# Instructions for
# Nebraska Base Drawings NE600-20-001, NE600-20-002, NE600-20-003a, NE600-20-003b, and NE600-20-003c

## Sprinkler Irrigation System - Cover Sheet
## Pump and Pivot Data Sheet
## and
## Profile & System Hydraulics

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Fill in the following data fields to automatically fill in the necessary data fields on the drawing.

**Title block**

Title line(s)

Design City

County, NE

Sheet number 1 of

**Who / When**

| | Who (initials) | When (MM/DD/YY) |
|---|---|---|
| Designed | | |
| Drawn | | |
| Checked | | |

**Drawing Notes:**

Left click data fields to enter required information.

Drawings may be printed and filled or modified with indelible ink to fit the needs of a specific project.

Additional Drawings or Specifications may be inserted to create a packet.

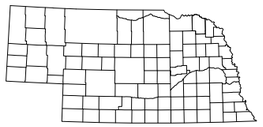
**Clear Form**

**Click to clear all form fields**

**Print Drawing**

**Note: Select desired range of drawings to print.**

_____ COUNTY, NEBRASKA



# Sprinkler Irrigation System

_____ COUNTY, NEBRASKA

SPONSORED BY: USDA NRCS
ENVIRONMENTAL QUALITY INCENTIVES PROGRAM (EQIP)

DESIGNED BY: NATURAL RESOURCES CONSERVATION SERVICE
_____, NEBRASKA

| CONSTRUCTION DATA | | DATE |
|---|---|---|
| Construction Check By: | | |
| Contractor: | | |
| Constructed Cost: | | |
| Cost Share Agency: | | |
| | | |

### PRACTICE STANDARD

- ☐ IRR. WATER CONVEYANCE (430)
- ☐ IRR. SYSTEM, SPRINKLER (442)
- ☐ IRR. PUMPING PLANT (533)
- ☐ FLOWMETER (587)
- ☐ OTHER: _____

UTILITIES NOTE: BEFORE THE START OF CONSTRUCTION, THE OWNER OF ANY UTILITES INVOLVED MUST BE NOTIFIED. THE CONTRACTOR IS RESPONSIBLE FOR GIVING THIS NOTICE BY CALLING "DIGGER'S HOTLINE" AT 1-800-331-5666 AT LEAST 48 HOURS PRIOR TO ANY WORK.

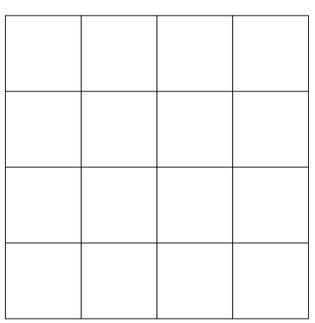
### CONSTRUCTION SPECIFICATIONS THAT APPLY

| Nebraska Construction and Materials Specifications | | |
|---|---|---|
| Check the ones that apply | | |
| | NE-81 | Metal Fabrication and Installation |
| | NE-208 | Water Control Valves |
| | NE-209 | Irrigation Flowmeter |
| | NE430S | Irrigation Water Conveyance Install. Reqmnts |
| | NE-442S | Irrigation System-Sprinkler |
| | S-533 | Pumping Plant |
| | ----- | Nozzle/Sprinkler Chart |
| | M 442 | O&M Plan - Sprinkler |
| | M 430 | O&M Plan - Water Conveyance |
| | M 533 | O&M Plan - Pumping Plant |

### PRODUCER'S AGREEMENT

I have reviewed the drawings, plans and specifications provided to me by NRCS and understand my responsibility to follow the drawings, plans and specifications for proper installation as set forth in this document.

Producer's Signature _____ Date _____



Sec ___ ; T___N ; R___

This project has been constructed according to approved plans and specifications.

NRCS certifying signature _____ Date _____

### SHEET INDEX


| SHEET NO. | SHEET TITLE |
|---|---|
| 1 | COVER SHEET |
| 2 | DATA SHEET & AERIAL PLAN VIEW |
| 3 | HYDRAULIC GRADE LINE |
| 4 | PIPELINE AND APPURTENANCES |
| 5 | FLOWMETER |


Design By: _____ _____
Checked By: _____ _____ date

SPECIFICATION AND DRAWINGS APPROVED FOR CONSTRUCTION

Signature: _____
REVIEWED BY: TITLE

Signature: _____
APPROVED BY: TITLE

THIS PROJECT IS AN NRCS JOB CLASS _____

CAD file: NE600-20-001

| | |
|---|---|
| SHEET NO. | 1 |
| TOTAL SHEETS | |

| PUMP & WELL DATA | DESIGNED | AS INSTALLED |
|---|---|---|
| Type: (turbine, submersible, other) | | |
| Approximate Age of Pump (yrs) | | |
| Make or Brand Name | | |
| Model | | |
| Pump Serial Number | | |
| Motor (gas, electric, etc.) | | |
| Number of Stages | | |
| Motor/engine horsepower | | |
| Impeller Type (Semi-Open or Enclosed) | | |
| Impeller diameter (inches) | | |
| Column diameter (inches) | | |
| Total Flow rate (gpm) | | |
| Total Dynamic Head (ft) | | |
| @ RPM | | |
| Pump Efficiency (%) | | |
| Static Water (elev.) | | |
| Well Drawdown (elev.) | | |
| Bottom of Well (elev.) | | |
| Top of Last Stage (elev.) | | |
| Comments: | | |

INSERT DETAILED PLAN MAP HERE

## CERTIFICATION OF PUMP INSTALLATION

The pump was installed in compliance with NRCS standard NE533 and specification NE533s. The data entered above (As-Installed) is a true and accurate record of the pump that was installed or will be used.

Signed _____ Date _____

Representing _____ License # _____

## TABLE OF QUANTITIES

| ITEM DESCRIPTION | UNIT | QUANTITY | | SIZE (in.) | | RATING (psi) | |
|---|---|---|---|---|---|---|---|
| | | Design | As-built | Design | As-built | Design | As-built |
| Low Pressure Irrigator Center Pivot | FT | | | | | | |
| Sprinklers or Drops | EA | | | | | | |
| __ PSI Pressure Regulators | EA | | | | | | |
| | | | | | | | |

## CERTIFICATION OF PIVOT & SPRINKLER INSTALLATION

I certify that this practice (FOTG 442 - Irrigation System, Sprinkler) has been installed in accordance with these plans and specifications. As-Built quantities shown are accurate and reflect actual field measurements.

Sign: _____ Date _____
Installing contractor

## CONSTRUCTION NOTES

1) Components of the sprinkler package shall be installed as per manufacturer's requirements.

2) Sprinkler type and nozzle location must correspond with the vendor-supplied sprinkler chart as attached to the specifications. Mis-positioned sprinklers or nozzles must be repositioned to their designated location.

3) Sprinkler(s) added to the system, and not shown on the vendor-supplied sprinkler chart must be removed.

## GENERAL NOTES

1) The project owner is responsible for complying with all federal, state and local requirements, including but not limited to stormwater discharge requirements, floodplain permit requirements, Corps of Engineers Section 404 requirements, etc.

2) The contractor shall provide and maintain work environments and procedures which will safeguard public and government personnel, property, materials, supplies and equipment in accordance with current OSHA regulations.

3) If the NRCS inspector becomes aware of any condition that poses a serious or imminent danger to the health or safety of the public or government personnel, he/she will immediately notify the project owner. If the owner and/or contractor fail or refuse to promptly take corrective action, NRCS technical and financial assistance may ultimately be withdrawn.

4) During construction, the contractor shall keep the work site, areas adjacent to the work site and access roads in a safe and orderly condition. After construction is completed, the contractor shall remove all debris and leave the work site in a well-drained and orderly condition.

## DESIGN NOTES & REMARKS

Based upon theoretical hydraulic grade lines The pressure at the well must not fall below ____ psi to operate properly. Any pressure in excess of this is wasted and unused energy.

Throughout the irrigation season, the engine speed may need to be adjusted (if using non-electric power unit) to maintain design flowrate and pressure.

For non-electric power units, at the beginning of each pumping cycle, gradually increase RPM's until system is filled and fully pressurized to help prevent damage from water hammer.

Date

Designed. _____

Drawn. _____

Checked _____

Approved _____

PUMP AND PIVOT DATA SHEET

COUNTY, NEBRASKA

NRCS Natural Resources Conservation Service

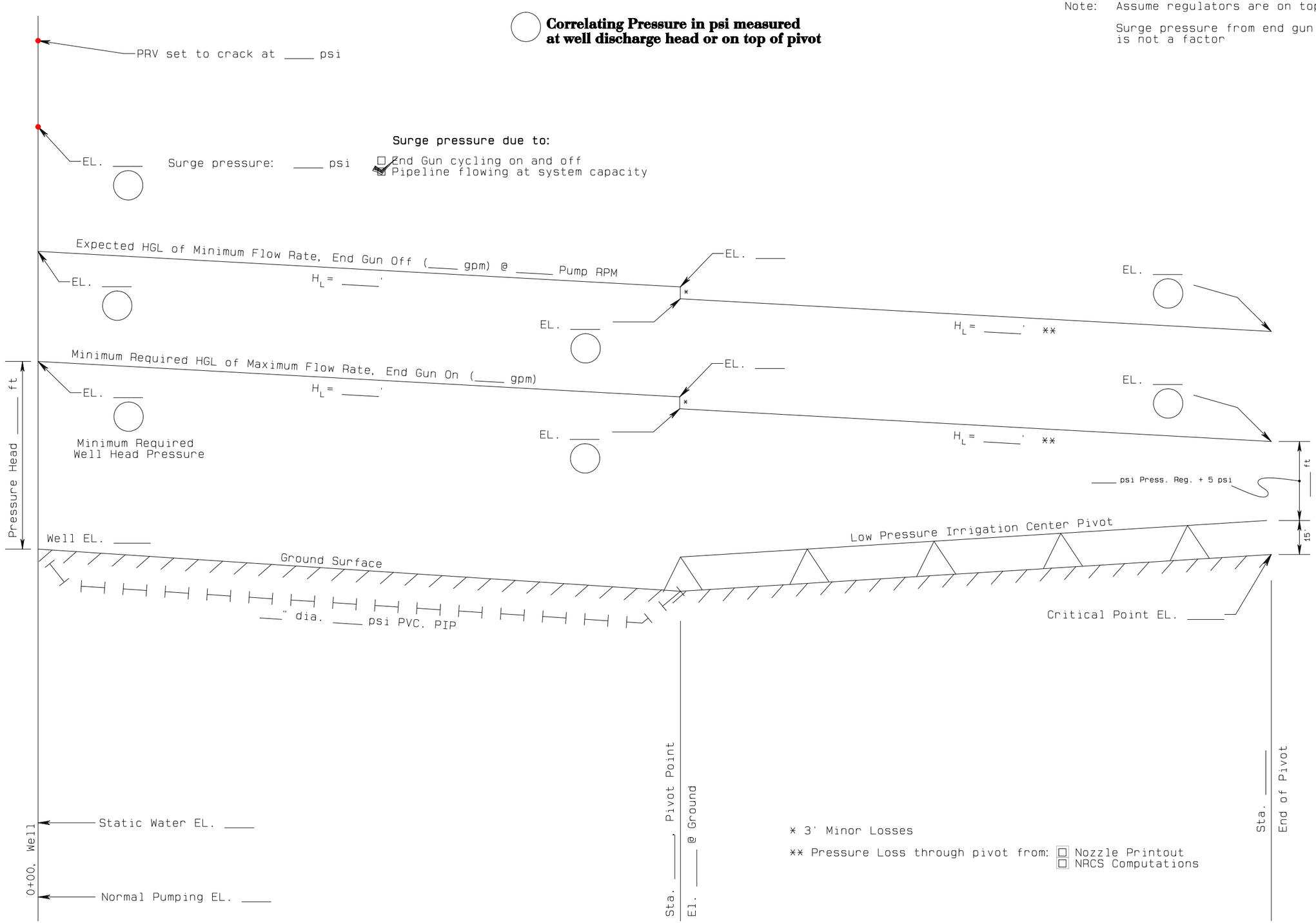
CAD file: NE600-20-002

Drawing No.

Sheet 2 of

Note: Assume regulators are on top of pivot

Surge pressure from end gun is not a factor




# HYDRAULIC GRADELINE (HGL)/ GROUND PROFILE

NOT TO SCALE

Surge pressure from end gun is not a factor

| | | Date |
|---|---|---|
| Designed. | | |
| Drawn. | | |
| Checked | | |
| Approved | | |

**PROFILE & SYSTEM HYDRAULICS**

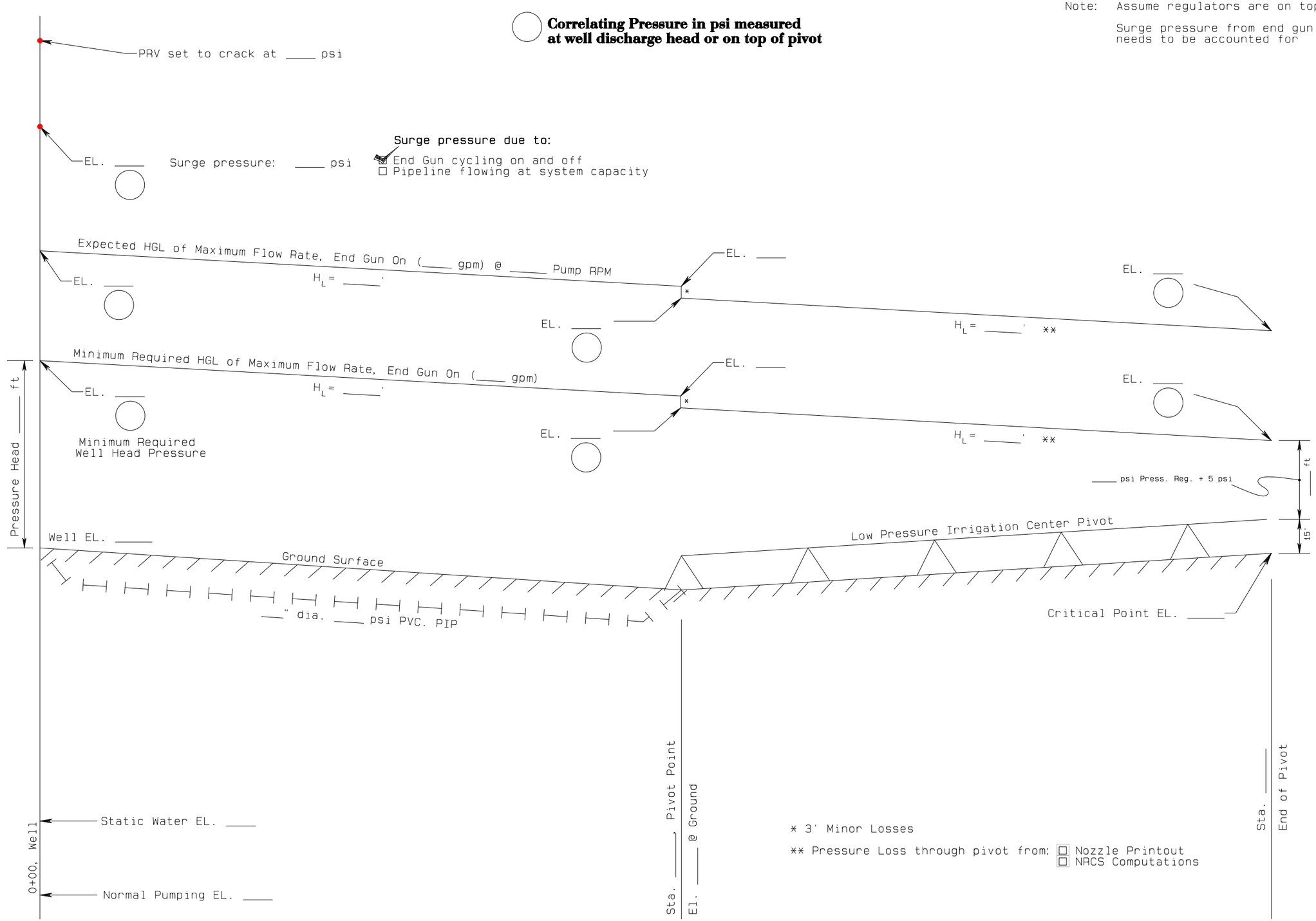
**COUNTY, NEBRASKA**

NRCS Natural Resources Conservation Service

CAD file: NE600-20-003

Drawing No. 3a

Sheet 3 of




# HYDRAULIC GRADELINE (HGL)/ GROUND PROFILE

NOT TO SCALE

Date
Designed. ____
Drawn. ____
Checked ____
Approved ____

PROFILE & SYSTEM HYDRAULICS

COUNTY, NEBRASKA

NRCS Natural Resources Conservation Service

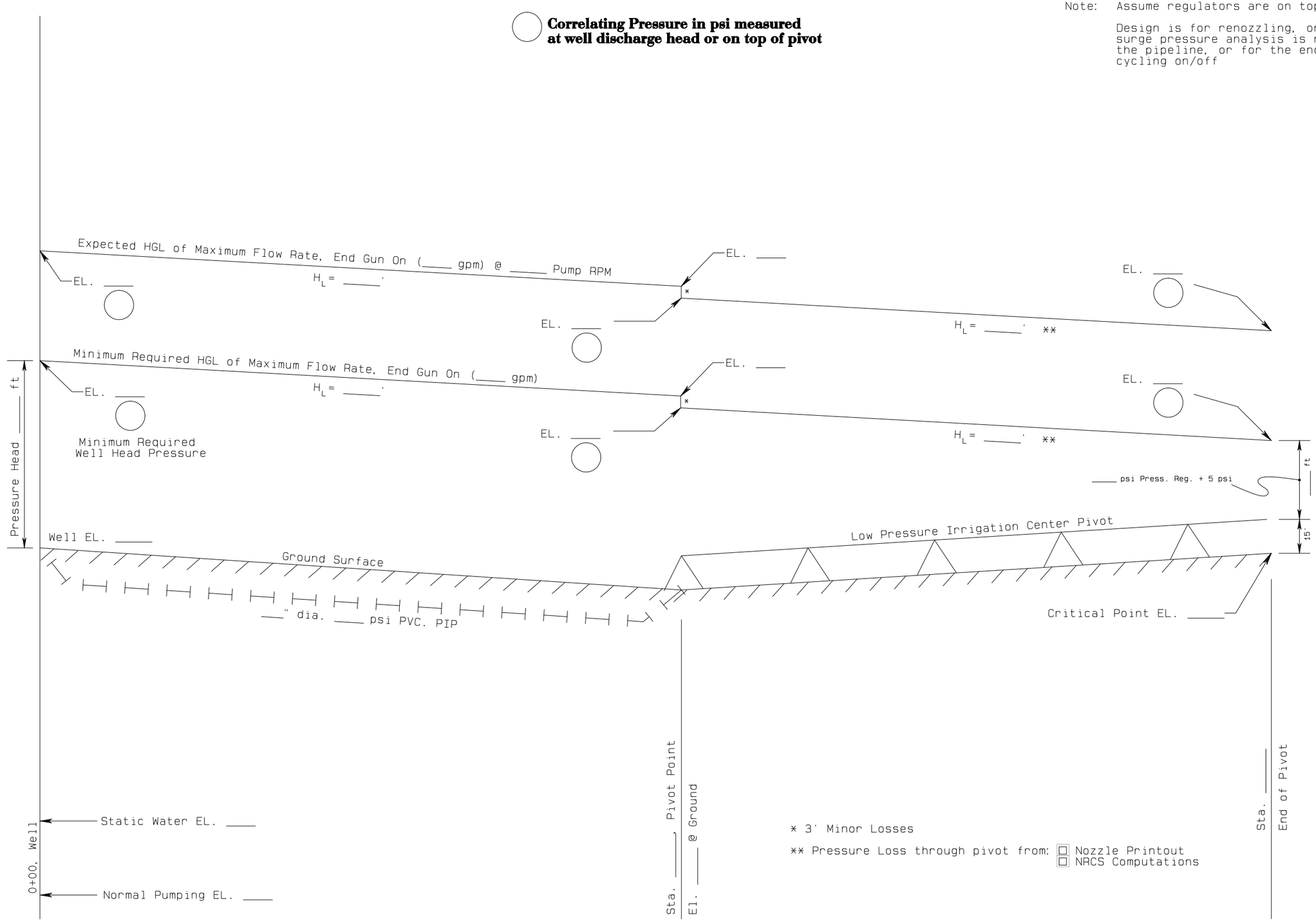
CAD file: NE600-20-003

Drawing No. 3b

Sheet 3 of

Note: Assume regulators are on top of pivot

Design is for renozzling, or when no surge pressure analysis is needed for the pipeline, or for the end gun cycling on/off




# HYDRAULIC GRADELINE (HGL)/ GROUND PROFILE

NOT TO SCALE

Design is for renozzle, or when no surge analysis is needed for the pipeline or end gun cycling on/off

Designed. ___ Date ___
Drawn. ___
Checked ___
Approved ___

**PROFILE & SYSTEM HYDRAULICS**

**COUNTY, NEBRASKA**

NRCS Natural Resources Conservation Service

CAD file: NE600-20-003

Drawing No. 3c

Sheet 3 of