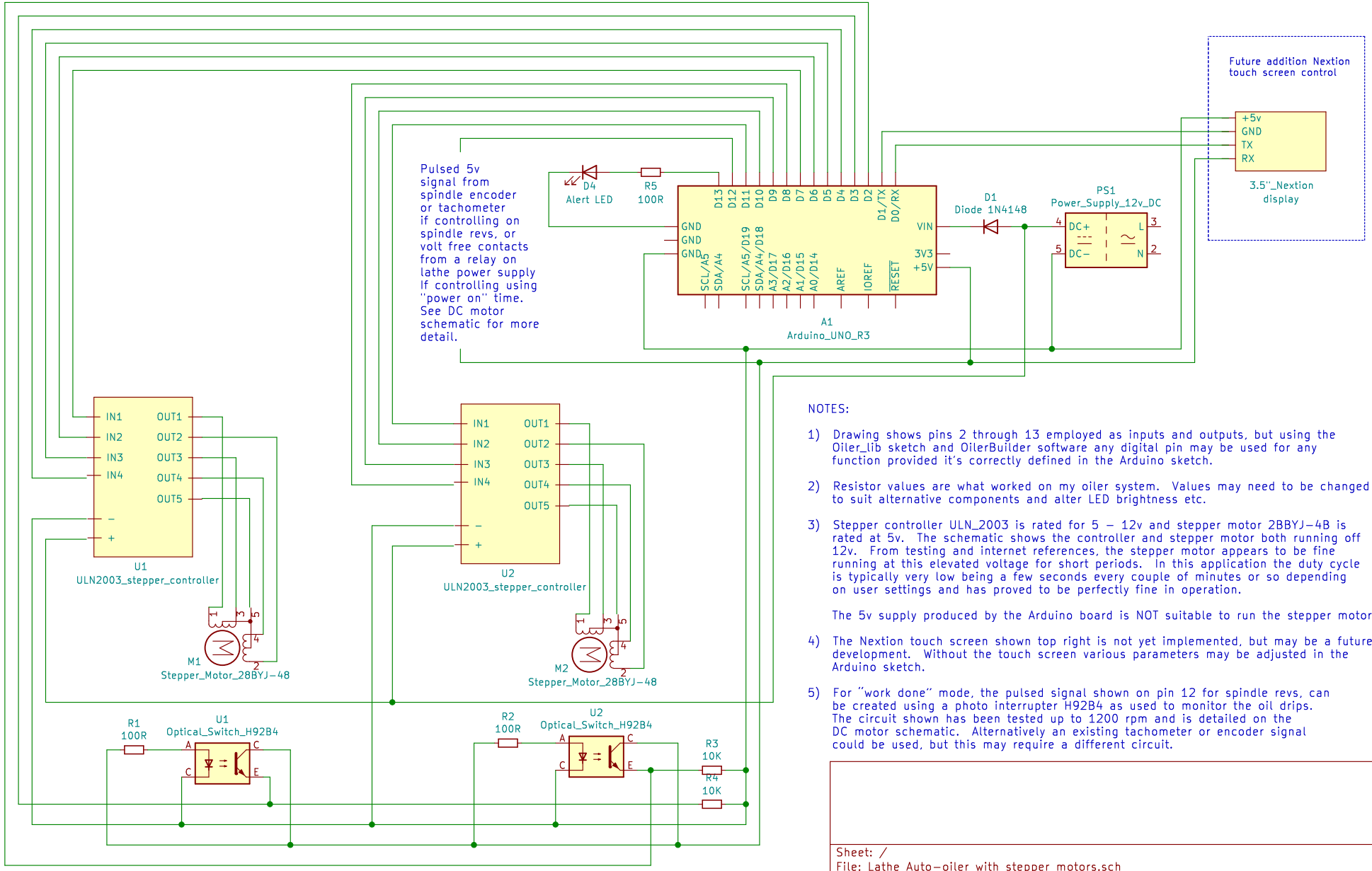

NOTES:

1) Drawing shows pins 2 through 13 employed as inputs and outputs, but using the Oiler_lib sketch and OilerBuilder software any digital pin may be used for any function provided it's correctly defined in the Arduino sketch.

2) Resistor values are what worked on my oiler system. Values may need to be changed to suit alternative components and alter LED brightness etc.

3) Stepper controller ULN_2003 is rated for 5 – 12v and stepper motor 2BBYJ−4B is rated at 5v. The schematic shows the controller and stepper motor both running off 12v. From testing and internet references, the stepper motor appears to be fine running at this elevated voltage for short periods. In this application the duty cycle is typically very low being a few seconds every couple of minutes or so depending on user settings and has proved to be perfectly fine in operation.

   The 5v supply produced by the Arduino board is NOT suitable to run the stepper motors.

4) The Nextion touch screen shown top right is not yet implemented, but may be a future development. Without the touch screen various parameters may be adjusted in the Arduino sketch.

5) For "work done" mode, the pulsed signal shown on pin 12 for spindle revs, can be created using a photo interrupter H92B4 as used to monitor the oil drips. The circuit shown has been tested up to 1200 rpm and is detailed on the DC motor schematic. Alternatively an existing tachometer or encoder signal could be used, but this may require a different circuit.

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Title: Lathe Auto−Oiler Schematic with Stepper Motors.

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