



# Dane County Planning & Development Division of Zoning

Appeal No. 3662  
Date Received 10/10/14  
Date of Public Hearing Nov. 20, 2014

## VARIANCE APPLICATION:

**Owner:** Madison Water Utility per easement with Dane County, Attn: Dennis Cawley PE

**Mailing Address:** 119 East Olin Avenue  
Madison, WI 53713

**RECEIVED**

**Phone Number(s):** 608-261-9243

**Email Address:** dcawley@madisonwater.org

OCT 10 2014

**Assigned Agent:** SEH, Inc., Attn: Jon Strand PE

**Mailing Address:** 10 North Bridge Street  
Chippewa Falls, WI 54729

**DANE COUNTY PLANNING & DEVELOPMENT**

**Phone Number(s):** 715-720-6243

**Email Address:** jstrand@sehinc.com

### To the Dane County Board of Adjustment:

Please take notice that the undersigned was refused a permit by the Dane County Zoning Division, Department of Planning and Development, for lands described below for the reason that the application failed to comply with provisions of the Dane County Code of Ordinances: Chapters 10 – Zoning, 11 – Shoreland, Shoreland-Wetland & Inland-Wetland, 17 – Floodplain Zoning, and/or 76 – Airport Height Regulations. The owner or assigned agent herewith appeals said refusal and seeks a variance.

Parcel Number: 0809 - 253 - 0094 -1 Zoning District: NA Acreage:           

Town: NA Section: 25 of T8N R9E 1/4 S W 1/4 N E

Property Address: 1352 Northport Drive

CSM: 12189 Lot: NA / Subdivision: NA Block/Lot(s): NA

Shoreland: Y / (N) / Floodplain: Y / (N) / Wetland: Y / (N) / Water Body NA

Sanitary Service: (Public) / Private (Septic System)

Current Use: Madison Water Utility Water Tower # 113

Proposal: Construction of 145-foot dual tank water tower structure to replace an existing 135 to 140-foot water tower. See attached for complete detailed description.

NOTE: You are encouraged to provide a complete and detailed description of the existing use and your proposed project on an attached sheet.

### REQUIRED BY ORDINANCE

Section	Description	Required	Proposed or Actual	Variance Needed
78.05	Height Limitations, object is in excess of height limitation zoning map	Elevation 1072 ft.	Elevation 1160 ft.	88 ft. Height

**PRESENTING YOUR CASE TO THE BOARD OF ADJUSTMENT:**

An Area Variance may be authorized by the Dane County Board of Adjustment to vary one or more of the dimensional or physical requirements of the applicable ordinance in connection with some proposed construction.

The burden will be on you, as property owner or authorized agent, to provide information upon which the board may base its decision. At the hearing, any party may appear in person or may be represented by an agent or attorney. You or your agent must convince the zoning board to make a ruling in your favor. The board must make its decision based only on the evidence submitted to it at the time of the hearing, including the staff report. Unless you or your agent is present, the board may not have sufficient evidence to rule in your favor and may then deny your application.

Please answer the four questions below. You are encouraged to attach a separate sheet, labeling the answers (1) through (4), to provide enough detail to support your appeal:

(1) Describe alternatives to your proposal such as other locations, designs and construction techniques. Attach a site map showing alternatives you considered in each category below:

(A) Alternatives you considered that comply with existing standards: If you find such an alternative, you can move forward with this option with a regular permit. If you reject compliant alternatives, provide the reasons you rejected them.

There are no other alternative site options that will allow for the needed elevation to meet the pressure zone 5 water system requirements.

All other potential site locations within the pressure zone 5 area are under the same height limitation zoning boundary of the Dane County Regional Airport.

Any site location outside the 3 mile height limitation zoning boundary would require an extensive water transmission main that would come with an exorbitant cost.

(B) Alternatives you considered that require a lesser variance: If you reject such alternatives, provide the reasons you rejected them.

There are no other alternative site options with a lesser variance that will allow for the proper operation of the water tower. The water tower needs to have an overall height elevation of 1160 ft. to meet the WDNR 35PSI minimum water system requirement for pressure zone 5.

(2) Will there be an unnecessary hardship to the property owner to strictly comply with the ordinance?

*Unnecessary hardship exists when compliance would unreasonably prevent the owner from using the property for a permitted purpose (leaving the property owner without any use that is permitted for the property) or would render conformity with such restrictions unnecessarily burdensome.*

*An applicant may not claim unnecessary hardship because of conditions which are self-imposed or created by a prior owner (for example, excavating a pond on a vacant lot and then arguing that there is no suitable location for a home or claiming that they need more outbuilding space than that permitted to store personal belongings). Courts have also determined that economic or financial hardship does not justify a variance. When determining whether unnecessary hardship exists, the property as a whole is considered rather than a portion of the parcel. The property owner bears the burden of proving unnecessary hardship.*

The existing water tower currently serving Madison Water Utility pressure zone 5 is currently lacking sufficient fire flow capacity in both the residential and the commercial/institutional areas due to limited reservoir storage volume. A new water tower with a larger storage capacity will need to be constructed at the existing water tower location to meet these fire flow requirements. The new water tower will also need to be at the same elevation as the existing water tower to meet the WDNR requirement of 35 psi minimum water system pressure and provide the necessary height requirement for the City of Madison's emergency 911 radio system.

- (3) Do unique physical characteristics of your property prevent compliance with the ordinance? If yes, please explain. The required Site Plan and/or Survey submitted with your application must show these features.

*Unique physical limitations of the property such as steep slopes or wetlands that are not generally shared by other properties must prevent compliance with the ordinance requirements. The circumstances of an applicant (growing family, need for a larger garage, etc.) are not a factor in deciding variances. Nearby ordinance violations, prior variances, or lack of objections from neighbors do not provide a basis for granting a variance.*

There are no other alternative site options that will allow for the needed elevation to meet the pressure zone 5 water system requirements.

All other potential site locations within the pressure zone 5 area are under the same height limitation zoning boundary of the Dane County Regional Airport.

Any site location outside the 3 mile height limitation zoning boundary would require an extensive water transmission main that would come with an exorbitant cost.

- (4) What would be the effect on this property, the community or neighborhood, and the general public interest if the variance were granted? Describe how negative impacts would be mitigated. The required Site Plan and/or Survey submitted with your application must show any proposed mitigation features.

*These interests may be listed as objectives in the purpose statement of an ordinance and may include: Promoting and maintaining public health, safety and welfare; protecting fish and wildlife habitat; maintaining scenic beauty; minimizing property damages; ensuring provision of efficient public facilities and utilities; requiring eventual compliance for nonconforming uses, structures and lots; drainage; visual impact; fire safety and building code requirements; and any other public interest issues.*

The new water tower will have the supply capacity to meet the fire flow needs of pressure zone 5 which serves approximately 190 homes and a portion of the Dane County Human Services campus.

In order to mitigate disturbances to the Lake View Park and surrounding areas, it is desired that the new reservoir be constructed in the same location as the existing reservoir.

With the water tower being in the 3 mile protection boundary of the Dane County Regional airport, FAA approved lighting will be provided on the structure.

## **REQUIRED PLANS AND SPECIFICATIONS:**

In addition to providing the information required above, you must submit:

1. **Site Plan:** Complete and detailed plans of your lot or lots, drawn to a standard and easily readable scale. In most cases, a survey by a Registered Land Surveyor is needed. The Site Plan/Survey should include the following, as applicable, as well as any unique existing features of the lot and any proposed mitigation features, as described above:
  - Scale and North arrow
  - Road names and right-of-way widths
  - All lot dimensions
  - Existing buildings, wells, septic systems and physical features such as driveways, utility easements, sewer mains and the like, including neighboring properties and structures.
  - Proposed new construction, additions or structural alterations.
    - For property near lakes, rivers or streams:
    - Location of Ordinary High Water Mark (OHWM) Elevation
    - Location of Floodplain Elevation
    - For property near Wetlands, a Wetland Boundary determination by a qualified professional consultant may be required.
  - Topographic survey information may be desirable or necessary.
  - Setbacks from any existing or proposed structures (building) to lot lines, right-of-way lines, Ordinary High Water Mark, and/or Wetland Boundary, as applicable.
  - For setback from Ordinary High Water Mark Variance Appeals, the setbacks of the two neighboring structures from the OHWM may be required.

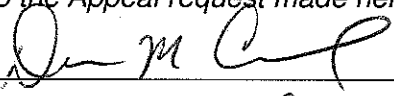
**2. Floor Plans and Elevations:** Professionally-prepared plans and elevations are not required, but the plans submitted must be drawn to a standard and easily readable scale, must show each story of the building or structure, and must include all parts of existing and proposed structures, including any balconies, porches, decks, stoops, fireplaces and chimneys. Exterior dimensions must be included. Show all exit door locations, including sliding doors, and any windows or other features that are pertinent to your appeal. The plans may be a preliminary version, but are expected to represent your actual proposal for the use of your lot.

Please consult with the Assistant Zoning Administrator regarding required plans for non-conventional structures such as signs, construction cranes, etc.

**3. Town Acknowledgment:** Obtain a signed, dated memo or letter from the Town Clerk or Administrator of the Town where the variance is needed, acknowledging that you have informed them of your intention to apply for the variance(s). You probably will need to appear before the Town Board and/or Plan Commission, which will provide advisory input requested by the Board of Adjustment.

**APPLICANT SIGNATURE:**

*The undersigned hereby attests that all information provided is true and accurate, and further gives permission to Planning & Development staff and Board of Adjustment members to view the premises, in relation to the Appeal request made herein, during reasonable daylight hours.*

Signature Required:  Date: 10/2/14

Print Name: DENNIS M. CAWLEY

Specify Owner or Agent: SHORT, ELLIOTT, HENDRICKSON, INC (SEH)

Agent must provide written permission from the property owner

**STAFF INFORMATION:**

Date Zoning Division Refused Permit (if different from filing date)

Filing Date

Filing Materials Required:

Site Plan

Floor Plans

Elevations

Fee \_\_\_\_\_ Receipt No. \_\_\_\_\_

Town Acknowledgement Date

Notices Mailed Date

Class II Notices Published Dates

Site Visit Date

Town Action Received Date:

Public Hearing Date

Action by B.O.A. \_\_\_\_\_

**Approved** by: \_\_\_\_\_ Date: \_\_\_\_\_

Director, Division of Planning Operations, Department of Planning and Development

## Madison Water Utility

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Tom Heikkinen, General Manager

119 E. Olin Avenue  
Madison, Wisconsin 53713  
Telephone: 608 266-4651  
FAX: 608 266-4644  
E-mail: [water@cityofmadison.com](mailto:water@cityofmadison.com)

October 8, 2014

Dane County Planning & Development  
Division of Zoning

The Madison Water Utility has retained the services of Short, Elliott, Hendrickson, Inc. (SEH) to act as agent for the Utility in matters related to the replacement of the Lakeview water tower.

A handwritten signature in black ink, appearing to read "Dennis M. Cawley". The signature is fluid and cursive, with a large loop at the end.

Dennis M. Cawley, P.E.



Department of Public Works  
**Engineering Division**  
Robert F. Phillips, P.E., City Engineer  
City-County Building, Room 115  
210 Martin Luther King, Jr. Boulevard  
Madison, Wisconsin 53703  
Phone: (608) 266-4751  
Fax: (608) 264-9275  
[engineering@cityofmadison.com](mailto:engineering@cityofmadison.com)  
[www.cityofmadison.com/engineering](http://www.cityofmadison.com/engineering)

Sept. 20, 2014

**Assistant City Engineer**  
Michael R. Dailey, P.E.

**Principal Engineers**  
Christina M. Bachmann, P.E.  
John S. Fahrney, P.E.  
Gregory T. Fries, P.E.  
Christopher J. Petykowski, P.E.

**Facilities & Sustainability**  
Jeanne E. Hoffman, Manager

**Operations Manager**  
Kathleen M. Cryan

**Mapping Section Manager**  
Eric T. Pederson, P.S.

**Financial Manager**  
Steven B. Danner-Rivers

**Hydrogeologist**  
Brynn Bemis

### **LAKEVIEW RESERVOIR RECONSTRUCTION PROJECT INFORMATION**

The existing reservoir is located on land that is leased from Dane County and provides water storage and fire protection to Pressure Zone 5. The tank was constructed in 1938 to supply water to the Lake View Sanatorium. The tank is located adjacent to Lake View Park, which is a part of the Dane County park system. In order to mitigate disturbances to the park and surrounding areas, it is desired that the new reservoir be constructed in the same location as the existing reservoir. The existing reservoir has an overflow elevation of 1140 (top of tank elevation 1160 ft.) and serves approximately 190 homes and a portion of the Dane County Human Services campus within Zone 5.

The 2006 MWU Water Master Plan completed by Black & Veatch determined that Pressure Zone 6E currently has a storage deficiency and insufficient fire flow capacity in the vicinity of Pressure Zone 5. Similarly, the same Master Plan identified Zone 5 as currently lacking sufficient fire flow capacity in both the residential and the commercial/institutional areas, mainly due to existing limited reservoir storage volume, the restriction of 6-inch water main in the area and the limited capacity of the nearby Lake View Booster Station.

# CONSTRUCTION DRAWINGS FOR LAKEVIEW RESERVOIR REPLACEMENT PROJECT



## CITY OF MADISON, WISCONSIN

### SHEET INDEX

- 01 TITLE SHEET AND SHEET INDEX
- 02 CERTIFIED SURVEY MAP
- 03 THE PLAN WALL & CRANE PAD PLAN
- 04 GRADING PLAN
- 05 CONCRETE TANK PROCESS PIPING PLAN
- 06 LANDSCAPE PLAN
- 07 SITE DETAILS
- 08 PROCESS PIPING DETAILS
- 09 STEEL TANK GENERAL NOTES
- 10 STEEL TANK PLANS & TYPICAL ELEVATIONS
- 11 STEEL TANK PROCESS PIPING PLAN
- 12 STEEL TANK DETAILS
- 13 CONCRETE TANK GENERAL NOTES
- 14 CONCRETE TANK PROCESS PIPING PLAN
- 15 CONCRETE TANK DETAILS
- 16 ELECTRICAL SYMBOLS AND ABBREVIATIONS
- 17 PROPOSED ELECTRICAL WATER TOWER PLANS
- 18 ELECTRICAL SCHEDULES AND ONE-LINE DIAGRAM
- 19 VALVE BUILDING ELECTRICAL PLAN
- 20 ELECTRICAL SCHEDULES AND ONE-LINE DIAGRAM
- 21 ELECTRICAL DETAILS
- 22 ELECTRICAL DETAILS

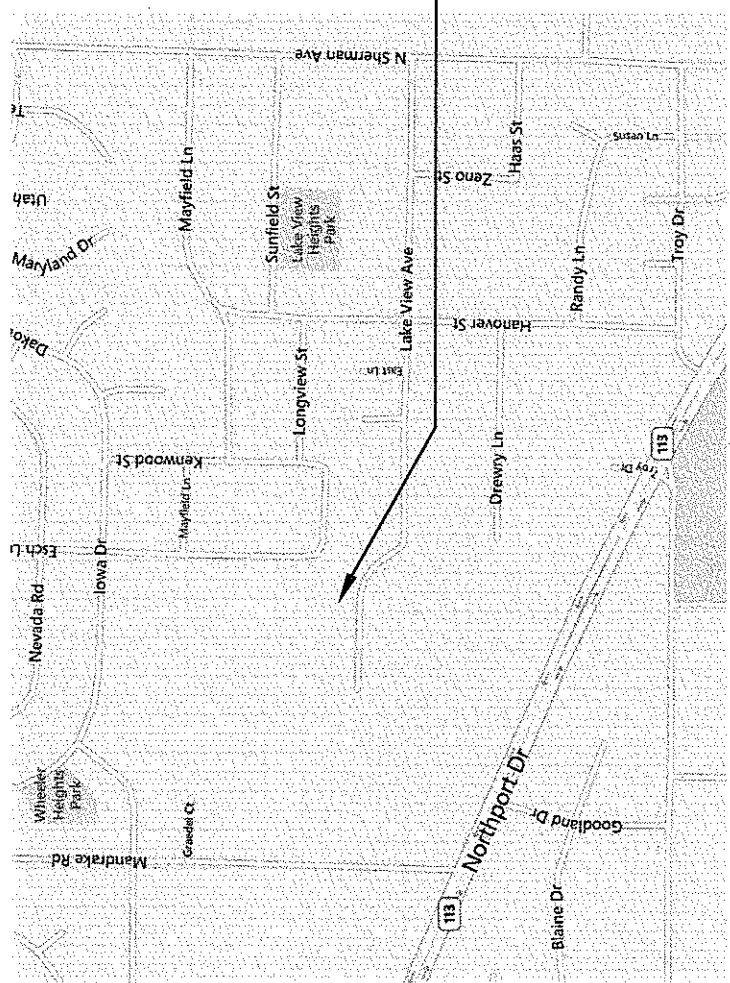
### SHEET NUMBERING LEGEND

- STRUCTURE IDENTIFIER OR SHEET TYPE
- G GENERAL INFORMATION
- 01 WATER TOWER
- D STANDARD DETAILS

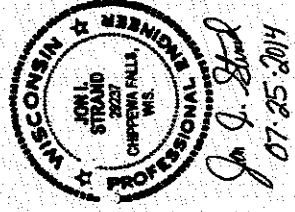


### CONSECUTIVE SEQUENCE DRAWING NUMBER

- DISCIPLINE
- G GENERAL
- R REMOVAL
- C CIVIL
- S STRUCTURAL
- P PROCESS
- M MECHANICAL & PLUMBING
- E ELECTRICAL



### PROJECT LOCATION



	MADISON WATER UTILITY REPLACEMENT PROJECT MADISON, WISCONSIN	MARK DATE REVISIONS DESCRIPTION	SHEET NO. 10411 PROJECT NO. 07-25-14 ISSUED DATE 07-25-14 DESIGNED BY JON STANK DRAWN BY SID LARSON	SHEET TITLE TITLE SHEET	SHEET 10
		SHEET NO. 10411 PROJECT NO. 07-25-14 ISSUED DATE 07-25-14 DESIGNED BY JON STANK DRAWN BY SID LARSON	SHEET TITLE TITLE SHEET	SHEET 10	



SEH  
Madison  
Water  
Utility

LAKENW RESERVOIR  
REPLACEMENT PROJECT  
MADISON, WISCONSIN

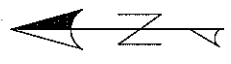
MARK DATE DESCRIPTION  
REVISIONS

SEH FILE NO. MADWJ 126154  
ISSUE DATE 07-25-14  
DESIGNED BY JON STRAND  
DRAWN BY SJO LARSON  
© 2014 Short Elliot Hendrickson, Inc.

SHEET TITLE  
CERTIFIED SURVEY MAP

SHEET  
C1

**SITE SURVEY FOR SEH INC.**  
LOT 1, CERTIFIED SURVEY MAP NO. 12189, VOL. 75,  
PG. 171, DOC. NO. 4328930; BEING A PART OF THE  
SOUTH HALF OF SECTION 25, T.8N, R.9E., CITY OF  
MADISON, DANE COUNTY, WISCONSIN



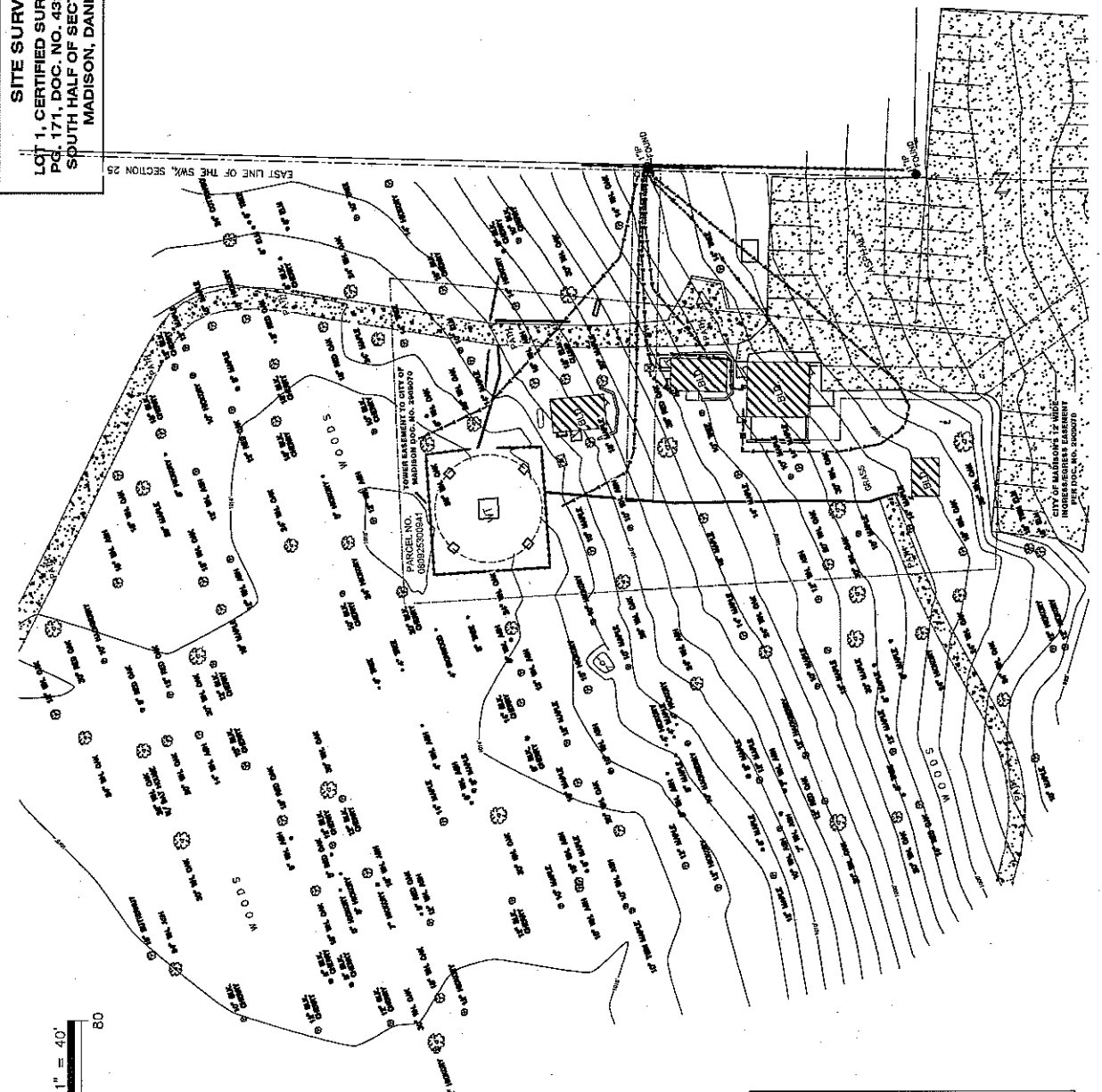
PREPARED FOR:  
SHORT ELLIOT HENDRICKSON (SEH) INC.  
1312 SOUTH THIRD STREET  
LA CROSSE, WISCONSIN 54601  
PROPERTY OWNER:  
DANE COUNTY HUMAN SERVICE  
MUNICIPAL OFFICE BLDG. #114  
MADISON, WISCONSIN 53703  
PARCEL NO. 08923300881

1 103-28-14 TOPOGRAHY/TREES  
DRAWING FILE: LVWT  
PROJECT NUMBER: 2140313  
DRAWN BY: BJB CHECKED BY: BJB  
NOTEBOOK: P-257 PAGES: 29-31

SEH FILE NO. MADWJ 126154  
ISSUE DATE 07-25-14  
DESIGNED BY JON STRAND  
DRAWN BY SJO LARSON  
© 2014 Short Elliot Hendrickson, Inc.

**SITE NAME:**  
MADISON  
LAKEVIEW WT  
1202 NORTHPORT DRIVE  
MADISON, WISCONSIN 53704  
DANE COUNTY

**QS MAP NO. D-1777**  
SHEET 2 OF 3

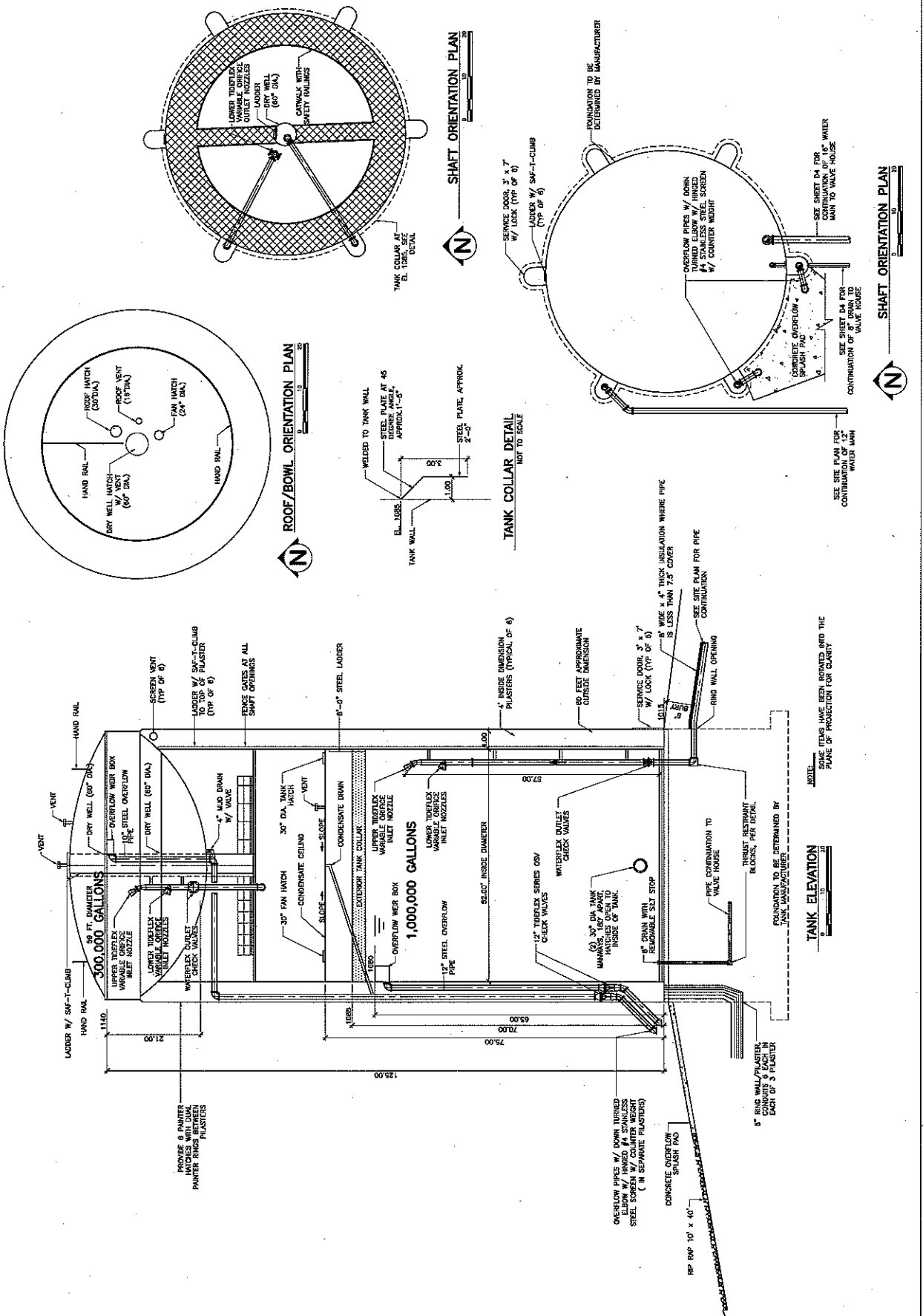


**LEGEND**

- COUNTY PLS CORNER
- ELECTRIC POWER POLE
- ELECTRIC METER
- GROUNDING PORT
- LIGHT POLE
- METAL/WOOD POST
- ELECTRIC TRANSFORMER
- TELEPHONE PEDESTAL
- DECIDUOUS TREE
- PROPERTY LINE
- BURIED ELECTRIC
- BURIED TELEPHONE
- BURIED FIBER OPTIC
- EXISTING FENCELINE
- BURIED TELEVISION
- EDGE OF WOODS
- 73.5X SPOT ELEVATION
- P.O.B. = POINT OF BEGINNING







NOTE: SOME ITEMS HAVE BEEN ROTATED INTO THE PLANE OF PROJECTION FOR CLARITY  
 FOUNDATION TO BE DETERMINED BY TANK MANUFACTURER  
 TANK MANUFACTURER  
 THERM RESTRAINT BLOCKS, PER DETAIL  
 5\"/>

