIA:

SINGLE STAGE PERFORMANCE

FOR TWO STAGES MULTIPLY HEAD AND HORSEPOWER BY 2.0 AND EFFICIENCY BY 1.0
 PERFORMANCE IS BASED ON PUMPING CLEAR, NON-AERATED WATER, WITH A SPECIFIC
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About MWI



Moving Water Industries (MWI) Corporation traces its roots back to 1926, when Hoyt Eller started a business in Deerfield Beach, Florida. The company grew over the years due to its reputation for customer service, quality and innovative designs. David Eller P.E, the current CEO/President, has over 20 US patents for his innovations in pump design. He is joined by his two sons, Dana and Daren and daughter Danielle, all graduate engineers.



MWI's international headquarters and extensive manufacturing capabilities are located in Deerfield Beach, Florida, very close to the original business. The manufacturing facilities are spread over 4 city blocks and total nearly 300,000 ft², to include a 10,000 ft² test lab. The company has a facility in Egypt and representatives throughout the United States, Latin America, Middle East, Africa and Asia.

MWI's pump product line includes: lineshaft, submersible electric, hydraulically driven, centrifugal, self priming, trash, rotary lobe and solar powered borehole pumps.

Today, MWI is focused on:

- Axial and mixed flow pumps for drainage, irrigation, flood control and emergency pumping.
- Pumps for rental companies and contractors for construction dewatering, sewage bypass and industrial applications.
- Renting pumps directly in Central and South Florida and nationwide when very large pumps are required.
- Solar powered pumps with water treatment capabilities for the developing world.



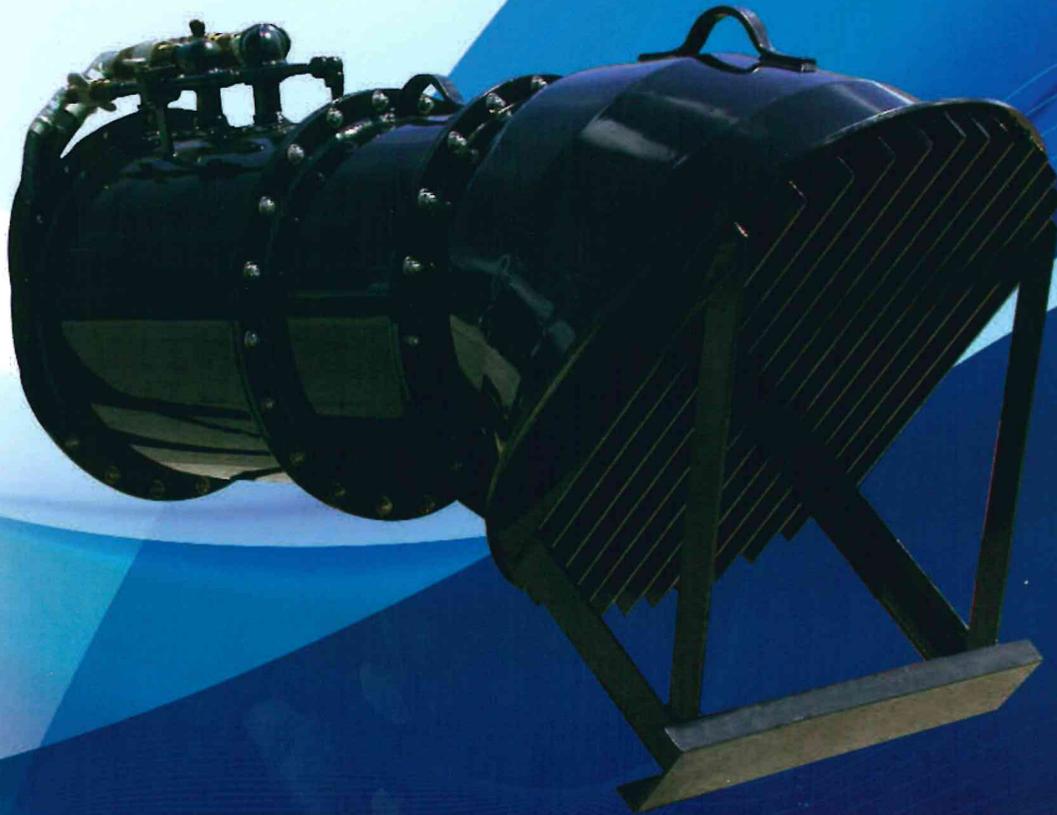
Our philosophy is simple: provide innovative, high-quality pumps at competitive prices and take care of each customer. Let us help you solve your water moving problems with our extensive engineering staff, years of experience and great products.





Hydraulically Driven Pumps

Hydraflo™



...
Moving Water Worldwide - Reliably and Efficiently

Hydraflo Pumps from MWI

The Hydraflo is a patented, submersible pump that uses the power of hydraulics to drive the impeller via flexible hoses. This replaces a fixed motor, a long, rigid shaft and the supporting structure common to most pumps that can move very large quantities of water. The unique design allows the pump to be set up in hours - not months - usually eliminates most of the civil works necessary for installation - saving a lot of money and time, allows the pump to be portable and provides variable speed control.

Advantages ...

Versatility

Hydraflo pumps can be installed at any angle - vertical, horizontal or any angle in between, by simply changing the intake bell.

Fast Installation

Hydraflo pumps can be installed within a fraction of the time of conventional lineshaft pumps. A typical installation can be done in house, because they do not require any critical alignment or the extensive civil works required by other high capacity pumps.

Designed for Longer Life

Hydraflos are designed for a very long life. All components are picked for ruggedness and durability. Many Hydraflos over 25 years old are still in daily use.

Less Submergence Required

Because the standard design of MWI Hydraflo pumps have large intake passages and low speeds, they can be installed and operated continuously at minimal submergence.

Requires Less Maintenance and Costs Less to Operate

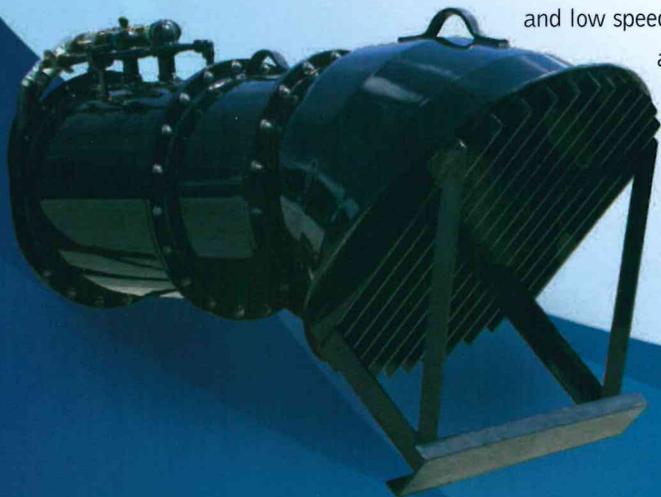
The Hydraflo is a simple, straightforward design that requires very little maintenance. When used in portable mode, pumps more water for less money and has a smaller footprint than the many centrifugal pumps that would be required to take its place. Hydraflo pumps are designed to run dry without damage to their components.

Variable Speed Pumping

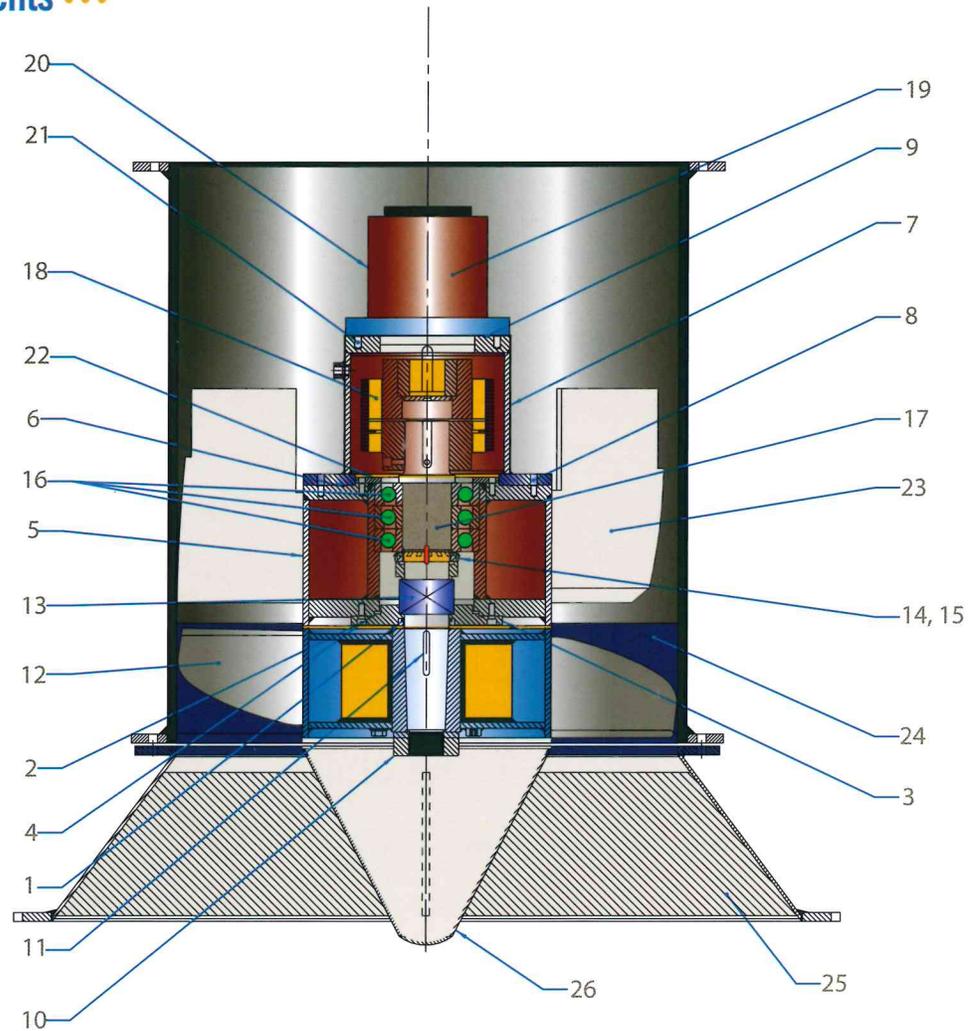
Pump speed can be varied manually by regulating engine speed. An automatic variable speed option is also available.

Environmentally Friendly

We offer several hydraulic fluid options which are readily biodegradable and meet the EPA toxicity limits. Hydraflo hydraulic tanks are small and have an engine shut down switch activated by small amounts of fluid loss.



Internal Components ...



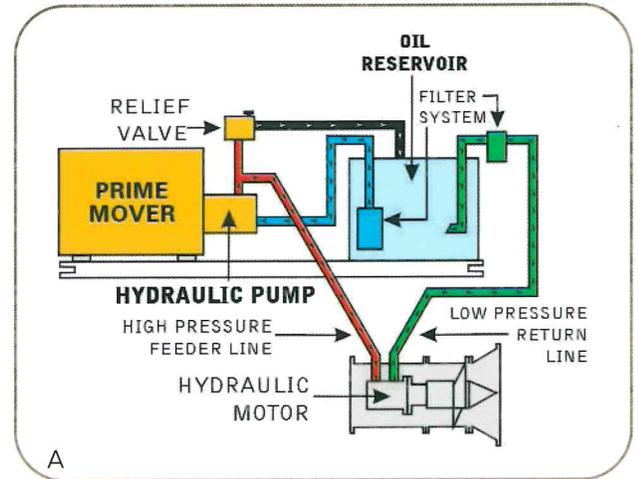
- | | |
|----------------------------------------------------------------|-------------------------------------------------|
| 1 Lip Seal (Synthetic Rubber & Stainless Steel Garter Spring) | 16 Bearings |
| 2 Bolts:Fasten End PI-Bearing Box(Grade 5) | 17 Hydraflo Shaft (304 Stainless Steel) |
| 3 End Plate (ASTM A588, Corten Steel) | 18 Shaft Coupling Assembly (Steel) |
| 4 O-Ring: End Plate / Bearing Box | 19 Hydraulic Motor (Steel Casting) |
| 5 Bearing Box (ASTM A588, Corten Steel) | 20 Mounting Flanges/ Adapters |
| 6 O-Ring: Bearing Box / Motor Mount | 21 Bronze Spacer (Bronze 660) |
| 7 Motor Mount (ASTM A242 Corten Steel) | 22 Bolts -Hydraulic Motor To Mount (Grade 5) |
| 8 Bolts:Motor Mount-Bear'g Box (Grade 5) | 23 Bearing Retainer (ASTM A242, Corten Steel) |
| 9 O-Ring: Motor Mount / Hydraulic Motor | 24 Distributor Blades (ASTM A242, Corten Steel) |
| 10 Propeller Nut (AISI 1026 Steel) | 25 Wear Ring/Liner (304 Stainless Steel) |
| 11 Propeller Key (AISI 1018 Steel) | 26 Guide Blades |
| 12 Propeller(S/ S Blades,A588 Corten Steel) | 27 Guide Hub |
| 13 Mechanical Seal Assembly (Ceramic & Stainless Steel Spring) | |
| 14 Bearing Lock-Nut (ANSI C1015 Steel) | |
| 15 Bearing Lock-Washer (ANSI C1015 Steel) | |

Due to our continual improvement of our products, we reserve the right to change designs and specifications.

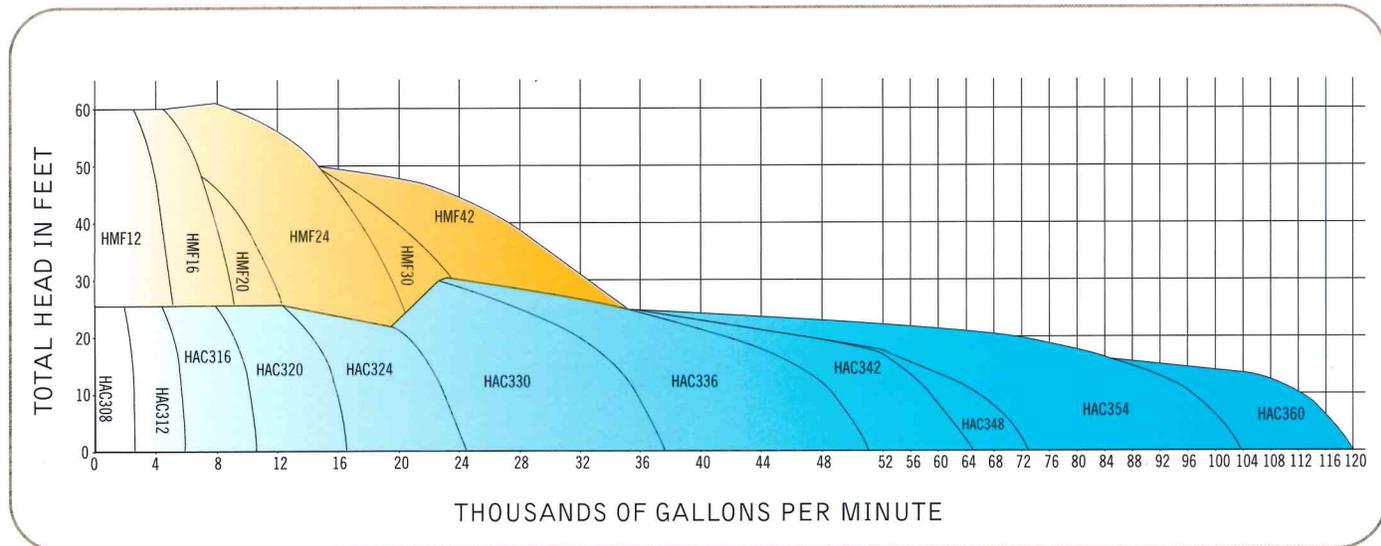
Method of Operation ...

Schematic A shows how the hydraulic system works. Note that the prime mover can be a diesel engine, electric motor or a combination of both. It drives a hydraulic pump which in turn supplies oil to the hydraulic motor in the water pump. This spins the hydraulic motor which is directly connected to the propeller. The hydraulic oil is then returned to the oil reservoir through the return filter. Then, the hydraulic oil returns through a strainer and back to the hydraulic pump, completing the circuit.

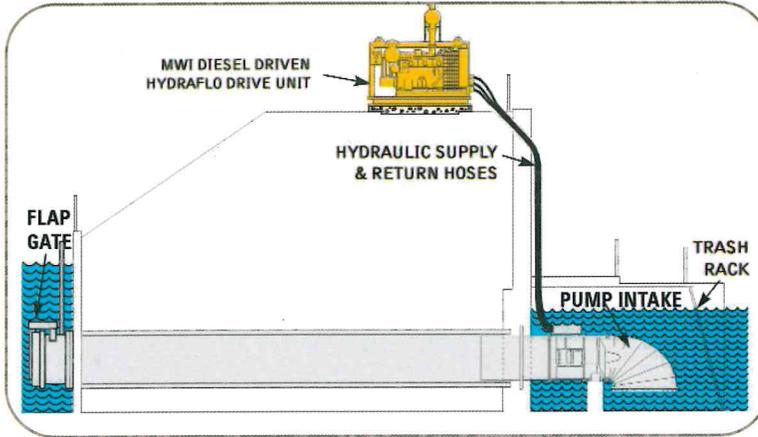
A relief valve from the high pressure side to the oil reservoir, serves to by-pass the power transmission fluid and divert flow in the event that an object gets lodged in the propeller. This is a very important safety feature available only with Hydrflo systems which protects all components from shock loads. Where variable flows are needed (such as in sewage effluent or "piped in" stormwater pumping), the propeller speeds can be infinitely adjusted automatically through the hydraulic power transmission system to match up with any combination of water flows and head conditions.



Performance curves for each bowl size are available upon request.

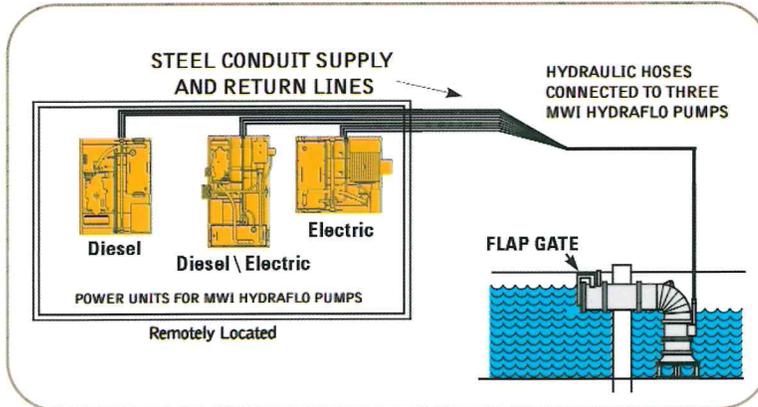


Installations ...



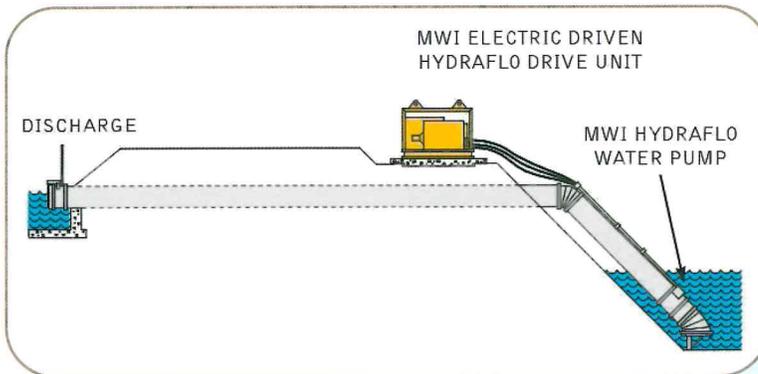
HORIZONTAL INSTALLATION

- Low profile
- Retro-fit existing pipe



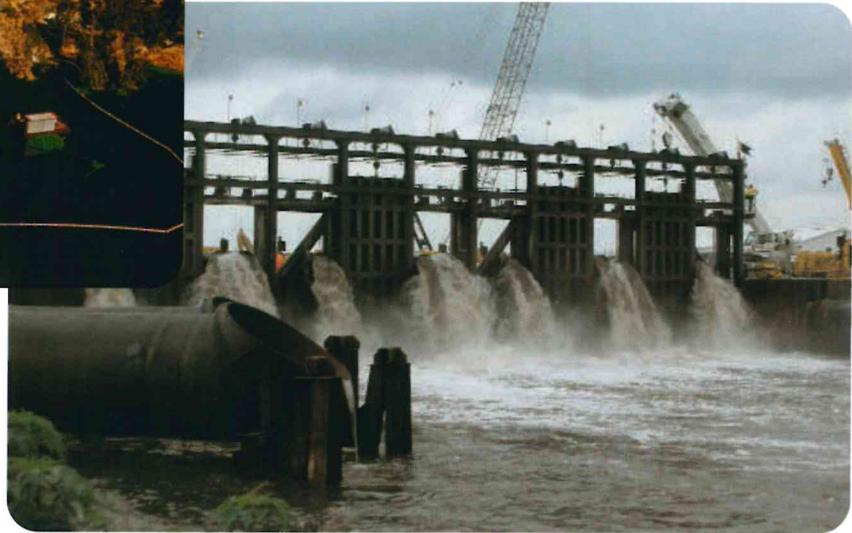
VERTICAL INSTALLATION

- Dual power for emergencies
- Remote drive unit



ANGLED INSTALLATION

- Low civil works
- Installable at any angle



MWI's international headquarters and extensive manufacturing capabilities are located in Deerfield Beach, Florida, very close to the original business. The manufacturing facilities are spread over 4 city blocks and total nearly 300,000 ft², to include a 10,000 ft² test lab. The company has a facility in Egypt and representatives throughout the United States, Latin America, Middle East, Africa and Asia.

The Hydrflo™ is protected by one or more of the following patents and patents pending:
US Patents: #4,138,202, #6,447,260,
#6,520,750, #4,188,788, #6,113,356,
#4,350,476, #4,138,202, #3,907,463,
#4,070,135, #4,797,067, #3,270,677



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INTERNATIONAL HEADQUARTERS

201 N. Federal Highway Deerfield Beach, Florida 33441 USA
Phone: (954) 426-1500 Fax: (954) 426-1582 E-mail: info@mwicorp.com www.mwipumps.com



Large Axial Flow & Mixed Flow Propeller Pumps

Mobile Pumps



Moving Water Worldwide™ - Reliably and Efficiently

Mobile Pumps from MWI

Mobile Hydraflo™ ...

The Mobile Hydraflo™ pump is a unique variant of the standard Hydraflo™ water pump and is a “complete pump station on wheels.” The Hydraflo™ is a submersible axial or mixed flow pump driven by a hydraulic pump and motor through flexible hydraulic lines. This innovative design allows great flexibility, cost savings and speed in the placement of the pump. Since little to no civil works are required to install the Hydraflo™ pump system, total project costs can be reduced by up to 70%, the construction, design and installation time of building a pump station is eliminated, and its design allows the pump to become mobile.

The portability of the Mobile Hydraflo™ permits easy movement to various locations where large volumes of water need to be pumped. Everything needed for pumping is mounted on a trailer. This includes: the diesel engine, water pump, fuel tank, hydraulic oil reservoir, rigid discharge pipe, flexible discharge hose, and a complete safety shutdown system.

Mobile Lineshaft™ ...

MWI's Mobile Lineshaft pump is a completely movable pump station on wheels. This low-maintenance lineshaft pump has a right-angle gear drive and is powered by either a diesel engine or an electric motor (which would require an external power source).

With over 50 years of experience in designing and building mobile pumps, the frame of the Mobile Lineshaft pump has been engineered for safe operation at all angles without being anchored to a foundation. The lineshaft pump can be oil or water lubricated.

Mobile Lineshaft™ & Mobile Hydraflo™ Advantages

- Eliminates the heavy civil works required for a traditional lineshaft pump station
- Low operating cost
- High overall efficiency
- Can be easily moved to different locations
- Pump can be oil or water lubricated
- Experienced, quality manufacturing insures years of worry-free operation
- No additional lifting equipment required
- Fully self-contained pump station ready for the most demanding pump requirements
- One man installation- operational within minutes

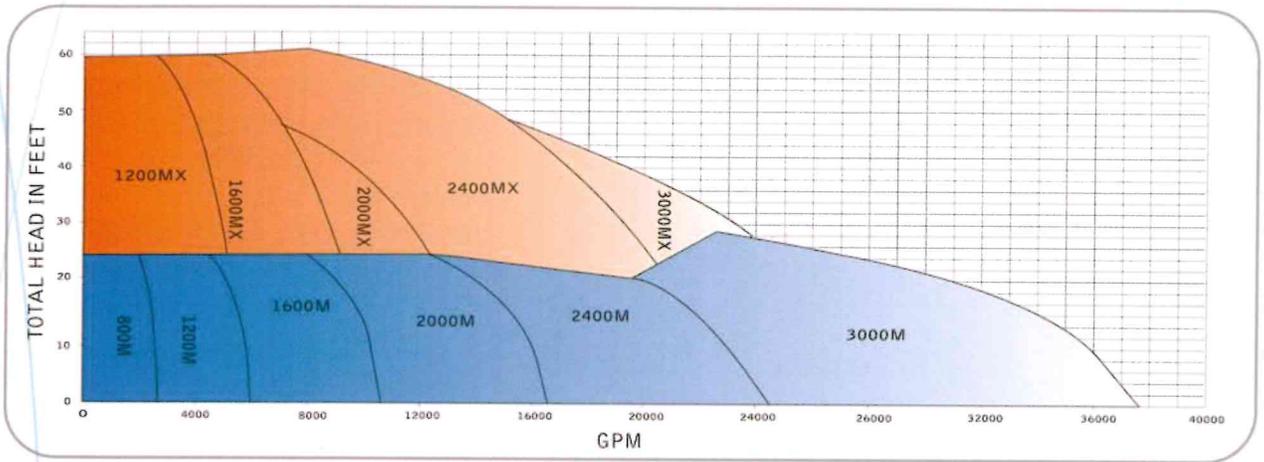
Mobile Submersible Electric™ ...

MWI offers a mobile submersible electric pump complete with generator and light tower. Sizes range from 8" to 16". These versatile units can be used to provide mobile generating power or portable lighting or the high volume flows that come only from an axial or mixed flow pump for serious water moving.

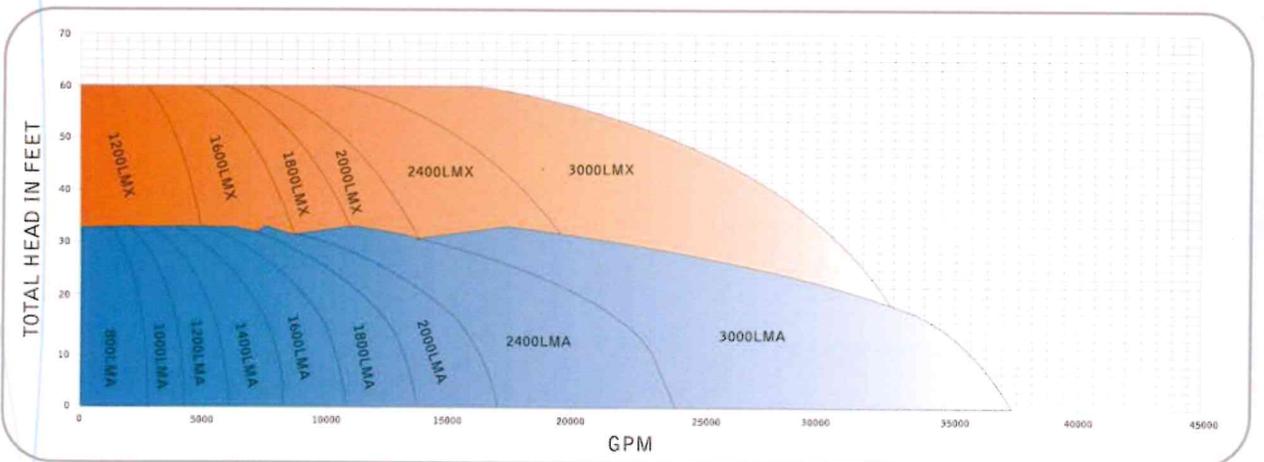


Performance and Physical Data

Mobile Hydraflo™ Performance Curves



Mobile Lineshaft™ Performance Curves



Physical Data

Model Number ¹	General Dimensions ¹						Weight ⁴ (Approx)		Shipping Volume		Type Diagrams displayed below	Front End
	A ³		B		C		Lbs.	Kg.	Meters	Feet		
	Meters	Ft.	Meters	Ft.	Meters	Ft.						
800M	7.32 3.66	24.0 12.0	1.83 1.83	6.00 6.00	2.13 2.13	7.00 7.00	2,500	1,134	14.4	509	I	Tow bar w/ pin ²
1200M, 1200MX & 1600M	10.06 4.88	33.0 16.0	1.98 1.98	6.50 6.50	2.59 2.59	8.50 8.50	8,500	3,856	23.2	821	II	Steerable
2000M, 2000MX & 2400M	10.69 5.49	35.0 18.0	2.13 2.13	7.00 7.00	2.59 2.59	8.50 8.50	11,500	5,227	25.4	898	II	Steerable
3000M	15.55	51.0	2.21	7.25	3.05	10.0	28,000	12,727	78	2,750	III	Kingpin
1600LMA, 2000LMA & 2400LMA	11.89 6.71	39.0 22.0	2.68 2.21	8.80 7.25	2.90 2.59	9.50 8.50	10,500	4,773	32.6	1,152	II	Steerable
3000LMA & 3000LMX	16.76 11.89	55.0 39.0	2.94 2.21	9.66 7.25	3.66 3.05	12.00 10.00	25,000	11,364	68	2,403	IV	Kingpin



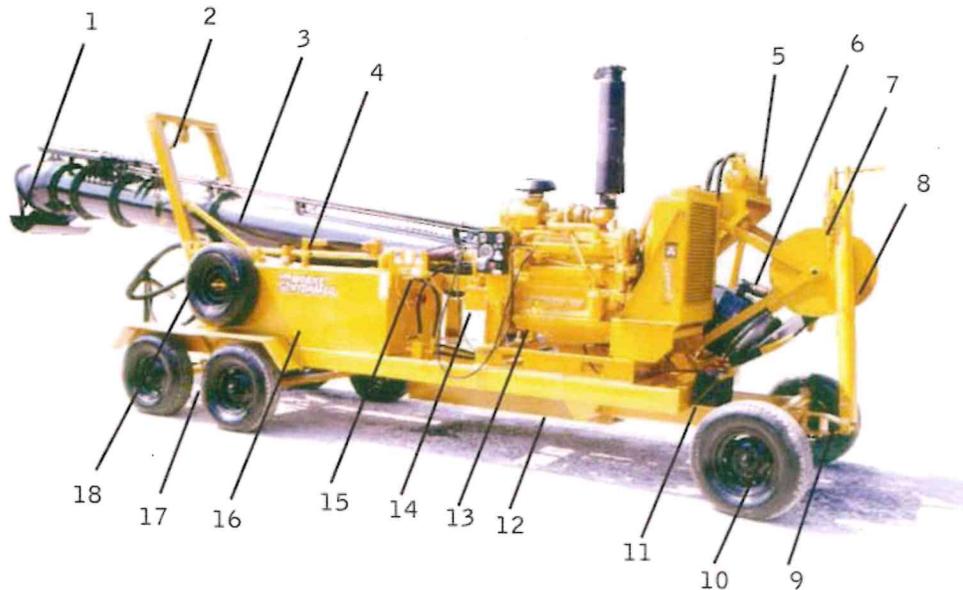
- NOTES:
1. With the exception of the 800M, the first two digits in this number indicate pump propeller diameter in inches.
 2. The tow bar is provided with a standard pin type arrangement.
 3. Second line of dimensions indicate minimum shipping size.
 4. Weights shown are without turntable option. Turntable weight: 5000 lbs. (2272kg).
 5. For Platform pump dimensions, consult factory.

Approximations should not be used for design purposes. Please consult factory. For the physical data on turntable and telescoping options, please consult factory. Each Mobile is equipped with steel discharge pipe and a 45 degree elbow to match pump discharge and flexible discharge hose, respectively.

Mobile Hydraflo™ ... Model 1800M Standard Equipment

The unit is simply backed into position. A hydraulic winch lowers and raises the water pump and discharge pipe for ease in loading and unloading. Flexible hoses are used to connect the pump to the diesel-engine-driven hydraulic system. After lowering the water pump to the desired position, the 50 feet of flexible discharge hose is unrolled to the point of discharge. There is no need to prime the pump. Once the diesel engine is activated, the mobile unit is ready for the pumping operation. MWI Mobile Hydraflo™ pumps have been used worldwide for agricultural irrigation, storm drainage, dewatering, emergency pumping, and almost any application for moving large volumes of water.

1. Hydraflo™ Water Pump with 45° Intake
2. Crane / Boom / Track Assembly
3. 20 Feet (6.1m) of Discharge Pipe
4. Sight Glass
5. Hydraulic Winch
6. 45° Elbow and Vacuum Breaker
7. 50ft. (15.2m) of Flexible Discharge Hose
8. Discharge Hose Winch (manual)
9. Tow Bar
10. Steerable Front End
11. Battery
12. Day Tank
13. Diesel Engine
14. Hydraulic Pump
15. Hydraulic Control Panel
 - A. Hydraulic System Pressure Gauge
 - B. Suction Vacuum Gauge
 - C. Oil Temperature Gauge
 - D. Failure Reset
 - E. System Loading Valve
16. Oil Reservoir
17. Wheel / Spring / Axle Assembly
18. Spare Tire



Watch the video at <http://www.mwicorp.com/mobile-hydraflo-video.php>

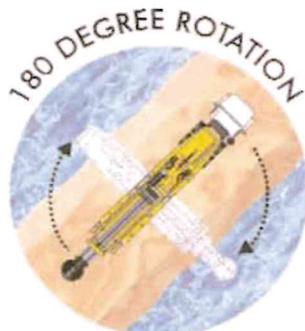
For applications where space is limited — like dams, levees, dikes, etc., MWI created the Turntable Mobile Hydraflo™. Our engineers developed this model for increased maneuverability. The turntable option is highly recommended when reversing pumping locations regularly in a confined space. It is capable of hydraulically raising and lowering the entire unit off the ground, providing 180 degree rotation in either direction.

This unit is designed with plumbing that consists of a special hose carrier that feeds the hydraulic oil to the water pump. The water pump can operate at any rotated position without having to disconnect or re-connect the flexible hydraulic hoses.

Turtable Mobile Hydraflo™ in action ...



The turntable mechanism in traveling position.



Mobile Lineshaft™ ...



30" Mobile pump bypassing permanent pumps.

MWI's Mobile Lineshaft pump is a complete movable pump station on wheels. This low-maintenance lineshaft pump has a right-angle gear drive and is powered by either a diesel engine or an electric motor. With over 50 years of experience in designing and building mobile pumps, the frame of the Mobile Lineshaft pump has been engineered for smooth operation at all angles. The lineshaft pump can be oil or water lubricated. It can be operated at several angles without being supported at the bottom. For customers looking for an efficient, movable, high volume pump at an affordable cost, MWI's Mobile Lineshaft pump is the answer.

Platform Pumps™ ...



MWI's Platform Pumps™ are semi-mobile for temporary or permanent applications. They require minimum civil works and can be re-located if conditions change.

can
for





Mobile Lineshaft demonstration



Mobile Submersible Electric



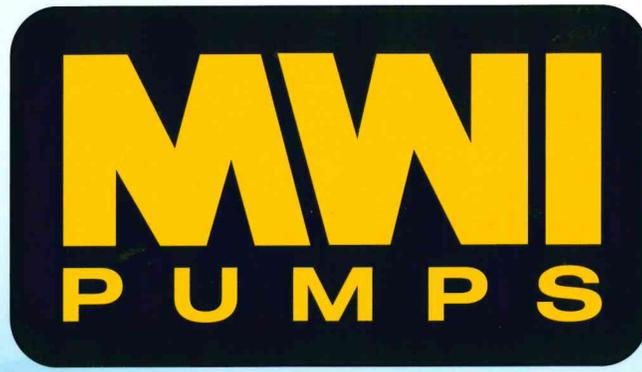
MWI's Mobile Pumps are protected by one or more of the following patents and patents pending:
US Patents: #4,138,202, #6,447,260,
#6,520,750, #4,188,788, #6,113,356,
#4,350,476, #4,138,202, #3,907,463,
#4,070,135, #4,797,067, #3,270,677

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Large Volume Water Pumps

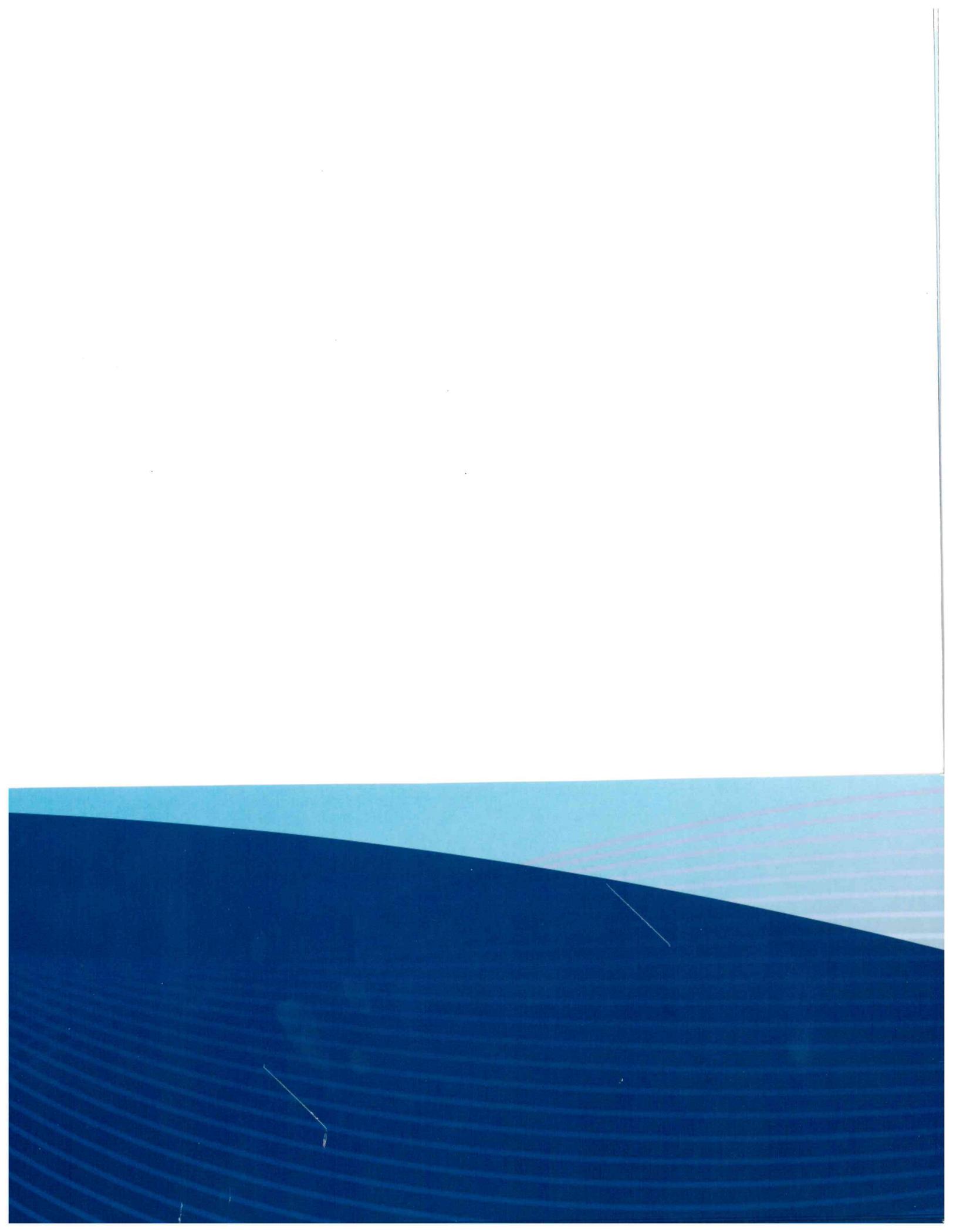


The Eller Family: (from Left to Right)
Daren, David, Danielle and Dana Eller.

Moving Water Industries Corporation was established by the Eller family in Deerfield Beach, Florida in 1926. The company originally manufactured a variety of agricultural implements, including water pumps. Eventually large water pumps became the most important product. Our highly-qualified professional engineers, led by the Eller family, have developed many innovative, patented pumps and continually improve existing products. MWI has produced more high-volume propeller pumps than any other company in the United States with over 12,000 pump installations in place.

MWI is a leader in advanced water pump technology with products in use throughout the United States and in over 50 countries worldwide.

MWI is a certified ISO 9001 company.



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