875 Wayzata Blvd W

Doc No **A9779504**

Certified, filed and/or recorded on
4/23/12 12:00 PM
Office of the County Recorder
Hennepin County, Minnesota
Rachel Smith, Acting County Recorder
Mark V. Chapin, County Auditor and Treasurer

Deputy 45 Pkg ID 796956M

Doc Name: Resolution

Document Recording Fee	$46.00
Document Total	$46.00

This cover sheet is now a permanent part of the recorded document.

CITY of ORONO

RESOLUTION OF THE CITY COUNCIL
NO. 6032

A RESOLUTION GRANTING
RPUD MASTER DEVELOPMENT PLAN APPROVAL
FOR KRAUS-ANDERSON REALTY COMPANY
FOR ORONO SENIOR HOUSING
PLANNED UNIT DEVELOPMENT NO. 7
FILE #11-3498

WHEREAS, the City of Orono (hereinafter the "City") is a municipal corporation organized and existing under the laws of the State of Minnesota; and

WHEREAS, the City Council of the City of Orono (hereinafter "City Council") has adopted land development regulations for the orderly, economic and safe development of land within the City; and

WHEREAS, Kraus-Anderson Realty Company (hereinafter the "Developer") has an interest in the property at 875 Wayzata Boulevard West, legally described in **Exhibit A** attached hereto (hereinafter the "Property"); and

WHEREAS, the City Council has considered the application by the Developer for rezoning of the Property to RPUD - Residential Planned Unit Development as well as development of the Property by the Planned Unit Development (PUD) process; and

WHEREAS, on July 12, 2010 the City Council adopted Resolution No. 5948 granting General Concept Plan Approval for the proposed development, which includes the following elements:

1. Rezoning of the Property from RR-1B Single Family Rural Residential District to RPUD Residential Planned Unit Development District;

2. Construction of a single, two-story, 55-unit senior assisted living facility, a private road, and a parking lot; and

WHEREAS, on March 28, 2011 the City Council accepted a change from the conditions of Resolution No. 5948 to allow construction of a single, two-story, 62-unit senior housing assisted living facility which is 7 more units than originally approved; and

CITY of ORONO

RESOLUTION OF THE CITY COUNCIL
NO. 6032

WHEREAS, the Developer has agreed to execute the Development Contract and Planned Unit Development Agreement (the "Agreement") for Orono Senior Housing Project PUD No. 7 ("PUD No. 7") providing for the installation of certain improvements as a condition of site plan approval for the construction of certain public and private improvements on the Property, and which Agreement documents the general and detailed conditions for development and use of the Property; and

WHEREAS, the Developer has agreed to construct a private road and sewer and water facilities to be privately owned and upon satisfactory completion to grant public easements to the City over the sewer and water improvements to be constructed by the developer within the Property; and

WHEREAS, the Developer has completed or has agreed to complete all other requirements of the Zoning Code and related Ordinances of the City including:

1. Completion of and adherence to all requirements and conditions of Resolution No. 5948.

2. Dedication on the plat of Drainage and Utility Easements.

3. Submittal of Minnehaha Creek Watershed District (MCWD) permit approving the grading and stormwater management facilities plan for the development of the Property as proposed per the approved Grading, Drainage and SWPP Plan as noted herein.

4. Payment to the City of Stormwater and Drainage Trunk Fees for the development of the Property in the amount of $74,410.00 as established in General Concept Plan Approval Resolution No. 5948.

5. Payment of a Park Dedication Fee in the amount of $139,750 as established in General Concept Plan Approval Resolution No. 5948; and

WHEREAS, City staff and consultants have reviewed the plans for this PUD application and hereby specify approval of each attached plan and identify them as part of the official record for PUD No. 7:

1. Approval of site plan and grading/drainage plans per the "Grading Plan", "Enlarged Grading Plan", "Erosion Control Plan", "Grading and Erosion Control Details" and "SWPPP Plan" Sheets C3.1, C3.2, C3.3, C3.4 and SWPPP.1 dated March 17, 2011 subject to any additional requirements of the MCWD and subject

to the additional requirements and conditions specified by the City Engineer in his letter dated March 23, 2011.

2. Approval of the wetland buffer plans per the "Wetland Buffer Maintenance Plan" and "Wetland Buffer and Upland Seeding Plan" Sheets C3.5 and L2.2 dated March 17, 2011 subject to the additional requirements and conditions specified by the City Engineer in his letter dated March 23, 2011.

3. Approval of sanity sewer and watermain plan per the "Sanitary Sewer and Watermain Plan" and "Utility Details Plans" Sheets C4.1, C4.3, C4.4 and C4.5 dated March 17, 2011 subject to the additional requirements and conditions specified by the City Engineer in his letter dated March 23, 2011.

4. Approval of storm drainage plan per the "Storm Drain Plan" Sheet C4.2 dated March 17, 2011 subject to the additional requirements and conditions specified by the City Engineer in his letter dated March 23, 2011.

5. Approval of the tree preservation and landscape plans per the "Tree Preservation Plan", "Landscape Plan", "Enlarged Landscape Plan", and "Landscape Details" Sheets L1.1, L2.1, L2.3 and L2.4 dated March 17, 2011 subject to coordinating with staff the placement of required trees not specifically located on the approved landscape plan as well as subject to conditions specified by the City Engineer in his letter dated March 23, 2011.

NOW, THEREFORE, BE IT RESOLVED that based on the findings of Resolution No. 5948, the City Council of the City of Orono does hereby grant Master Development Plan Approval for PUD No. 7, subject to the following conditions:

1. General Development Plan Approval is granted subject to conditions established within Resolution No. 5948 and subject to the conditions established within the Agreement for PUD No. 7 and other pertinent documents.

2. Upon the final approval and execution of this resolution and the Agreement for PUD No. 7, the City Council shall formally approve an ordinance amending the official zoning map of the City to rezone the Property from RR-1B Single Family Rural Residential District to RPUD Residential Planned Unit Development District, and amending the Orono Zoning Code by adding language establishing PUD No. 7 to include the Property.

CITY of ORONO

RESOLUTION OF THE CITY COUNCIL

NO. 6032

3. Upon approval of this Resolution the City Council shall direct the Mayor and Clerk to execute other documents required by this PUD rezoning, including but not limited to the Agreement for PUD No. 7.

4. The Developer shall execute the Stormwater Maintenance Agreement as noted within the Agreement for PUD No. 7.

5. The Developer shall establish an escrow account and executing an Escrow Agreement as established within the Agreement for PUD No. 7.

6. The Developer shall provide a Letter of Credit for the amount noted in the City Engineer's Estimate and established within the Agreement for PUD No. 7.

7. The Developer shall prepare, execute and provide an acknowledgment of risk for parking lot, road and underground utilities as set forth within the City Engineer's memo dated March 23, 2011.

8. The residence structure developed on the property shall be in conformity with the location, design and size requirements established in Resolution 5948 and in conformity with the Agreement for PUD No. 7. Any proposed development determined by the City to not be in conformity with said Agreement may be made only after a public hearing conducted by the Council. Any changes shall be recorded as amendments to the recorded copy of the final development plan.

9. If substantial development has not occurred within one year after approval of PUD No. 7 as set forth in the Agreement for PUD No. 7, the City Council may declare the approvals granted within this resolution and within said Agreement as null and void.

10. The Agreement for PUD No. 7 shall be filed with Hennepin County on or before March 28, 2012 together with a certified original copy of this resolution and executed copies of the Agreements, easements, and covenants pertinent thereto. The approval granted by this Resolution shall expire if the Agreement for PUD No. 7 has not been filed by the date specified above. In that event, it will be necessary to file a new application with the City of Orono for subdivision review.

CITY of ORONO

RESOLUTION OF THE CITY COUNCIL

NO. 6032

11. The approvals granted in this Resolution shall not become effective until such time that the Developer successfully completes purchase and provides suitable evidence of ownership of the Property.

12. The approvals granted in this Resolution shall become effective only when all conditions of approval requiring actions by the Developer have been satisfied.

CITY of ORONO

RESOLUTION OF THE CITY COUNCIL
NO. 6032

Adopted by the City Council of Orono this 28th day of March, 2011.

ATTEST:

Linda S. Vee, City Clerk

Lili Tod McMillan, Mayor

Developer (On behalf of Kraus-Anderson Realty Company)

CITY of ORONO

RESOLUTION OF THE CITY COUNCIL
NO. 6032

STATE OF MINNESOTA
COUNTY OF HENNEPIN

The foregoing instrument was acknowledged before me on this 28 day of March, 2011 by Lili Tod McMillan, Mayor of the City of Orono, a Minnesota municipal corporation and said instrument was executed on behalf of the City.

MONICA A. FADNESS
NOTARY PUBLIC - MINNESOTA
My Commission Expires Jan 31, 2012

Monica A. Fadness
Notary Public

STATE OF MINNESOTA
COUNTY OF HENNEPIN

The foregoing instrument was acknowledged before me on this 23 day of January, 2012 by Linda S. Vee, City Clerk of the City of Orono, a Minnesota municipal corporation and said instrument was executed on behalf of the City.

MONICA A FADNESS
NOTARY PUBLIC - MINNESOTA
My Commission Expires Jan. 31, 2012

Monica A. Fadness
Notary Public

STATE OF MINNESOTA
COUNTY OF HENNEPIN

This instrument was acknowledged before me on this 9th day of March, 2012 by Matt S. Alexander, the Dir. of Real Estate of Kraus-Anderson Realty Co., a Minnesota corporation, on behalf of the corporation.

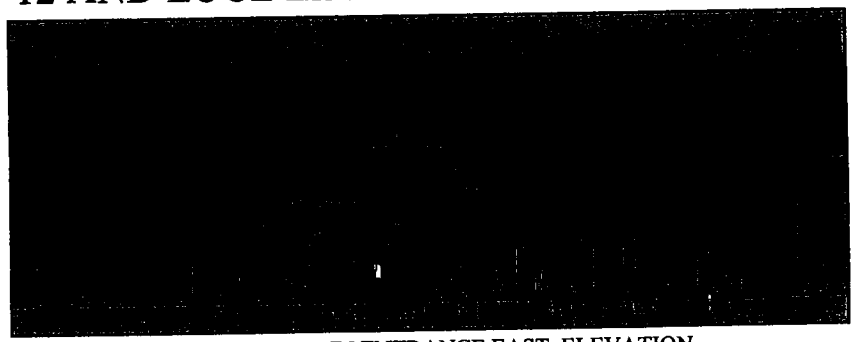
MONICA A. FADNESS
NOTARY PUBLIC - MINNESOTA
My Commission Expires Jan. 31, 2017

Monica A. Fadness
Notary Public

ORONO SENIOR HOUSING

NEW HIGHWAY 12 AND LUCE LINE TRAIL

ORONO, MINNESOTA



EXTERIOR MAIN ENTRANCE EAST ELEVATION

PROJECT PARTICIPANTS

OWNER / DEVELOPER
Krause-Anderson Realt Company
4210 West Old Shakopee Road
Bloomington, MN 55437
Contact: Matt Alexander
(952) 881-8166
(952) 881-8114 FAX

MANAGEMENT COMPANY
Ebenezer Management Services
2722 Park Avenue South
Minneapolis, MN 55407
Contact: Susan Farr
(612) 879-2294

ARCHITECT
Pope Associates Inc.
1255 Energy Park Dr.,
Saint Paul, MN 55108
Contact: Dan Neudecker
(651) 642-9200
(651) 642-1101 FAX

CIVIL ENGINEERING/LANDSCAPE
RHO DEVELOPMENT CONSULTING
P.O. Box 357
Long Lake, MN 55356
Contact: Steve Johnston - Civil
Contact: Pilar Saraithong - Landscape
(612) 382-4804
(952) 476-0876 FAX

ELECTRICAL
Convergent Media/Collins Electrical
278 State Street
Saint Paul, MN 55107
Contact: Dave Hove
(651) 224-2833
(651) 292-0359 FAX

SHEET INDEX

		ISSUE FOR CITY SUBMITTAL 01/14/11	ISSUE FOR CITY SUBMITTAL 02/17/11			
GENERAL						
A0.0	TITLE SHEET	●	●			
CIVIL						
C1.1	EXISTING CONDITIONS AND DEMOLITION PLAN	●	●			
C2.1	SITE PLAN	●	●			
C2.2	ENLARGED SITE PLAN	●	●			
C2.3	SITE PLAN DETAILS	●	●			
C3.1	GRADING PLAN	●	●			
C3.2	ENLARGED GRADING PLAN	●	●			
C3.3	EROSION CONTROL PLAN	●	●			
C3.4	GRADING AND EROSION CONTROL DETAILS	●	●			
C3.5	WETLAND BUFFER MAINTENANCE PLAN	●	●			
C4.1	SANITARY SEWER & WATERMAIN PLAN	●	●			
C4.2	STORM DRAIN PLAN		●			
C4.3	UTILITY DETAILS	●	●			
C4.4	UTILITY DETAILS	●	●			
C4.5	UTILITY DETAILS	●	●			
L1.1	TREE PRESERVATION PLAN		●			
L2.1	LANDSCAPE PLAN	●	●			
L2.2	WETLAND BUFFER & UPLAND SEEDING PLAN	●	●			
L2.3	ENLARGED LANDSCAPE PLAN	●	●			
L2.4	LANDSCAPE DETAILS	●	●			
SWPPP.1	SWPPP PLAN		●			
ARCHITECTURAL						
A2.1	FIRST FLOOR PLAN	●	●			
A2.2	SECOND FLOOR PLAN	●	●			
A2.3	ENLARGED UNIT FLOOR PLANS	●	●			
A3.0	EXTERIOR ELEVATIONS	●	●			
ELECTRICAL						
1 of 1	SITE PHOTOMETRIC PLAN	●	●			

RECEIVED
MAR 17 2011
CITY OF ORONO

VICINITY MAP

SITE LOCATION:

Intersection of New Highway 12 and Lucy Line State Trail
ORONO, MINNESOTA

NORTH

Exhibit D

POPE

Pope Associates Inc.
1255 Energy Park Drive
St. Paul, MN
Ph. (651) 642-9200
Fax (651) 642-1101

KRAUS-ANDERSON, COMPANIES

EBENEZER

ORONO SENIOR HOUSING
ORONO, MN

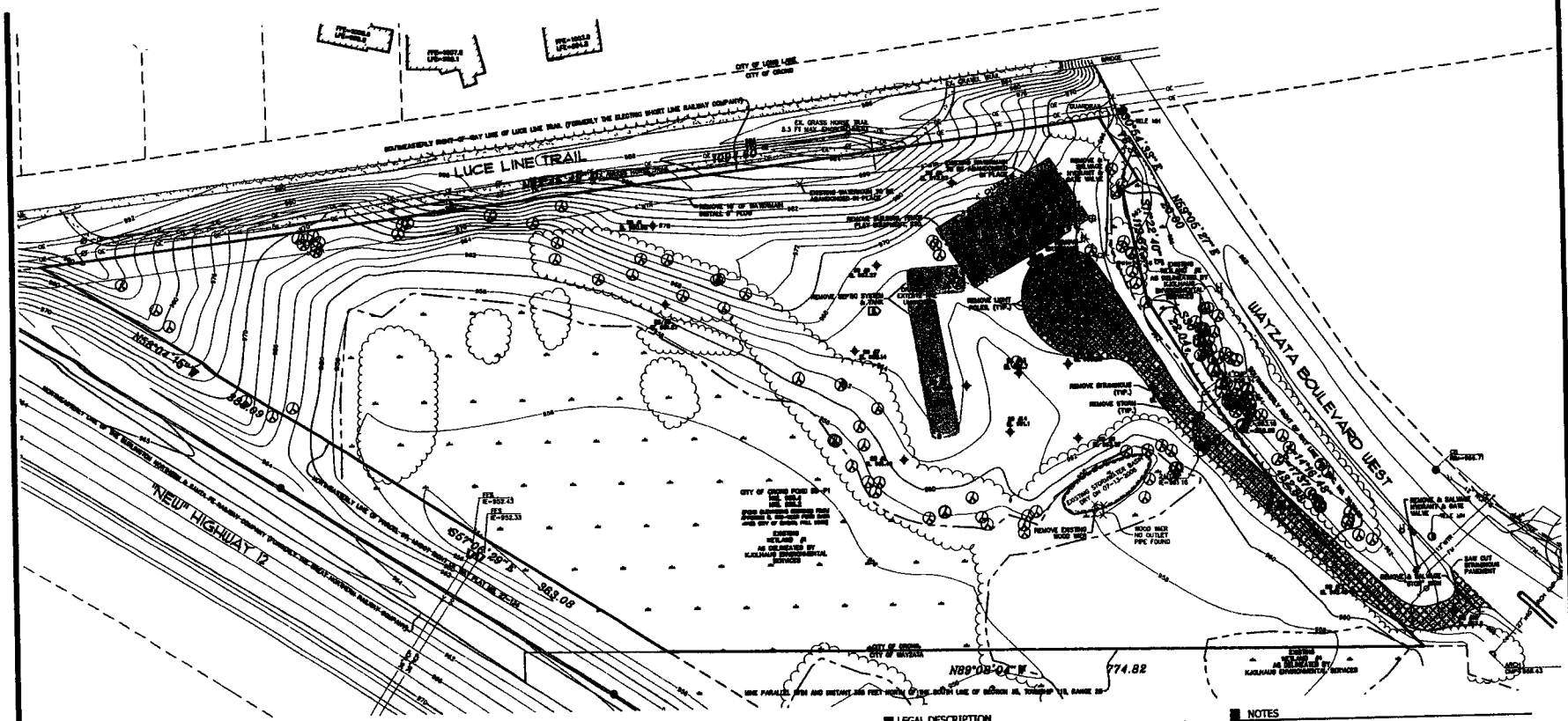
CITY SUBMITTAL

TITLE SHEET

Issue of Bulletins:
CITY SUBMITTAL ISSUE 01-14-11
CITY SUBMITTAL RE-ISSUE 02-17-11

Project No. 41300-15106
Drawn by DTP
Reviewed by DN

SHEET
A0.0



LEGEND

REMOVE STRUCTURE

REMOVE BITUMINOUS OR RECYCLE AND LEAVE IN PLACE

DEMOLITION NOTES

1. ALL NECESSARY PERMITS FOR DEMOLITION SHALL BE OBTAINED BY THE CONTRACTOR PRIOR TO COMMENCING WORK.
2. CONSTRUCTION ENTRANCE AND SILT FENCE (INSTALL FIELD FIRST) SHALL BE IN PLACE PRIOR TO DEMOLITION WORK. [illegible]
3. THE LOCATIONS, SIZES AND TYPES OF ALL EXISTING UTILITIES SHOWN ARE AS INFORMATION [illegible]
4. NO DEMOLITION MATERIALS SHALL BE BURIED OR OTHERWISE DISPOSED OF ON THE SITE. [illegible]
5. PROTECT ALL VEGETATION NOT LABELED FOR DEMOLITION FROM DAMAGE DURING ALL PHASES OF DEMOLITION. [illegible]
6. [illegible]
7. NOTIFY ENGINEER OF DISCREPANCIES BETWEEN PLANS AND FIELD CONDITIONS.
8. [illegible]
9. COORDINATE ALL UTILITY DISCONNECTS WITH THE APPROPRIATE UTILITY COMPANIES. PROVIDE [illegible] SERVICE TO ALL REMAINING BUILDINGS.

LEGAL DESCRIPTION

PARCEL A

THAT PART OF THE SOUTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 19, TOWNSHIP 118, RANGE 23, WEST OF THE 5TH PRINCIPAL MERIDIAN, DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT ON THE WEST LINE OF A 100 FOOT WIDE RAILROAD EASEMENT OF THE [illegible] [illegible]

[illegible]

PARCEL B

[illegible]

BENCHMARK

[illegible]

NOTES

1. [illegible]
2. [illegible]
3. [illegible]

SEE SHEET L1.1 FOR TREE REMOVAL

SEE SHEET C3.3 FOR EROSION CONTROL FENCE

811 Know what's below. Call before you dig.

NORTH

0 50 100

SCALE IN FEET

PAPE

Pape Associates Inc.

EKLUS-ANDERSON, COMPANIES

EBENEZER

RHO Development Consulting

P.O. BOX 247
LONG LAKE, MN 55356

ORONO SENIOR HOUSING
ORONO, MN

DEVELOPMENT STAGE APPLICATION

EXISTING CONDITIONS & DEMOLITION PLAN

Issue or Revision	
CITY SUBMITTAL ISSUE	01-16-11
CITY ENGINEERS COMMENTS	02-02-11
WATERSHED SUBMITTAL	03-02-11
DEVELOPMENT STAGE APPLICATION	03-17-11

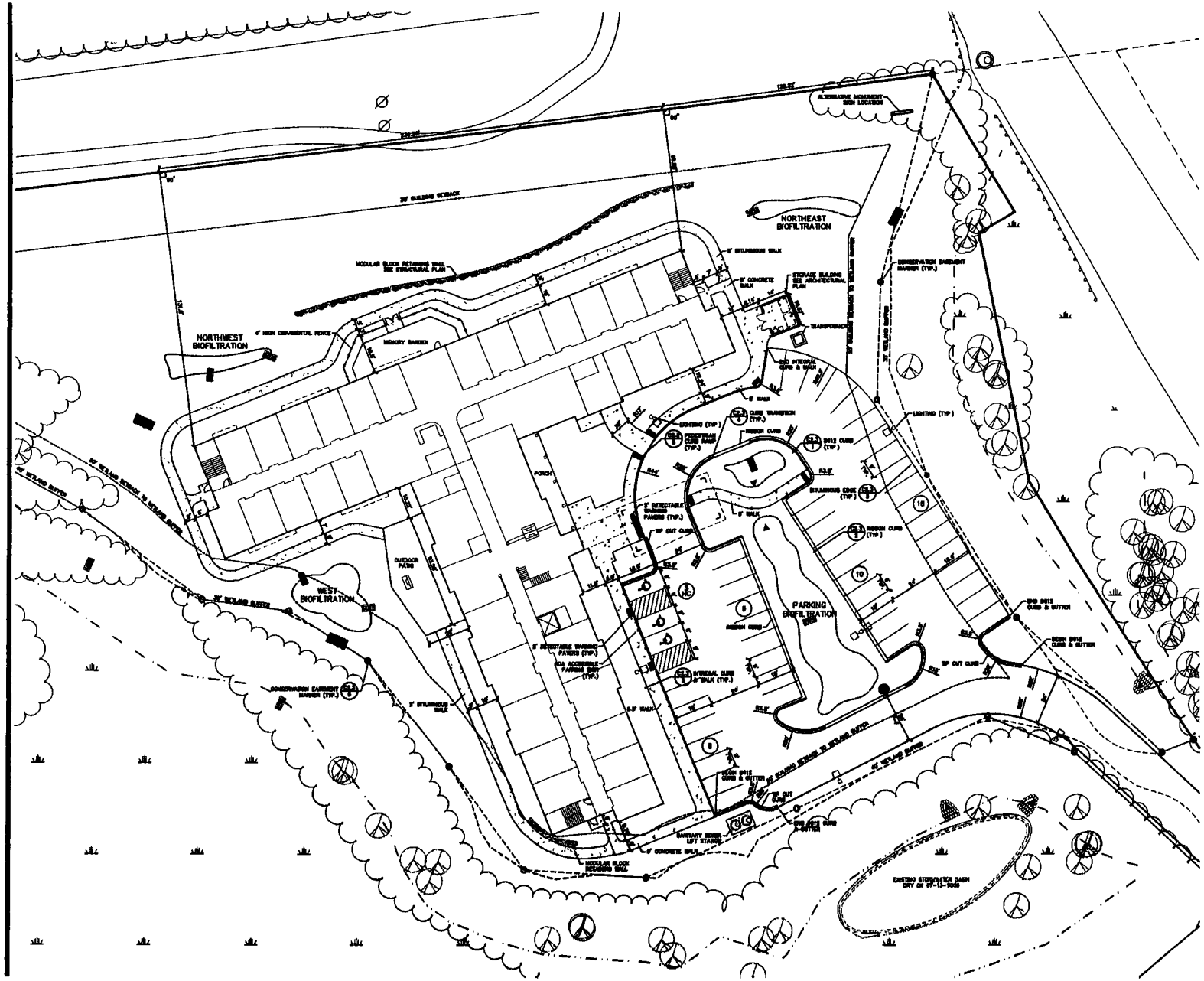
I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNED [illegible]
DATE 03/17/2011 REG. NO. [illegible]

Project No.	5110-141
Drawn by:	PS
Checked by:	[illegible]

SHEET

C1.1



POPE

EDAUS-ANDERSON, COMPANIES

EBENEZER

RHO Development Consulting

ORONO SENIOR HOUSING
ORONO, MN

DEVELOPMENT STAGE APPLICATION

ENLARGED SITE PLAN

Issue of Drawings	
CITY SUBMITTAL ISSUE	01-14-11
CITY ENGINEERS COMMENTS	02-02-11
WATERSHED SUBMITTAL	03-02-11
DEVELOPMENT STAGE APPLICATION	03-17-11

DATE 03/17/2011 SCAL NS MRM

M10-141

SHEET

C2.2

LUCE LINE TRAIL

"NEW" HIGHWAY 12

WAYZATA BOULEVARD WEST

SITE SUMMARY

TOTAL SITE AREA	426,373 SF	10.28 AC.
WETLAND AREA	104,248 SF.	2.39 AC.
NET AREA	324,125 SF.	7.89 AC.

SITE PLAN SURFACE SUMMARY

	SITE PLAN AREA	OVERALL AREA	% COVERAGE
GREEN SPACE			
WETLAND		104,248 S.F.	24.4 %
WETLAND BUFFER		82,000 S.F.	19.2 %
TURF & LANDSCAPE		38,000 S.F.	8.9 %
STORMWATER FACILITY		3,400 S.F.	0.8 %
OTHER OPEN SPACE		111,000 S.F.	26.0 %
HARD COVER			
BUILDING	53,894 S.F.		12.6 %
SIDEWALK/ PATIO/ WALK	5,574 S.F.		1.3 %
PARKING/ DRIVE	27,340 S.F.		6.4 %
ACTIVITY PERCENT OF TOTAL AREA	86,808 S.F. 13.3 %	426,373 S.F. 20.7 %	

WETLAND BUFFER SUMMARY

TYPE	AREA (SQ.FT.) (ACRES)	IMPACT (SQ.FT.)(ACRES)	MITIGATION (SQ.FT.)(ACRES)	MITIGATION/TOTAL (SQ.FT.) (ACRES)
WETLAND 1 BUFFER	54,000 1.24	1,000 0.023	2,102 0.05 (2:1)	55,070 1.26
WETLAND 2 BUFFER	6,227 0.10	000 0.01	1,120 0.03 (3:1)	6,000 0.09
WETLAND 3 BUFFER	5,000 0.13	1,074 0.025	2,148 0.05 (2:1)	10,000 0.23
TOTAL	75,010 1.67	2,722 0.09	5,400 0.12 (2:1)	75,040 1.72

SITE PLAN NOTES

1. [illegible]
2. DIMENSIONS SHOWN ON THIS PLAN ARE TO EDGE OF PAVEMENT AND EXTERIOR FACE OF CURB.
3. PARKING STALLS TO BE STRIPED WITH A 4" WIDE WHITE PARKING STRIPE. HANDICAP STALLS TO BE STRIPED WITH A 4-INCH WIDE YELLOW PARKING STRIPE TO INCLUDE OF CURBS AND 1" ON SIDEWALK AREAS TO WALL.
4. MEET AND MATCH EXISTING PAVEMENT.
5. INSTALL SALVAGED "STOP" SIGN PER CITY OF ORONO STANDARDS.
6. LIGHT ON 16' POLE.

PARKING SUMMARY

PROPOSED	
STAND ACCESSIBLE STALL	3 STALLS
STAND STALL	45 STALLS
TOTAL	48 STALLS

LEGEND

- WETLAND
- WETLAND BUFFER
- OTHER OPEN SPACE
- DEMOLITION
- TURF & LANDSCAPING
- WETLAND BUFFER IMPACT
- WETLAND BUFFER MITIGATION

NORTH

0 50 100

SCALE IN FEET

TURNING MOVEMENT

APPLIED BUFFER WIDTH

POPE

Pope Architects Inc.

KRAUS-ANDERSON, COMPANIES

EBENEZER

RHO Development Consulting

P.O. BOX 397
LONG LAKE, MN 55356

ORONO SENIOR HOUSING
ORONO, MN

DEVELOPMENT STAGE APPLICATION

SITE PLAN

Issue of Sheet	
CITY SUBMITTAL ISSUE	01-14-11
CITY ENGINEERS COMMENTS	02-03-11
WATERSHED SUBMITTAL	03-02-11
DEVELOPMENT STAGE APPLICATION	03-17-11

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SIGNATURE

DATE 03/17/2011 REG. NO. [illegible]

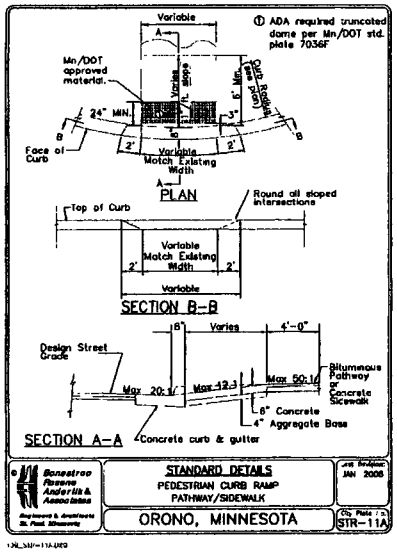
Project No. M10-141

Dwg. No. -PS

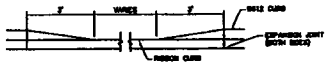
Drawn by [illegible]

SHEET

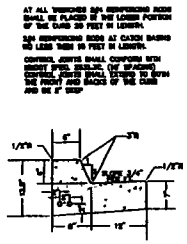
C2.1



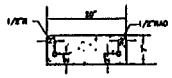
6 PEDESTRIAN CURB RAMP NO SCALE



4 CURB TRANSITION NO SCALE



1 B612 CURB NO SCALE



2 RIBBON CURB NO SCALE

SPECIFICATIONS

POSTS:
CONSISTS OF A POST AND A CONSERVATION EASEMENT SIGN

CONSERVATION EASEMENT SIGNS:
PURCHASED FROM CITY OF ORONO

MOUNTED FLUSH WITH THE TOP OF THE POSTS

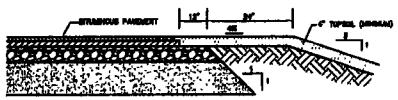
FASTENED WITH NON-REMOVABLE SCREWS OR RIVETS

POST MATERIALS:
METAL FENCE POST

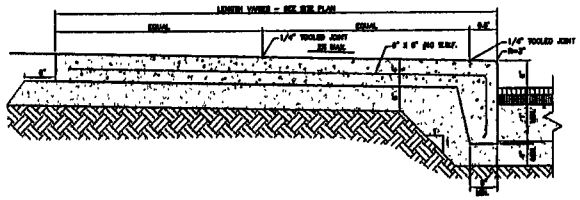
POST INSTALLATION:
MOUNTED TO A HEIGHT OF FOUR FEET ABOVE GRADE

SET AT LEAST 48 INCHES IN THE GROUND

7 CONSERVATION EASEMENT MARKER NO SCALE



5 BITUMINOUS EDGE NO SCALE



3 INTEGRAL CURB & WALK NO SCALE

POPE

Pope Architects Inc.

KRAUS-ANDERSON, COMPANIES

EBENEZER

RHO Development Consulting

P.O. BOX 307
LONG LAKE, MN 55356

ORONO SENIOR HOUSING
ORONO, MN

DEVELOPMENT STAGE APPLICATION

SITE PLAN DETAILS

Issue of Release	
CITY SUBMITTAL ISSUE	01-14-11
CITY ENGINEERS COMMENTS	02-03-11
WATERSHED SUBMITTAL	03-02-11
DEVELOPMENT STAGE APPLICATION	03-17-11

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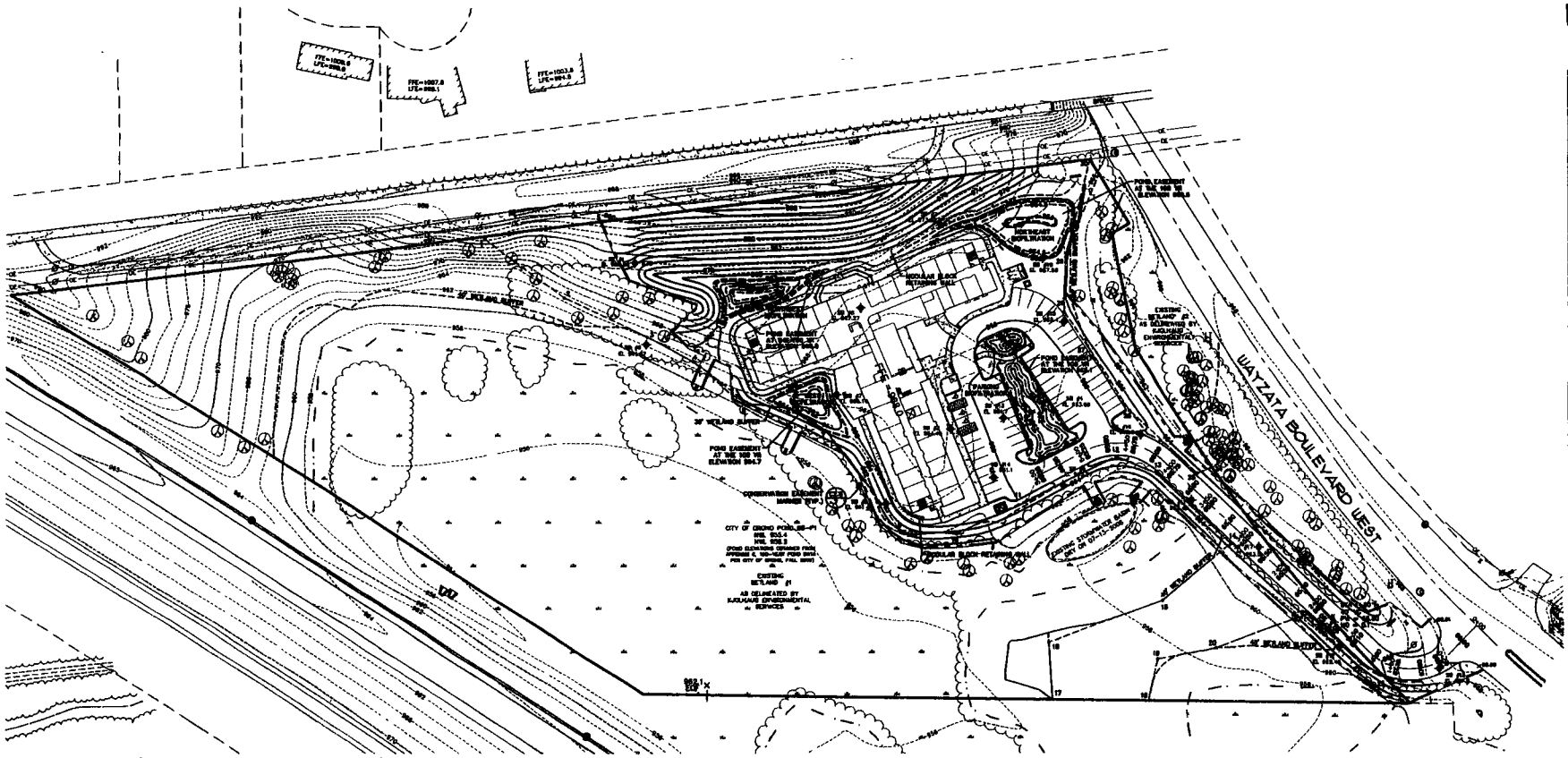
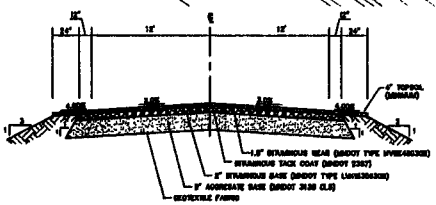
DATE 10/17/2011 REG. NO. 18894

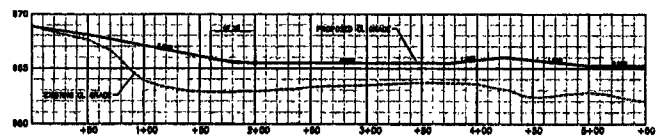
Project No. M10-141
Date by PB
Drawn by SMJ

SHEET
C2.3





1 PROPOSED DRIVEWAY X-SECTION



2 PROPOSED DRIVEWAY PROFILE

BIOFILTRATION BASIN

BASIN	1 YR	10 YR	100 YR
NE	904.3	904.3	905.5
NW	904.3	904.3	905.5
WEST	903.4	904.3	904.7
POND88	904.5	906.3	906.1

LEGEND

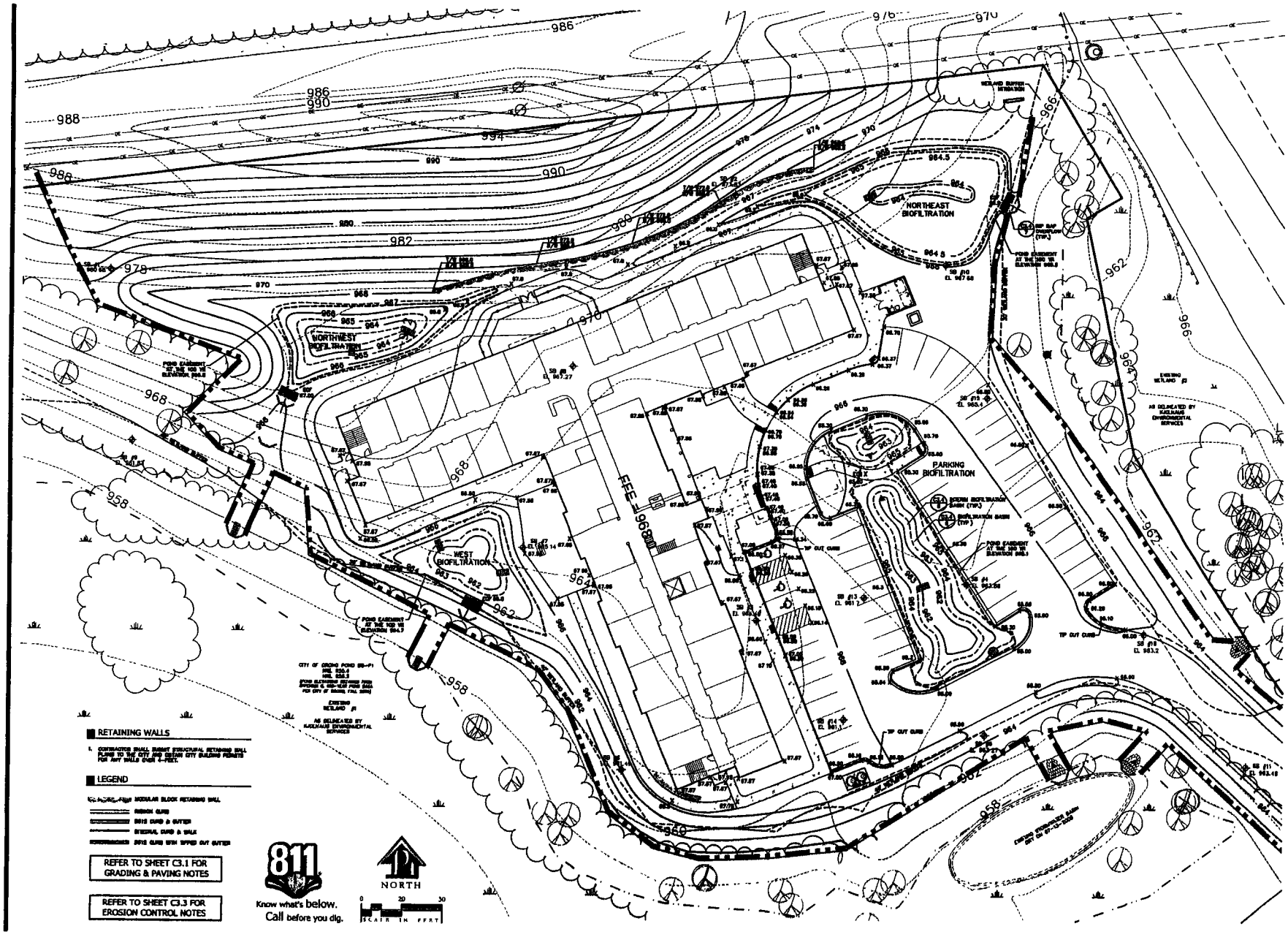
MODULAR BLOCK RETAINING WALL

CONSERVATION MARKER LOCATION

POST NUMBER	NORTHING	EASTING
1	169973.4999	497328.2109
2	169915.1929	497417.5891
3	169875.8999	497508.3999
4	169855.8721	497647.8149
5	169857.5092	497908.8991
6	169862.8999	497944.2999
7	169873.6363	497981.5392
8	169885.8949	497798.9959
9	169789.7745	497795.1939
10	169777.5999	497813.7792
11	169814.6999	497893.7799
12	169859.5779	497975.9139
13	169925.3979	498014.9191
14	169999.7939	498069.6973
15	169999.6799	498069.7799
16	169947.7949	497995.1991
17	169999.6999	497999.6999
18	169999.3979	498069.6991
19	169999.6999	498015.1754
20	169999.8991	498047.5492
21	169999.6999	498097.5999
22	169999.6999	498071.6999
23	169939.6997	498049.5799
24	169999.6999	498099.6999
25	169999.4999	498099.6999
26	169999.4999	497997.4799
27	169999.6999	497949.1999
28	169999.6999	497949.4999
29	169999.7999	497999.7999
30	169999.6999	497997.7999

GRADING & PAVING NOTES

1. BACKGROUND INFORMATION SHOWN FROM SOURCES THE BEST AVAILABLE. ACCURACY IS LIMITED BY SOURCE. ALL ELEVATIONS ARE IN FEET. ALL DIMENSIONS, AND BY DIRECT NOTE SHOWN IN PLAN DRAWING. VERIFY DIMENSIONS TO BE FIELD VERIFIED TO ENSURE ACCURACY. ALL DIMENSIONS AND ELEVATIONS ARE NOTED. THE DRAWING SHALL BE SUBSEQUENTLY REVISED FOR REVISIONS.
2. SEE SPECIFICATIONS FOR SECTIONAL GRADING AND EROSION CONTROL REQUIREMENTS.
3. REFER TO RECOMMENDATIONS IN THE GEOTECHNICAL REPORT FOR ANY ADDITIONAL SITE PREPARATION INFORMATION OR RECOMMENDATIONS.
4. SEE SHEET C1.1 FOR ALL DIMENSIONS AND REQUIREMENTS PERTAINING TO EXISTING TREES.
5. PROTECT ALL SURFACE SITE FEATURES NOT NOTED FOR REMOVAL.
6. EXISTING GRADES SHOWN [illegible] FOR ESTIMATING PURPOSES ONLY. THEY ARE NOT ADEQUATE TO REFLECT WALLS AND RE-PLACED [illegible] NEW GRADING PLAN.
7. ALL BUILDING PADS AND PAVED AREAS ARE BASED ON MATERIAL SHALL BE COMPACTED TO [illegible] ALL OF THE EXISTING [illegible] SHALL BE REMOVED [illegible] ALL FILL MATERIAL [illegible] ALL FILL MATERIAL [illegible] ALL FILL MATERIAL



POPE

KRAUS-ANDERSON COMPANIES

EBENEZER

RHO Development Consulting

ORONO SENIOR HOUSING
ORONO, MN

DEVELOPMENT STAGE APPLICATION

ENLARGED GRADING PLAN

Issue and Revision	
CITY SUBMITTAL ISSUE	01-14-11
CITY ENGINEERS COMMENTS	02-03-11
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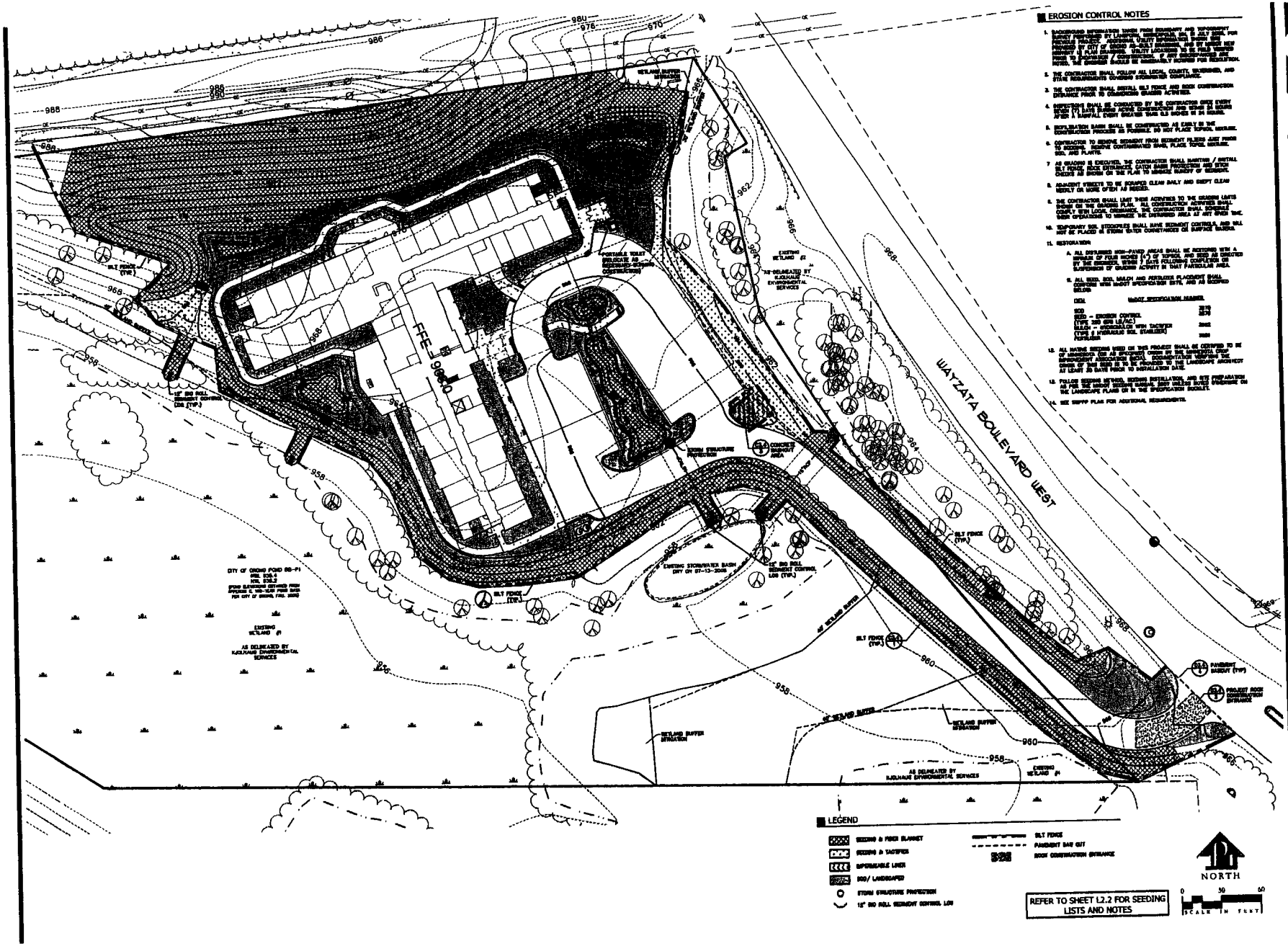
DEVELOPMENT STAGE APPLICATION	03-17-11

SHEET

C3.2

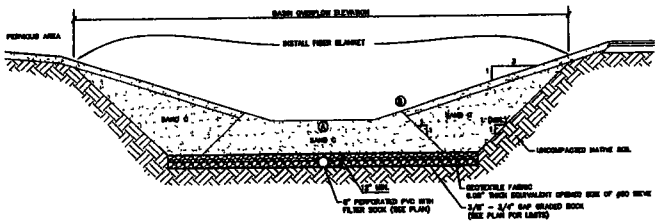


EROSION CONTROL NOTES

1. BACKGROUND INFORMATION WHICH PRECEDES THE EROSION CONTROL NOTES WAS PROVIDED BY LANDTECH CORPORATION, INC. AND ARE BASED ON PLANS PREPARED BY LANDTECH CORPORATION, INC. AND ARE BASED ON PLANS PROVIDED BY CITY OF ORONO AS-BUILT DRAWINGS. AS WE HAVE NOT PROVIDED ALL OF THE ORIGINAL DRAWINGS, THAT INFORMATION IS NOT ALL FULLY VERIFIED. THE CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS PRIOR TO BEGINNING WORK. IF ANY DISCREPANCIES ARE FOUND, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY PRIOR TO CONSTRUCTION. ALL DISCREPANCIES MUST BE RESOLVED BY THE ENGINEER.
2. THE CONTRACTOR SHALL FOLLOW ALL LOCAL, COUNTY, WATERSHED, AND STATE REGULATIONS REGARDING STORMWATER COMPLIANCE.
3. THE CONTRACTOR SHALL INSTALL SILT FENCE AND ROCK CONSTRUCTION ENTRANCE PRIOR TO COMMENCING GRADING ACTIVITIES.
4. INSPECTIONS SHALL BE CONDUCTED BY THE CONTRACTOR ONCE EVERY SEVEN (7) CALENDAR DAYS, DURING ACTIVE CONSTRUCTION AND WITHIN 24 HOURS OF ANY 1.5 INCHES OF RAIN. EVERY GRAVEL BASE IS 0.5 INCHES IN 24 HOURS.
5. EROSION BASIN SHALL BE CONSTRUCTED AS EARLY IN THE CONSTRUCTION PROCESS AS POSSIBLE. DO NOT PLACE TOPSOIL MATERIAL.
6. CONTRACTOR TO REMOVE SEDIMENT FROM SEDIMENT FILTERS AND PONDS TO REGRADE, REMOVE CONTAMINATED SOIL, PLACE TOPSOIL MATERIAL, SOD, AND PLANTS.
7. AS WORK IS EXECUTED, THE CONTRACTOR SHALL MAINTAIN / INSTALL SILT FENCE, ROCK CONSTRUCTION, CATCH BASIN PROTECTION AND OTHER CHECKS AS SHOWN ON THE PLAN TO MINIMIZE HAZARDS OF SEDIMENT.
8. ADJACENT STREETS TO BE SCRAPED CLEAN DAILY AND SWEPT CLEAN WEEKLY OR MORE OFTEN AS NEEDED.
9. THE CONTRACTOR SHALL LIMIT THEIR ACTIVITIES TO THE SEEDING LIMITS SHOWN ON THE GRADING PLAN. ALL CONSTRUCTION ACTIVITIES SHALL COMPLY WITH LOCAL ORDINANCE. THE CONTRACTOR SHALL REPEAT CONTROL OPERATIONS TO MINIMIZE THE DISTURBED AREA AT ANY GIVEN TIME.
10. TEMPORARY SOIL STOCKPILE SHALL HAVE SEDIMENT CONTROL AND WILL NOT BE PLACED IN STORM WATER CONSTRUCTION OR CONTROL AREAS.
11. RESTORATION
    A. ALL DISTURBED NON-PAVED AREAS SHALL BE RESTORED WITH A MINIMUM OF FOUR INCHES (4") OF TOPSOIL AND SEED AS DIRECTED BY THE ENGINEER, WITHIN 7 DATES FOLLOWING COMPLETION OR SUSPENSION OF GRADING ACTIVITY IN THAT PARTICULAR AREA.
    B. ALL SEED, SOD, MULCH AND FERTILIZER PLACEMENT SHALL CONFORM WITH MNDOT SPECIFICATION 2575, AND AS NOTED BELOW.

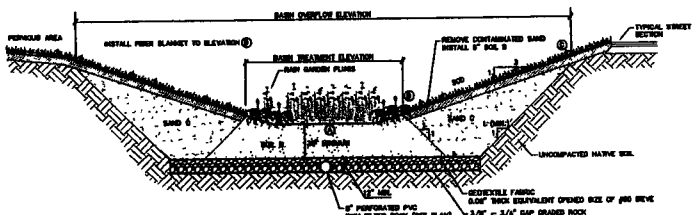
ITEM	MNDOT SPECIFICATION NUMBER
SOD	3878
SEED - EROSION CONTROL	3876
(TYPE 390 WITH LEGUME)	
MULCH - HYDROMULCH WITH TACKIFIER	3882
(TYPE 4 LANDMARK SOIL STABILIZER)	
FERTILIZER	3889

12. ALL MATERIAL SPECIFIED USED ON THIS PROJECT SHALL BE CERTIFIED TO BE NON-NOXIOUS (SEE AS APPROVED LISTED BY THE MINNESOTA DEPARTMENT OF AGRICULTURE). SOIL EXCAVATION MATERIAL THE DEPARTMENT ASSOCIATES



5 INTERIM BIOFILTRATION BASIN NO SCALE

*** REMOVE SAND, FIBER BLANKET, AND SILT AND REPLACE WITH SOIL & BURNIN PRAIRIE LANDSCAPING



BASIN	Ⓐ BOTTOM OF BASIN	Ⓑ 1 1/2" RAINFALL POOL ELEVATION	Ⓒ EDGE OF BASIN	PIPE INVERT ELEVATION
NW	983.0	983.4	986.0	985.5
NE	983.0	983.00	984.0	985.5
W	983.0	983.0	984.0	985.5
PARKING	983.0	983.00	984.0	985.5

SOIL B

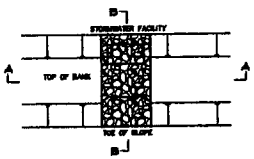
NON-TOX CONSTRUCTION SAND ASSHTO M-6 OR ASTM C-33 WITH GRAIN SIZE OF 0.02"-0.04"

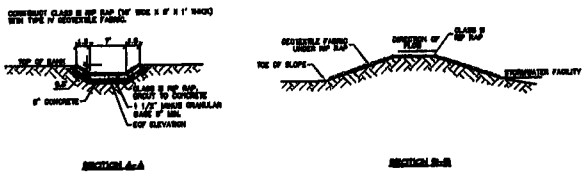
NON-TOX ORGANIC LEAF COMPOST MNDOT GRADE 2

SOIL C CONSTRUCTION SAND

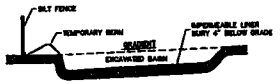
CLEAN CONSTRUCTION SAND FREE OF DELETERIOUS MATERIALS ASSHTO M-6 OR ASTM C-33 WITH GRAIN SIZE OF 0.02"-0.04"

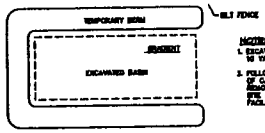
6 BIOFILTRATION BASIN NO SCALE





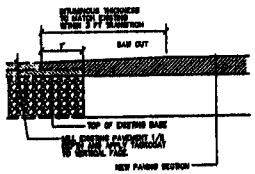
7 RIP RAP OVERFLOW NO SCALE



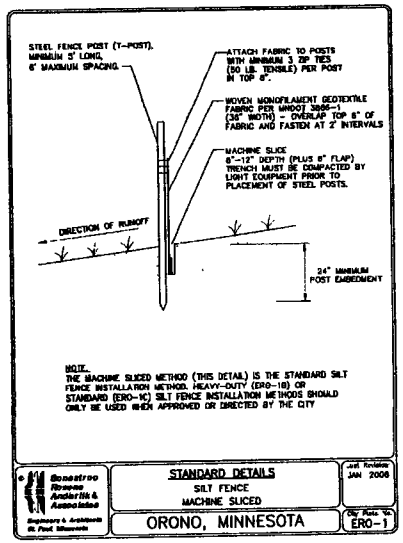


NOTES:
1. EXCAVATED BASIN SHALL HAVE A MINIMUM 10 YARD CAPACITY.
2. FOLLOWING CONSTRUCTION, OR WHEN 1/2 OF CAPACITY IS LOST, CONTRACTOR SHALL REMOVE ACCUMULATED CONCRETE FROM SITE AND DISPOSE OF AT PROPER FACILITY.

3 CONCRETE WASHOUT AREA NO SCALE



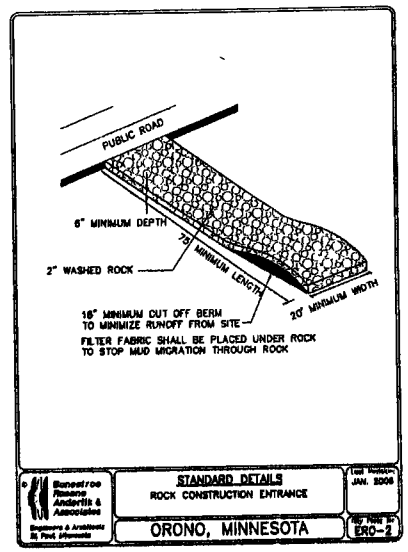
4 PAVEMENT SAW CUT NO SCALE



NOTE:
THE MACHINE SLICED METHOD (THIS DETAIL) IS THE STANDARD SILT FENCE INSTALLATION METHOD. HEAVY-DUTY (ERO-1B) OR STANDARD (ERO-1C) SILT FENCE INSTALLATION METHODS SHOULD ONLY BE USED WHEN APPROVED OR DIRECTED BY THE CITY

Bonestroo Rosene Anderlik & Associates Engineers & Architects St. Paul, Minnesota	STANDARD DETAILS SILT FENCE MACHINE SLICED	Last Revision JAN. 2006
	ORONO, MINNESOTA	File Name ERO-1

1 SILT FENCE NO SCALE



Bonestroo Rosene Anderlik & Associates Engineers & Architects St. Paul, Minnesota	STANDARD DETAILS ROCK CONSTRUCTION ENTRANCE	Last Revision JAN. 2006
	ORONO, MINNESOTA	File Name ERO-2

2 PROJECT ROCK CONSTRUCTION ENTRANCE NO SCALE

POPE

Pope Associates Inc.

KRAUS-ANDERSON, COMPANIES

BENIZER

RHO Development Consulting

ORONO SENIOR HOUSING
ORONO, MN

DEVELOPMENT STAGE APPLICATION

GRADING & EROSION CONTROL DETAILS

Issue of Drawings	
CITY SUBMITTAL ISSUE	05-14-11
CITY ENGINEERS COMMENTS	02-03-11
WATERSHED SUBMITTAL	03-02-11
DEVELOPMENT STAGE APPLICATION	03-17-11

SHEET

C3.4

WETLAND BUFFER MAINTENANCE SCHEDULE

YEAR 1

A. ESTABLISHMENT (SPRING SEEDING)

SPRING SEEDING

1. PREPARE SITE BETWEEN LATE APRIL–MAY
2. SEED BETWEEN MAY 1–JULY 1

FALL SEEDING

1. PREPARE SITE BETWEEN LATE AUGUST–EARLY SEPTEMBER
2. SEED BETWEEN LATE SEPTEMBER TO FREEZE

B. MAINTENANCE

1. MOW UPLAND EVERY 20 DAYS TO 8–10 INCHES BETWEEN JUNE 10–AUGUST 15
2. MOWING SHOULD BE COMPLETED WHEN ANNUAL WEEDS ARE NO TALLER THAN 2 FEET.
3. APPLY SYNANTHE SPECIES CONTROL (SEE BUCKTHORN & GARLIC MUSTARD CONTROL PLANS).

C. EVALUATION

1. CONDUCT & SUBMIT ANNUAL WETLAND BUFFER EVALUATION REPORT.

YEAR 2

A. MAINTENANCE

1. MOW TWICE BEFORE WEEDS SET SEED AROUND JUNE 15 AND AROUND JULY 30 TO 8–10 INCHES.
2. APPLY SYNANTHE SPECIES CONTROL (SEE BUCKTHORN & GARLIC MUSTARD CONTROL PLANS)

B. EVALUATION

1. MONITOR TWICE BETWEEN APRIL AND SEPTEMBER.
2. SUBMIT ANNUAL WETLAND BUFFER EVALUATION REPORT.

YEAR 3

A. MAINTENANCE

1. MOW ONLY IF NECESSARY
2. APPLY SYNANTHE SPECIES CONTROL (SEE BUCKTHORN & GARLIC MUSTARD CONTROL PLANS).
3. RE-SEED AS NEEDED.

B. EVALUATION

1. MONITOR TWICE BETWEEN APRIL AND SEPTEMBER.
2. SUBMIT ANNUAL WETLAND BUFFER EVALUATION REPORT.

YEAR 4 & 5

A. MAINTENANCE

1. MOW AND APPLY SYNANTHE SPECIES CONTROL ONLY IF NECESSARY.
2. RE-SEED AS NEEDED.

B. EVALUATION

1. MONITOR TWICE BETWEEN APRIL AND SEPTEMBER.
2. SUBMIT ANNUAL WETLAND BUFFER EVALUATION REPORT.

HERBICIDE NOTES

DIANON AND ORTHO RENVIN 2-EGH

1. ACTIVE INGREDIENT IS 'DICLOFYNAMINE.
2. MIX WITH WATER FOR CUT STUMP, FRILL, AND FOLIAR APPLICATIONS.
3. APPLY IMMEDIATELY AFTER CUT STUMP AND FRILL.

GLYPHOSATE

1. GLYPHOSATE IS THE ACTIVE INGREDIENT IN ROUNDUP.
2. MIX WITH WATER FOR CUT STUMP, FRILL AND FOLIAR APPLICATIONS.
3. 10 TO 20% ACTIVE INGREDIENT IS 3. REQUIRED FOR CUT STUMP AND FRILL METHODS.
4. 2% ACTIVE INGREDIENTS IS REQUIRED FOR FOLIAR APPLICATION.
5. APPLY WITH 24 HOURS OF THE CUT STUMP AND FRILL.
6. WATER BASED CHEMICAL.

RODEO

1. RODEO IS A GLYPHOSATE PRODUCT FOR AQUATIC USE.
2. USE ON PLANTS WITHIN WETLANDS AND WITHIN 10' OF WETLAND EDGES.
3. USE THE SAME RATE AS OUTLINED ABOVE FOR GLYPHOSATE

GARLIC MUSTARD CON.

PHASE 1 – INITIAL ERADICATION

1. LATE SPRING TO EARLY SUMMER, IDENTIFY ALL GARLIC MUSTARD IN WETLAND AND BUFFER AREAS. MOW WETLAND AND BUFFER ONLY AREAS COVERED WITH GARLIC MUSTARD.
2. AVOID COMPACTING SOILS OF ALL WETLAND BUFFER AREAS.
3. LATE FALL WHEN NATIVE PLANTS ARE DORMANT, IDENTIFY ALL GARLIC MUSTARD IN WETLAND BUFFER AREAS AS SHOWN ON PLAN. TREAT WITH BROADLEAF CHEMICAL TREATMENT.

PHASE 2 – EXTENDED MAINTENANCE

1. EARLY SPRING OR LATE FALL IDENTIFY NEW GARLIC MUSTARD WITHIN THE CONTROL AREA. SPOT-TREAT WITH BROADLEAF CHEMICAL TREATMENT.
2. CONTINUE PHASE 2 METHODS AND SCHEDULE FOR TWO YEARS.

GARLIC MUSTARD CONTROL METHODS

1. THE FOLLOWING METHODS ARE APPROVED METHODS OF REMOVAL AND CONTROL. ANY DEVIATION FROM THESE METHODS NEED TO BE APPROVED BY THE OWNER'S REPRESENTATIVE PRIOR TO THEIR USE.

BROADLEAF CHEMICAL TREATMENT

1. CHEMICAL SPRAY SHALL BE APPLIED BETWEEN THE MONTHS OF MID–SEPTEMBER THROUGH OCTOBER WHEN NATIVE SPECIES ARE DORMANT.
2. SPRAY TO WET ALL FOLIAGE.
3. USE HAND-HELD OR BACKPACK SPRAYERS WITH ULTRA-LOW VOLUME NOZZLES TO MINIMIZE CONTACT WITH DESIRABLE EXISTING PLANTS.
4. APPLY BROADLEAF CHEMICAL HERBICIDE GLYPHOSATE OR RODEO.

GARLIC MUSTARD CONTROL TIMELINE

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
YEAR 1	NO ACTION							BUFFER AREA	PHASE 1			
YEAR 2			PHASE 2									
YEAR 3									PHASE 2			

INVASIVE SPECIES CONTROL NOTES

1. NO MANUAL WEEDING OR REMOVAL EFFORTS SHALL BE STARTED WITHOUT THE CARFUL COORDINATION WITH THE OWNER'S REPRESENTATIVE IN ORDER TO PROPERLY IDENTIFY AREAS TO BE CLEARED. AREAS TO BE CLEARED LIMITS OF DISTURBANCE AS SHOWN ON THE PLAN, AND ARE TO BE CLEARED FOR ACTIVE CONTROL.
2. ALL INVASIVE SPECIES PRIOR TO, EFFORTS SHALL BEGIN AT START OF SITE CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING EFFECTIVE CONTROL OVER INVASIVE SPECIES RE-ESTABLISHMENT AS INDICATED ON MAINTENANCE SCHEDULE.
3. VISIT SITE PRIOR TO SUBMITTING A BID TO BECOME FAMILIAR WITH SITE CONDITIONS.
4. COORDINATE WORK OPERATIONS AS TO MINIMIZE SITE DISTURBANCE AND PROTECT CONSERVATION EASEMENTS, WETLAND BUFFER, AND PROTECTED EXISTING TREES.
5. ALL INVASIVE SPECIES REMOVAL EFFORTS WITHIN BUFFER AREAS SHALL BE SPRAYED IN THE FALL AND/OR EARLY SPRING PRIOR TO BUFFER SEEDING INSTALLATION.
6. ALL EQUIPMENT WORKING IN WETLAND BUFFER AREAS SHALL BE LIGHTWEIGHT EQUIPMENT TO AVOID ANY SOIL COMPACTION AND IMPACTS TO WETLAND BUFFER.
7. DEAD WATER MATERIAL SHALL BE BURNED IN WINTER OR EARLY SPRING, A MINIMUM OF 30 DAYS FOLLOWING FALL SPRAYING.

LIMIT INVASIVE SPECIES CONTROL OPERATIONS ONLY IN WETLAND, WETLAND BUFFERS, AND AREAS INDICATED ON PLAN. NO DISTURBANCE OR SEEDING ACTIVITIES ARE ALLOWED IN THE INVASIVE SPECIES CONTROL AREAS. ONLY AREAS CURRENTLY UNVEGETATED OR DISTURBED BY GRADING WILL BE RESEEDED. SEE SHEET L2.2 FOR SEEDING PLAN.

BUCKTHORN CONTROL PLAN

PHASE 1 – INITIAL ERADICATION

1. IDENTIFY ALL BUCKTHORN WITH TRUNK DIAMETER GREATER THAN 1.0" MEASURED AT GROUND LEVEL WITHIN THE CONTROL AREA. TREAT WITH CUT STUMP METHOD OR GIRDLING.
2. IDENTIFY BUCKTHORN SAPLINGS LESS THAN OR EQUAL TO THREE (3) FEET TALL WITHIN THE CONTROL AREA. TREAT SAPLINGS WITH FOLIAR CHEMICAL TREATMENT.

PHASE 2 – EXTENDED MAINTENANCE

1. IDENTIFY ALL NEW GROWN BUCKTHORN WITH TRUNK DIAMETER GREATER THAN 1.0" MEASURED AT GROUND LEVEL WITHIN THE CONTROL AREA. TREAT WITH CUT STUMP METHOD OR GIRDLING.
2. IDENTIFY FLAGGED STUMPS FROM PHASE 1 AND APPLY HERBICIDE TO STUMPS THAT HAVE RE-SPROUTED. TREAT USING CUT STUMP METHOD.
3. IDENTIFY NEW BUCKTHORN SAPLINGS LESS THAN OR EQUAL TO THREE (3) FEET TALL WITHIN THE CONTROL AREA. TREAT SAPLINGS WITH FOLIAR CHEMICAL TREATMENT.
4. CONTINUE PHASE 2 METHODS AND SCHEDULE FOR TWO YEARS.

BUCKTHORN CONTROL METHODS

1. THE FOLLOWING METHODS ARE APPROVED METHODS OF REMOVAL AND CONTROL. ANY DEVIATION FROM THESE METHODS NEED TO BE APPROVED BY THE OWNER'S REPRESENTATIVE PRIOR TO THEIR USE.

METHOD 1 – FOLIAR CHEMICAL TREATMENT

1. FOLIAR CHEMICAL TREATMENT SHALL BE USED ON BUCKTHORN SAPLINGS LESS THAN OR EQUAL TO THREE (3) FEET TALL.
2. CHEMICAL SPRAY SHALL BE APPLIED BETWEEN THE MONTHS OF MID–SEPTEMBER THROUGH OCTOBER. CHEMICAL SPRAY SHALL NOT BE USED BETWEEN MARCH 15 AND JULY 1.
3. SPRAY TO WET ALL FOLIAGE OF SAPLINGS.
4. USE HAND-HELD OR BACKPACK SPRAYERS WITH ULTRA-LOW VOLUME NOZZLES TO MINIMIZE CONTACT WITH DESIRABLE EXISTING PLANTS.
5. APPLY GLYPHOSATE CHEMICAL HERBICIDE (RANDOM) WITH A MAXIMUM STRENGTH OF 2.0%.

METHOD 2 – CUT STUMP TREATMENT

1. CUT STUMP TREATMENT SHALL BE USED ON BUCKTHORN WITH TRUNKS GREATER THAN 1.0" MEASURED AT GROUND LEVEL.
2. CUT BUCKTHORN AS CLOSE AS POSSIBLE TO GROUND LEVEL AND MARK WITH COLORED WIRE FLAG FOR FUTURE IDENTIFICATION AND TREATMENT.
3. APPLY GLYPHOSATE CHEMICAL HERBICIDE (RANDOM) TO CUT STUMP SURFACE. BARK EXPOSED ABOVE GROUND, AND ROOTS EXPOSED ALONG GROUND LINE PRIOR BEFORE APPLICATION OR LOW-VOLUME SPRAYER. GLYPHOSATE CHEMICAL HERBICIDE (RANDOM) TO BE A MAXIMUM STRENGTH OF 10.0%.

METHOD 3 – GIRDLING (FRILL CUT) TREATMENT

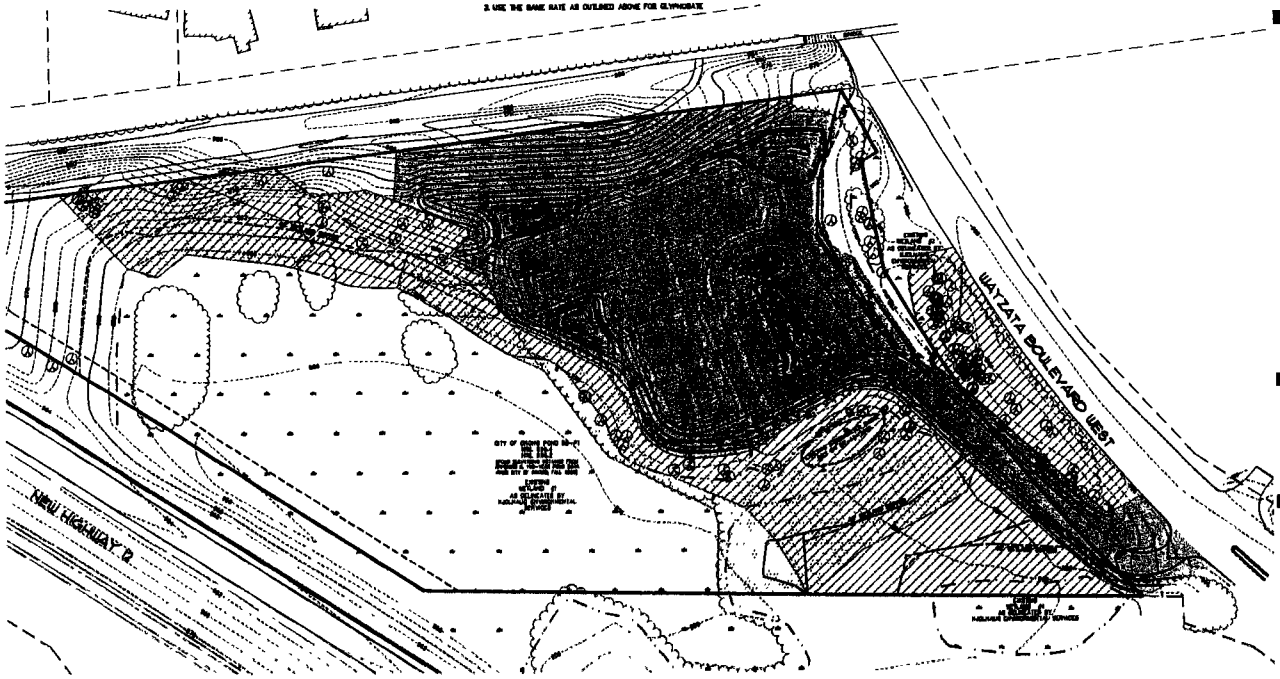
1. GIRDLING TREATMENT MAY BE USED ON BUCKTHORN WITH TRUNKS GREATER THAN 3" MEASURED AT GROUND LEVEL.
2. CUT A FRILL AROUND ENTIRE CIRCUMFERENCE OF TRUNK AS CLOSE AS POSSIBLE TO GROUND LEVEL.
3. APPLY GLYPHOSATE CHEMICAL HERBICIDE (RANDOM) TO ENTIRE FRILL CUT AND ADJACENT BARK SURFACE USING PAINT BRUSH, NOZ APPLICATOR OR LOW-VOLUME SPRAYER. GLYPHOSATE CHEMICAL HERBICIDE (RANDOM) TO BE A MAXIMUM STRENGTH OF 10.0%.

BUCKTHORN CONTROL TIMELINE

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
YEAR 1	NO ACTION								PHASE 1			
YEAR 2&3									PHASE 2			

LEGEND

- AREA OF INVASIVE SPECIES TO BE REMOVED DURING GRADING.
- AREA OF BUCKTHORN TO BE REMOVED
- AREA OF GARLIC MUSTARD TO BE REMOVED



POPE
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ORONO SENIOR HOUSING
ORONO, MN

DEVELOPMENT STAGE APPLICATION

WETLAND BUFFER MAINTENANCE PLAN

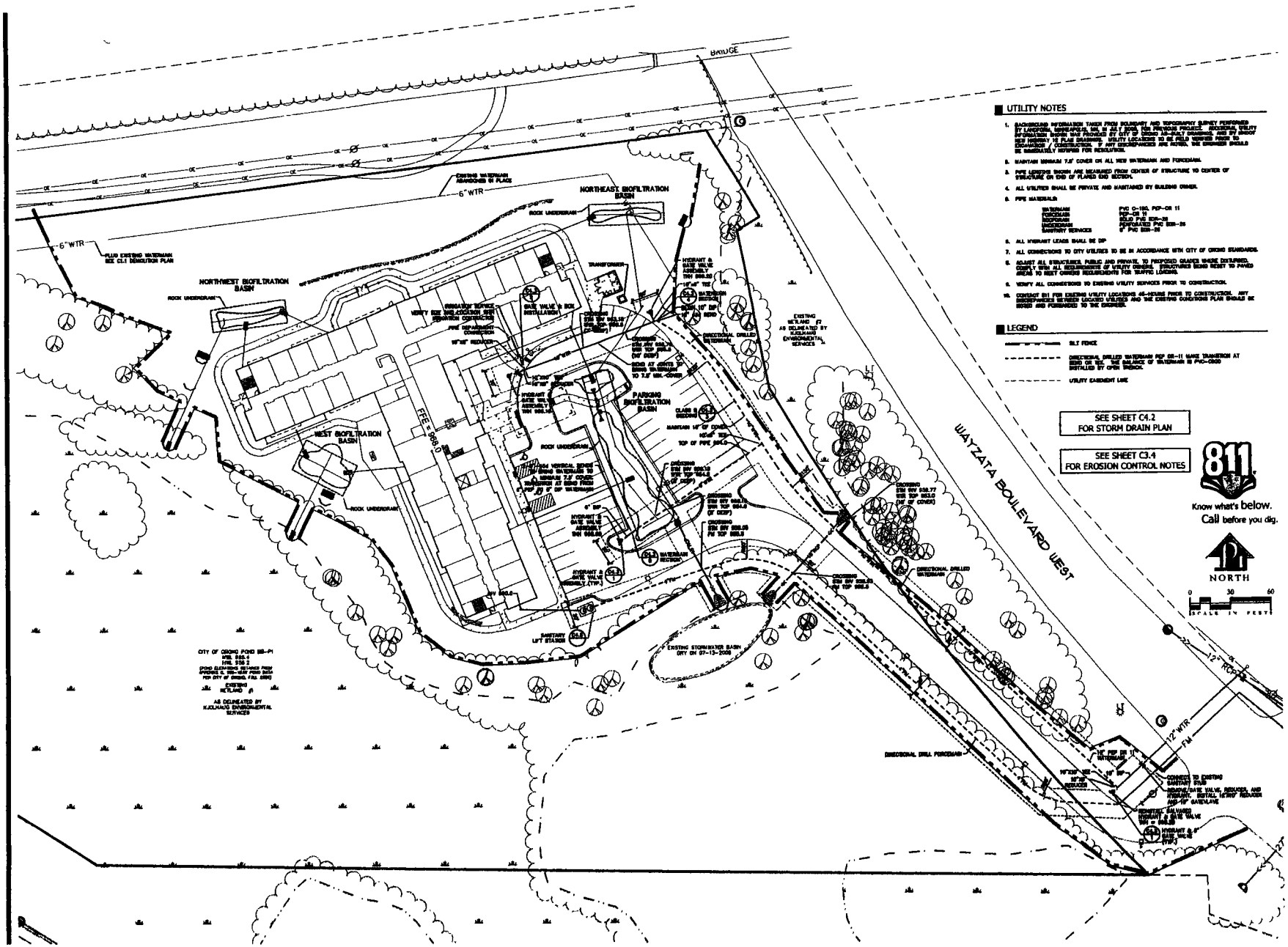
Issue and Revision	
CITY SUBMITTAL ISSUE	01-14-11
CITY ENGINEERS COMMENTS	02-03-11
WATERSHED SUBMITTAL	03-02-11
DEVELOPMENT STAGE APPLICATION	03-17-11

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

STEVEN L. KONKEL
DATE 03/17/2011 REG. NO. 18914

Project No. M10-141
Drawn by PS
Checked by KMJ

SHEET
C3.5



UTILITY NOTES

1. BACKGROUND INFORMATION TAKEN FROM SURVEYS AND TOPOGRAPHY SURVEY PERFORMED BY LANDFORM, MINNEAPOLIS, MN, & JAS F. ROSS, CSA PROVIDED PROJECT... BUILDINGS, UTILITY INFORMATION SHOWN WAS PROVIDED BY CITY OF ORONO. AS-BUILT DRAWINGS AND BY FIELD REVIEWER. / SITE PLAN DRAWINGS. UTILITY LOCATIONS TO BE FIELD VERIFIED PRIOR TO DEVELOPMENT / CONSTRUCTION. IF ANY DISCREPANCIES ARE FOUND, THE ENGINEER SHOULD BE IMMEDIATELY NOTIFIED FOR RESOLUTION.
2. MAINTAIN MINIMUM 7.5' COVER ON ALL NEW WATERMAIN AND FORCEMAIN.
3. PIPE LENGTHS SHOWN ARE MEASURED FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE ON END OF PLANVIEW AND SECTION.
4. ALL UTILITIES SHALL BE PRIVATE AND MAINTAINED BY BUILDING OWNER.
5. PIPE MATERIALS:

WATERMAIN	PVC C-150, PEP-CR 11
FORCEMAIN	PEP-CR 11
MOCKMAIN	SOLID PVC SDR-26
UNDERDRAIN	PERFORATED PVC SDR-26
SANITARY SERVICES	4" PVC SDR-26

6. ALL HYDRANT LEADS SHALL BE DIP.
7. ALL CONNECTIONS TO CITY UTILITIES TO BE IN ACCORDANCE WITH CITY OF ORONO STANDARDS.
8. ADJUST ALL STRUCTURES, PUBLIC AND PRIVATE, TO PROPOSED GRADES WHERE DISTURBED. COMPLY WITH ALL REQUIREMENTS OF UTILITY OWNERS. STRUCTURES BEING RESET TO PAVED AREAS TO MEET OWNERS REQUIREMENTS FOR TRAFFIC LOADING.
9. VERIFY ALL CONNECTIONS TO EXISTING UTILITY SERVICES PRIOR TO CONSTRUCTION.
10. CONTACT 811 FOR EXISTING UTILITY LOCATIONS 48-HOURS PRIOR TO CONSTRUCTION. ANY DISCREPANCIES BETWEEN LOCATED UTILITIES AND THE EXISTING CONDITIONS PLAN SHOULD BE NOTED AND FORWARDED TO THE ENGINEER.

LEGEND

- SILT FENCE
- DIRECTIONAL DRILLED WATERMAIN PEP SD-11 MAKE TRANSITION AT BEND OR TEE. THE BALANCE OF WATERMAIN IS PVC-C900 INSTALLED BY OPEN TRENCH.
- UTILITY EASEMENT LINE

POPE
Pope Associates, Inc.
KRAUS-ANDERSON, COMPANIES
EBENEZER
RHO Development Consulting
P.O. BOX 307
LONG LAKE, MN 55356

ORONO SENIOR HOUSING
ORONO, MN

DEVELOPMENT STAGE APPLICATION

SANITARY SEWER & WATERMAIN PLAN

Issue of Bulletin	
CITY SUBMITTAL ISSUE	01-14-11
CITY ENGINEERS COMMENTS	02-03-11
WATERSHED SUBMITTAL	03-02-11
DEVELOPMENT STAGE APPLICATION	03-17-11

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SIGNATURE
DATE 03/17/2011 REG. NO. 18814

Scale by: M10-141
Drawn by: PS
Project by: SAM

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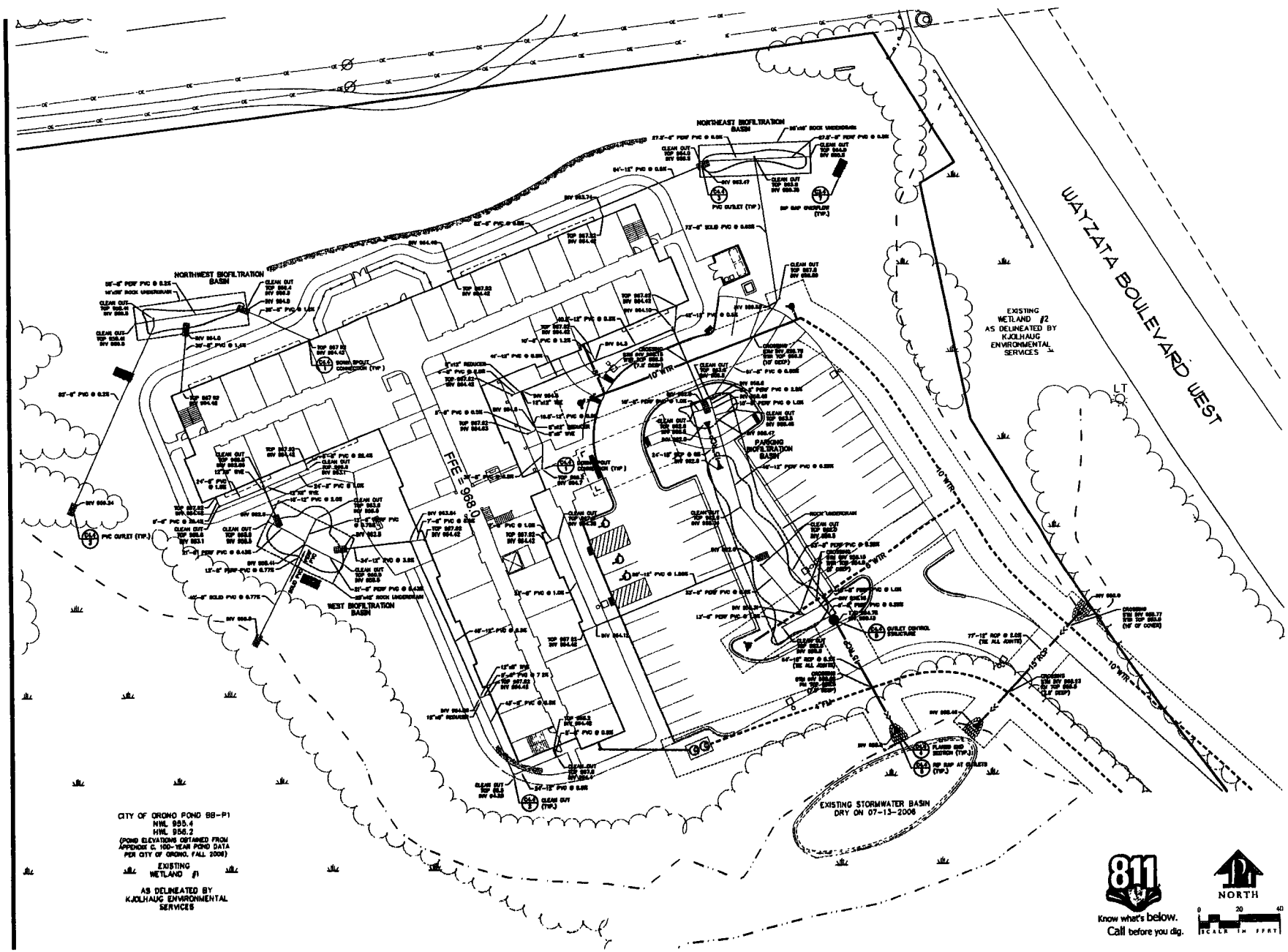

Know what's below. Call before you dig.

POPE

Pope Associates, Inc.

KRAUS-ANDERSON, COMPANIES

EBENEZER

RHO Development Consulting

ORONO SENIOR HOUSING
ORONO, MN

DEVELOPMENT STAGE APPLICATION

STORM DRAIN PLAN

Issue of Drawing	
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STEVEN G. MARTIN
DATE: 03/17/2011 REG. NO. 18814

Project No. M10-141
Dwg by PB
Rev by SMJ

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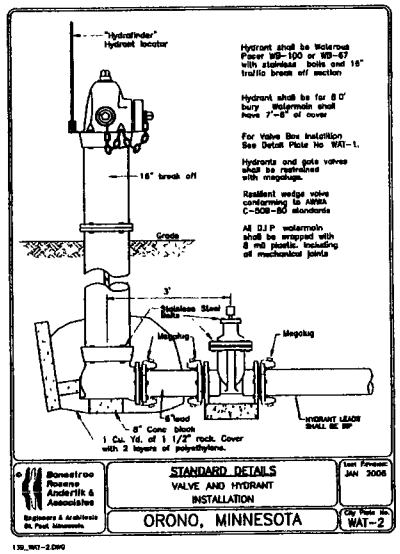
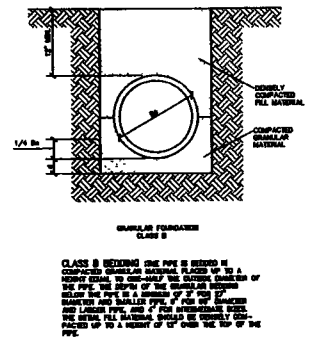


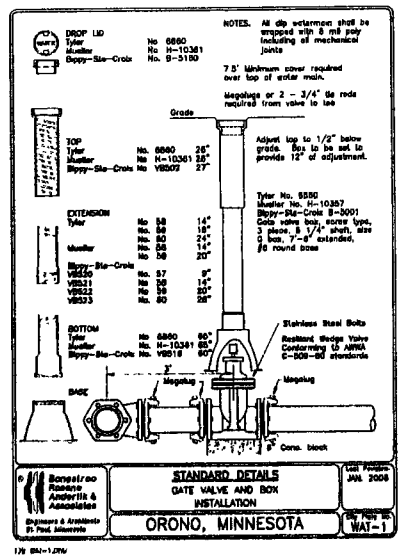
1 HYDRANT & 6" GATE VALVE NO SCALE



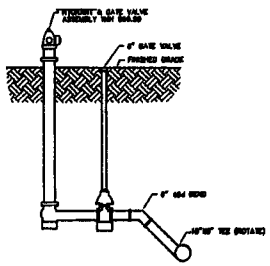
GRANULAR FOUNDATION CLASS B

CLASS B BEDDING ONE PIPE IS BEDDED IN COMPACTED GRANULAR MATERIAL PLACED UP TO A HORIZONTAL PLANE EQUAL TO ONE-HALF THE OUTSIDE DIAMETER OF THE PIPE. THE DEPTH OF THE GRANULAR BEDDING BELOW THE PIPE IS A MINIMUM OF 3" FOR 12" DIAMETER AND SMALLER PIPE, 4" FOR 24" DIAMETER AND LARGER PIPE, AND 4" FOR INTERMEDIATE SIZES. THE DETAIL FILL MATERIAL SHOULD BE HORIZONTALLY COMPACTED UP TO A HEIGHT OF 12" OVER THE TOP OF THE PIPE.

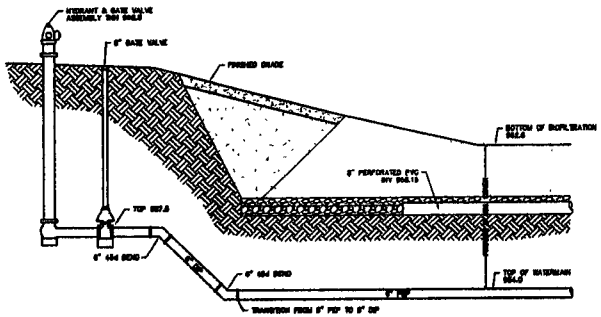
3 CLASS B PIPE BEDDING NO SCALE



2 GATE VALVE & BOX INSTALLATION NO SCALE



5 WATERMAIN SECTION NO SCALE



4 WATERMAIN SECTION NO SCALE

POPE

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KLAUS-ANDERSON, COMPANIES

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ORONO SENIOR HOUSING
ORONO, MN

DEVELOPMENT STAGE APPLICATION

UTILITY DETAILS

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SIGNED & SEALED
DATE 03/17/2011 REG. NO. 18814

Project No. M10-141
Dwg by PB
Rev by DMJ

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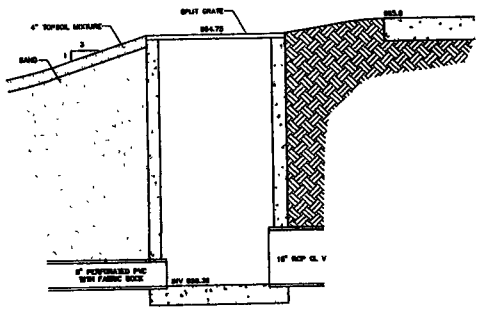
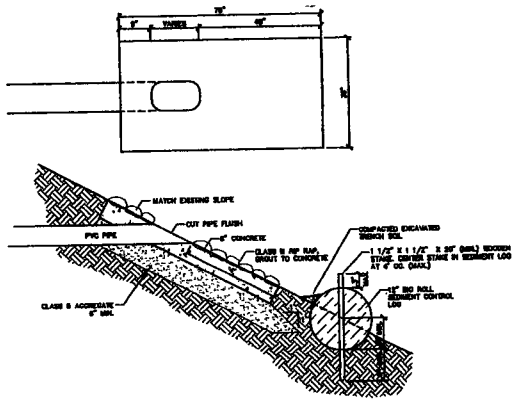
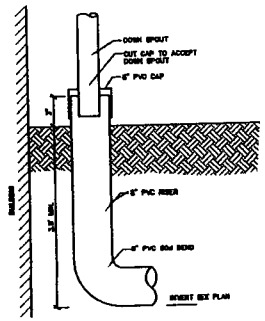


5 OUTLET CONTROL STRUCTURE NO SCALE



3 PVC OUTLET NO SCALE



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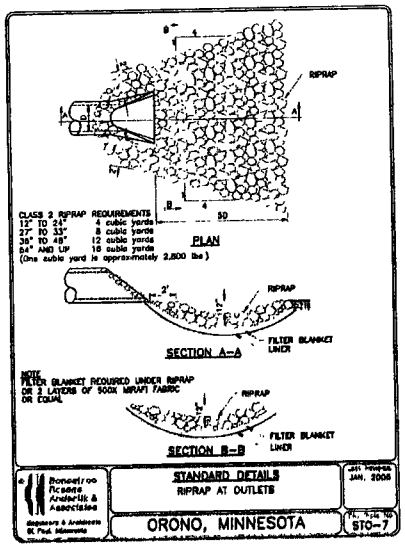
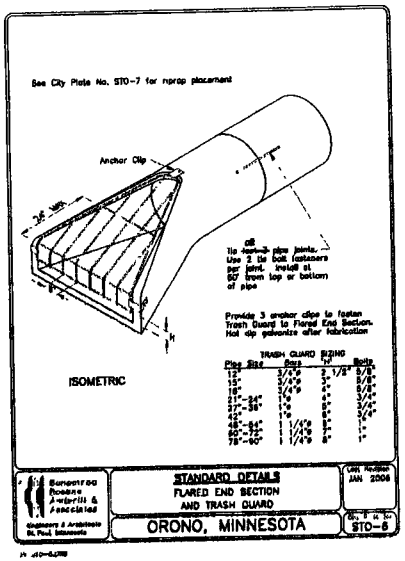
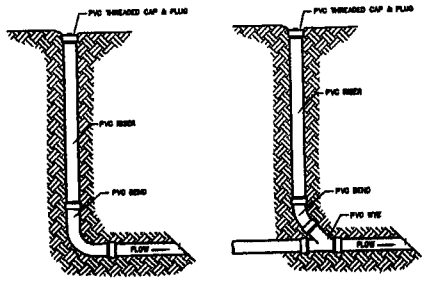


6 RIP RAP AT OUTLETS NO SCALE



4 FLARED END SECTION NO SCALE



NOTES:
1. [illegible] ABOVE GROUND LEVEL. INSTALL & CUT BACK TO [illegible]
2. POSITION CLEAN-OUTS UPSTREAM OF BENDS
3. CAP TO BE BUTTLE SIGN FOR ALL CAPS USED IN DRIVEWAY AND WALKS.

2 CLEAN OUT NO SCALE

POPE

Pope Associates, Inc.
[illegible]
St. Paul, MN
Ph. [illegible]
Fax [illegible]

KRAUS-ANDERSON, COMPANIES

EBENEZER

RHO
Development Consulting
P.O. BOX 387
LONG LAKE, MN 55356
[illegible]

ORONO SENIOR HOUSING
ORONO, MN

DEVELOPMENT STAGE APPLICATION

UTILITY DETAILS

Issue Schedule	
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[signature]
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Reg. No. [illegible]

Project No.	N10-141
Drawn by	PS
Reviewed by	SMJ

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ORONO SENIOR HOUSING, ORONO, MN

PACKAGED LIFT STATION

SCOPE OF SUPPLY:

Furnish and install complete pre-packaged lift station. This plan sheet references model #PS6810TSU as manufactured by Tsurumi Pump, (phone# 630-768-6900). Other pre-packaged lift stations meeting the design requirements and offering similar features may be proposed to the owner and engineer for approval. The owner or the engineer may approve or reject the alternative at their sole discretion with or without justification.

The lift station shall incorporate a quick removal system that does not require the use of o-rings or gaskets to make a seal between the cutter pump and the pre-mounted quick removal discharge base. The cutter pumps shall be guided to the discharge base by the use of two stainless steel guide rails for each pump. The diameter of the guide rails shall be no less than 1.25"and shall extend from the discharge base to the upper guide bracket mounted on the cover. Lifting chain or cable shall be attached to the top of the pump the other end is to be attached to the cover adjacent the upper guide bracket for easy access and pump removal. The internal discharge plumbing shall be pre-plumbed in schedule 80 pvc and extend , in parallel, 12" beyond the wet well side wall for contractor connection to the forcemain. Each pump discharge line shall include one non-slamming check valve and one true union ball valve in a detached valve box. The lift station shall include a duplex control panel shall be surface mountable adjacent to the lift station. The pumps, quick removal system, and level sensors shall be housed in a fiberglass wet well that is 48" in diameter and 192" in length and shall have 11 reinforcing ribs , 1 layer of 3/4 inch marine plywood encapsulated in the bottom and shall incorporate an anti-flotation flange.

PUMPS:

2-Tsurumi model #TOS100C43.2 shall be supplied. Each pump is capable of delivering 100 GPM at 36' TDH The pump(s) shall be designed to pump wastewater, sewage or effluent containing solids without damage during operation. The pump(s) shall be designed so that theshaft power required (BHP)(KW) shall not exceed the motor rated output throughout the entire operating range of the pump performance curve.

MATERIALS OF CONSTRUCTION

All major parts of the pumping unit(s) including casing, impeller, discharge elbow and motor frame shall be manufactured from grey cast iron, ASTM A48 CLASS 35. Unit(s) shall have a field adjustable and/or replaceable, cast iron suction plate. Internal and external surfaces coming into contact with the pumpage shall be protected by a fused polymer coating. All exposed fasteners shall be stainless steel. All units shall be furnished with a discharge elbow with 125 lb. (10 Kg/Cm2) flat face flange and 2" NPT companion flange. Impellers shall be of the single-vane enclosed solids handling design, equipped with back pump out vanes, tungsten carbide wave lip and shall be slip fit to the shaft and key driven.

MECHANICAL SEAL

All units shall be furnished with a dual inside mechanical shaft seal located completely out of the pumpage, running in a separate oil filled chamber and further protected by an exclusionary oil seal located between the bottom seal faces and the fluid being pumped. The oil chamber shall be fitted with a device that shall provide positive fabrication of the top mechanical seal, (down to one third of the standard oil level). The device shall not consume any additional electrical power. Mechanical seals shall be rated to preclude the incursion of water up to 42.8 PSI (98.4 Ft.). Units shall have silicon carbide versus silicon carbide upper and lower mechanical seal faces. Mechanical seal hardware shall be stainless steel. Units designed to exceed 42.8 PSI at shut off head shall incorporate seal pressure relief ports.

MOTOR

The pump motor(s) shall be 3 HP, 2.2 kW., 230 V 60 Hz. 3 Phase and shall be NEMA MG-1 Design Type B equivalent. Motor(s) shall be rated at 5.8 full load amps. Motor(s) shall have a 1.15 service factor and shall be rated for 20 starts per hour. Motor(s) shall be air filled copper wound, class F insulated with built in thermal and over current protection for each winding. Motor shall shall be 420 stainless steel and shall be supported by two permanently lubricated, high temperature ball bearings, with a B-10 life rating at best efficiency point of 50,000 hours. The bottom bearing on units 7.5 HP (5.5 KW) and below shall be a single row double shielded, C3 deep groove type ball bearing. Units 10 Hp. (7.5 KW) and larger shall have a double row, double shielded, C3, angular contact type bottom bearing. The top bearing on all units shall be a single row double shielded, C3, deep groove type ball bearing.

NOTE: 3 PHASE POWER IS NOT AVAILABLE TO THIS SITE. THE CONTROL PANEL SPECIFIED WILL CONVERT POWER SUPPLY TO 3 PHASE.

POWER CABLE AND CABLE ENTRANCE

The pump power cable shall be suitable for submersible pump applications and shall be field replaceable utilizing standard submersible pump cable. The cable entrance shall incorporate built-in strain relief and a combination three-way mechanical compression sealing with a fatigue reducing/thermal expansion boot. The cable entrance assembly shall contain an anti-wicking block to eliminate water incursion into the motor due to capillary wicking should the power cable be accidentally damaged.

INVERTING DUPLEX ALTERNATING CONTROL PANEL

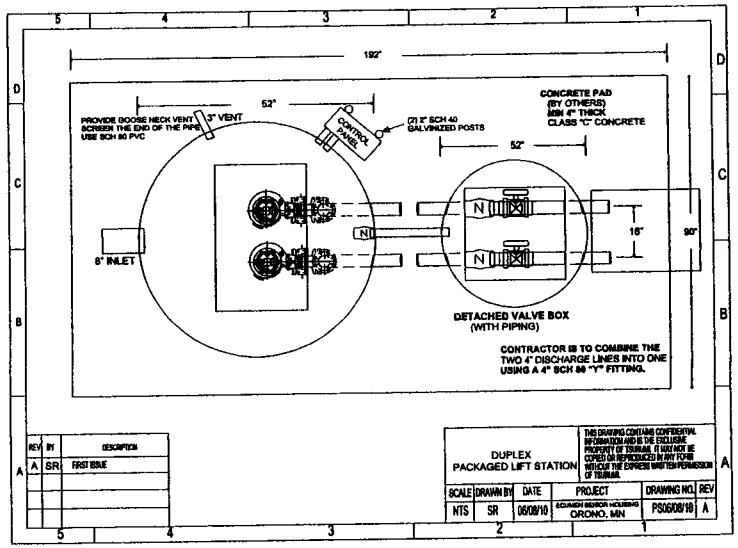
The control panel shall have a NEMA 4X lockable fiberglass enclosure suitable for wall mounting. A VFD with inverter capabilities shall be supplied for each pump and shall provide overload protection for each pump. The VFD shall be preprogrammed by the panel manufacturer. An alternating relay shall be provided with load selector to alternate pumps on each successive cycle of operation. The control circuit shall not be affected in the event that either pump trips the pump circuit breaker. H.O.A. switches. A beacon strip shall be provided to terminate all incoming power, pump, transducer, level sensors and remote alarm wiring. The control panel shall offer a high water alarm light, top mounted for 360 degree visibility. An external push button shall be provided to silence the audible alarm. A dry, non-powered contact shall be supplied in the main control panel to interface with the owners computerized security system.

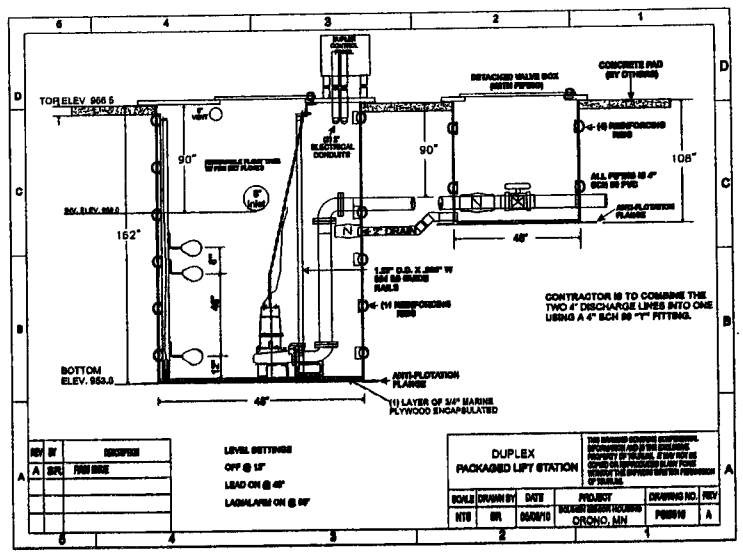
FIBERGLASS WET WELL AND VALVE BOX:

The fiberglass wet well shall be suitable direct burial or water table installations and shall have an anti-flotation flange and 11 reinforcing ribs. . The wet well shall be no less than 48 inches in diameter and be 192" in length. The capacity of the wet well below the lowest inlet is to be 940 gallons (operating capacity). The fiberglass wet well shall be manufactured using a process that insures that the bottom of the basin will be fabricated at the same time as the sidewalls eliminating the possibility of any joints or seams in the wet well in the area of greatest stress concentration. The laminate shall have a barcol hardness of a least 85% of the resin manufacturers minimum specified hardness for cured resin on both the interior and exterior surfaces. The minimum wall thickness of the wet well shall not be less than 3/16". The wet well manufacturer shall encapsulate in the bottom of the wet well a steel base plate with stainless steel studs for the mounting of the quick removal system. The top rim flange must be no less than 2" wider than the ID of the wet well 52"O.D.). The wet well shall be provided with one 8" inlet fitting for field installation by the contractor at the manufacturer with the same process as the wet well with an anti-flotation flange and four re-bracing ribs. The valve box shall have an inside diameter of 48" with a depth of 72". The valve box shall include two non-slamming check valve s, two true double union ball valves. The valve box must be pre-plumbed by the system manufacturer

ALUMINUM COVERS:

The covers of the wet well and valve box shall be no less than 1/4" thick and shall have a diamond tread surface suitable for foot traffic. The covers must have a clear access opening for pump removal and valve access as recommended by the pump manufacturer. The access covers shall be hinged and shall be lockable. All fasteners on the cover shall be 304 stainless steel. The covers shall be protected by a ten year limited warranty. These covers that use Epoxy paint will not be considered.





NOTICE TO THE CONTRACTOR

This lift station and controls will be owner specified, contractor furnished, and delivered to the site. The successful bidder will furnish all other materials and labor to install the lift station and its controls and ensure its proper operation. It is the contractor's responsibility to install the lift station per this plan as indicated and make all connections, plumbing and electrical, in an approved manner as required by this drawing and local codes. The contractor's responsibilities are as follows: receiving the lift station and off loading, excavation and setting, all plumbing connections (inlet, vent, wet well to valve box, force main run thereafter to the point of city connection of receiving manhole or force main), all electrical conduit from the wet well to control panel, provide proper backfill and compaction procedures. The contractor will be required to lower the pumps into place and perform the system start up

Receiving / offloading instructions and preparation before setting

Receiving the lift station

Inspect the entire shipment for damage before the lift station is taken off the truck. If there is damage, note as specifically as possible including clear photos of damage on the bill of lading as to any damage, then offload. Contact the shipper at once and have the bill of lading with you Call 800-358-6066 for further instructions.

Preparing the lift station

The lift station has been made ready to travel several hundred miles. The main wet well will contain bracing that needs to be removed before it is set in place. The lift station is to remain horizontal and on the pallet until the day it is to be set in place. On that day open the main hatch and remove the control panel, basin fittings, transducer housing and float tree. Remove all lumber bracing, wire ties and duct tape. Check all flange bolts and tighten as necessary Check all flange bolts in the valve box as well, tighten as necessary.

Setting the lift station

The best way to set the wet well is to use two cinch straps of equal length Place the straps right under the rim so they will tighten as the wet well is lifted. If the straps are properly positioned the wet well hang level and secure. If you have experience in this area use your own discretion.

BASIN INSTALLATION INSTRUCTIONS

1 Excavation Dimensions: Excavation shall be 6" deeper than the depth of the basin, below finish grade and done in such a manner as to preserve the undisturbed state of bearing soils at the bottom. Diameter of excavation shall be sufficient to allow for necessary external pipe connections with a minimum 12" greater than the basin diameter

2 Backfill Materials.

a. The backfill materials shall be in inert, free flowing granular soil such as clean sand or gravel (1/4" mesh or finer).

b. Acceptable backfill includes "stone dust" from rock crushing operation provided it possesses all the characteristics of free flowing sand and contains less than 20% by weight passing the No. 200 mesh sieve. Soil fines must be non-plastic.

c. Silts, clays organic soil, granulated cinder, slag and similar corrosive material shall not be used. Backfill shall be free of organic material, loam, trash, snow, ice, stones, rubble, etc.

3. Pipe Connections. Make necessary pipe connection in approved manner. Note: connection may be threaded, caulked lead joints or other specified approved method.

NOTE: BACKFILL SHOULD BE DONE AS SOON AS THE WET WELL IS SET AND LEVEL.

4. Backfill as follows.

a. If the hole is flooded, the water level shall be pumped down to a maximum depth of 3 inches before preparing the bed and placing the basin. Water level shall be maintained below bottom of the basin until the excavation is backfilled and until there is adequate safety against uplift.

b The first layer of backfill is the base for the basin and shall be at least 6" thick

c. Place the basin on the bed and after aligning and leveling, push additional fill under and around the basin and compact by tamping to a uniform depth of 12" around the basin. This insures that the established grade and level of the basin will be maintained during remainder of the backfilling operation.

d. Backfill shall be continued in one foot layers with specified sand backfill uniformly distributed around the basin and compacted around the basin

e. Concrete encasement may be used in lieu of backfill as described above, if the whole excavation does not exceed 12" in diameter larger than the basin to be installed.

5. Cover: The cover shall be bolted in place with an approved gasket material to effect a gas-tight seal.

Instructions to remove a reinforcing rib to install the inlet

This procedure is required only if the gravity inlet lands on a rib!

Measure the length of the rib to be removed. Using a sawzall cut the rib lengthwise on the top and bottom of the rib. Keep in mind that the rib is hollow. Make the end cut between the top and bottom of the rib. Note: take care not to damage the underlying wall of the wet well. Remove the cut rib and the foam underneath. Use a circular sander to reduce the ridges left by the removal of the rib. What should remain is the uniform wall thickness of the wet well where the inlet is to be installed. Note: It is ok to remove a little more rib than to just fit the inlet fitting. Six inches on each side of the inlet is fine.

POPE

Pope Associates Inc.
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St. Paul, MN [illegible]
Ph. [illegible]
Fax [illegible]

KRAUS-ANDERSON, COMPANIES

EBENEZER

RHO Development Consulting
P.O. BOX 387
LONG LAKE, MN 55356
[illegible]

ORONO SENIOR HOUSING
ORONO, MN

DEVELOPMENT STAGE APPLICATION

UTILITY DETAILS

Issue Date	
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SIGNATURE [illegible]
DATE 03/17/2011 REG. NO. [illegible]

Drawn by MTB-341
Job # PS
Project # SHJ

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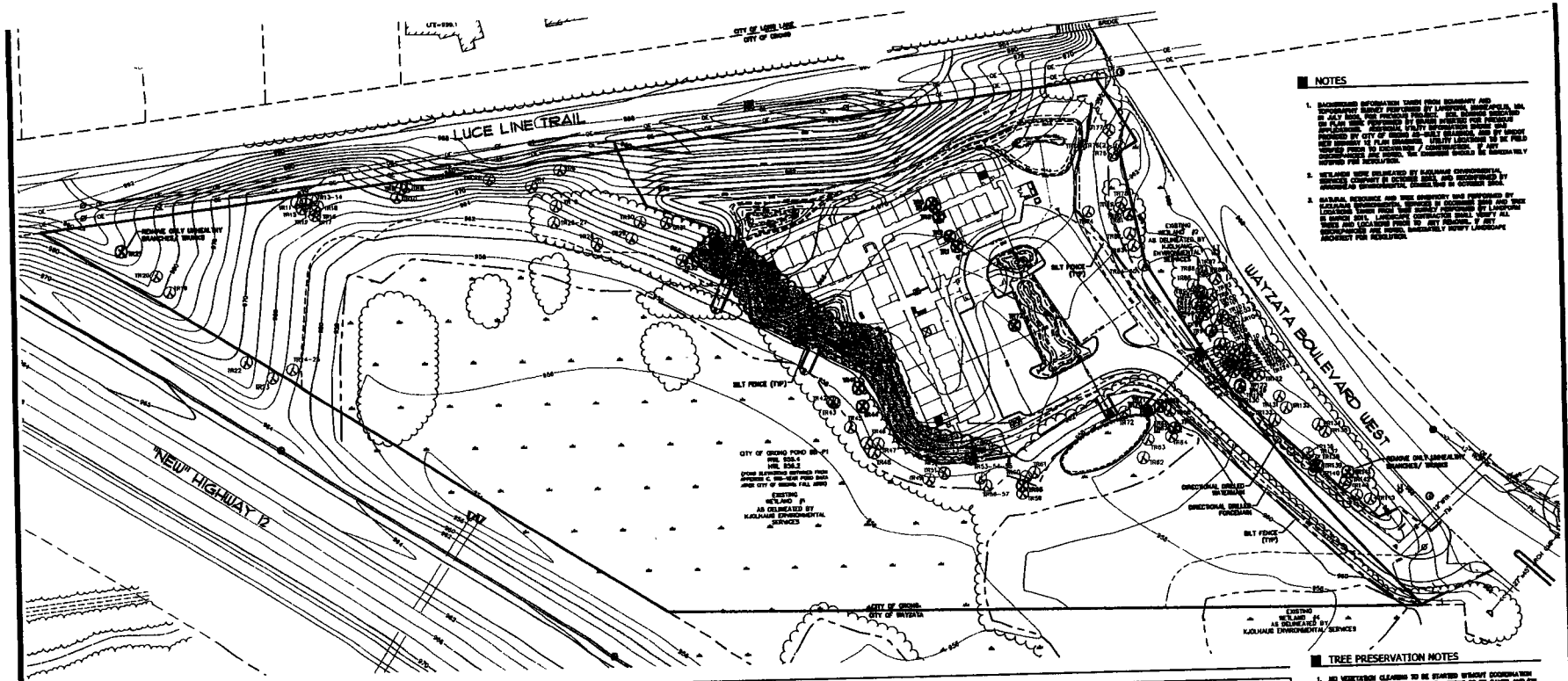
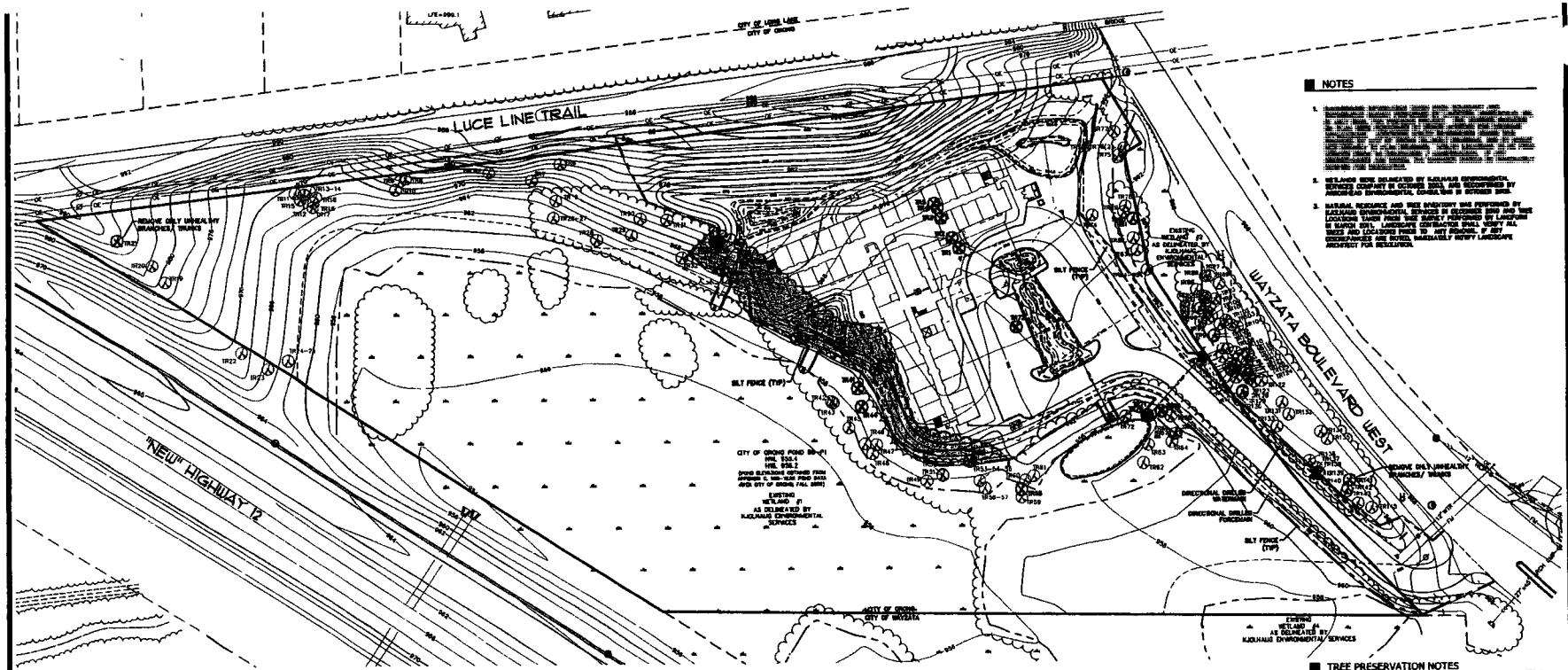


NOTES

1. BACKGROUND INFORMATION TAKEN FROM SUBMITTED AND APPROVED SURVEY PREPARED BY LANDTECH, MINNEAPOLIS, MN. ON JULY 2006. THE PROPOSED TREE PLAN IS BASED ON THE ORIGINAL PLAN SET PREPARED BY RHO DEVELOPMENT CONSULTING, INC. PROPOSED UTILITY IMPROVEMENTS WERE PLANNED BY CITY OF ORONO. ALL ADDITIONAL SITE IMPROVEMENTS WERE PLANNED BY KRAUS-ANDERSON. UTILITY LOCATIONS TO BE FIELD VERIFIED PRIOR TO EXCAVATION / CONSTRUCTION. ANY DISCREPANCIES FOUND SHOULD BE REPORTED TO LANDSCAPE ARCHITECT FOR RESOLUTION.
2. WETLANDS WERE DELINEATED BY KJOLHAUG ENVIRONMENTAL SERVICES. CONTACT IS CHRISTIE SEIN, AND WAS REVIEWED BY MINNESOTA ENVIRONMENTAL DRAINAGE IN OCTOBER 2006.
3. SURVEY, REFERENCE AND TREE INVENTORY WAS PERFORMED BY LANDTECH. CONTACT IS CHRISTIE SEIN, AND WAS REVIEWED BY KJOLHAUG ENVIRONMENTAL SERVICES. ALL TREES WERE LOCATED FROM TO 40FT REMOVE. IF NOT LOCATED FROM TO 40FT REMOVE. IF NOT LOCATED FROM TO 40FT REMOVE, LANDSCAPE ARCHITECT MUST REVIEW.

TREE PRESERVATION SCHEDULE

REMOVE	TREE	D.B.H.	COMMON NAME	SCIENTIFIC NAME	NON NATIVE	INVASIVE	NOTES
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]



NOTES

1. [illegible]
2. WETLANDS WERE DELINEATED BY KJOLHAUG ENVIRONMENTAL SERVICES COMPANY IN OCTOBER 2010, AND RECONFIRMED BY KJOLHAUG ENVIRONMENTAL CONSULTANTS IN OCTOBER 2011.
3. NATURAL RESOURCE AND TREE INVENTORY WAS PERFORMED BY KJOLHAUG ENVIRONMENTAL SERVICES IN OCTOBER 2010 AND TREE LOCATIONS TAKEN FROM THE SURVEY PERFORMED BY LANDTAKE IN EARLY 2011. LANDSCAPE CONTRACTOR SHALL VERIFY ALL TREES AND LOCATIONS PRIOR TO ANY REMOVAL. IF ANY DISCREPANCIES ARE FOUND, IMMEDIately NOTIFY LANDSCAPE ARCHITECT FOR RESOLUTION.

TREE PRESERVATION SCHEDULE

REMOVE	TREE	D.B.H.	COMMON NAME	SCIENTIFIC NAME	NON NATIVE	INVASIVE	NOTES
	61	20	BOXELDER	ACER NEGUNDO		✓	
X 2010	62	18	BOXELDER	ACER NEGUNDO		✓	SPLIT AT BASE, PARTIAL DEAD
	63	13	BOXELDER	ACER NEGUNDO		✓	
	64	11	BOXELDER	ACER NEGUNDO		✓	
	65	14	BOXELDER	ACER NEGUNDO		✓	
	66	8	BOXELDER	ACER NEGUNDO		✓	
	67	8	BOXELDER	ACER NEGUNDO		✓	
X 2010	68	30	BLACK WILLOW	SALIX NIGRA			SILT DEAD, FAIR CONDITION
	69	30	BLACK WILLOW	SALIX NIGRA			FAIR CONDITION
	70	8	BOXELDER	ACER NEGUNDO		✓	MANY BROKEN BRANCHES
	71	11	GREEN ASH	FRAXINUS PENNSYLVANICA			
	72	8	BLACK WILLOW	SALIX NIGRA			
	73	11	COTTONWOOD	POPULUS DEGRANDIDENTALIS			
	74	8	COTTONWOOD	POPULUS DEGRANDIDENTALIS			
	75	11	COTTONWOOD	POPULUS DEGRANDIDENTALIS			
	76	10	COTTONWOOD	POPULUS DEGRANDIDENTALIS			
	77	13	COTTONWOOD	POPULUS DEGRANDIDENTALIS			
X 2010	78	30	BLACK WILLOW	SALIX NIGRA			SILT DEAD, FAIR CONDITION
	79	8	BOXELDER	ACER NEGUNDO		✓	
	80	8	GREEN ASH	FRAXINUS PENNSYLVANICA			
	81	8	GREEN ASH	FRAXINUS PENNSYLVANICA			
	82	8	GREEN ASH	FRAXINUS PENNSYLVANICA			
	83	8	GREEN ASH	FRAXINUS PENNSYLVANICA			
	84	8	GREEN ASH	FRAXINUS PENNSYLVANICA			
	85	8	GREEN ASH	FRAXINUS PENNSYLVANICA			
	86	8	GREEN ASH	FRAXINUS PENNSYLVANICA			
	87	8	GREEN ASH	FRAXINUS PENNSYLVANICA			
	88	8	GREEN ASH	FRAXINUS PENNSYLVANICA			
	89	8	GREEN ASH	FRAXINUS PENNSYLVANICA			
	90	8	GREEN ASH	FRAXINUS PENNSYLVANICA			
	91	8	GREEN ASH	FRAXINUS PENNSYLVANICA			
	92	8	GREEN ASH	FRAXINUS PENNSYLVANICA			
	93	8	GREEN ASH	FRAXINUS PENNSYLVANICA			
	94	8	GREEN ASH	FRAXINUS PENNSYLVANICA			
	95	8	GREEN ASH	FRAXINUS PENNSYLVANICA			
	96	8	GREEN ASH	FRAXINUS PENNSYLVANICA			
	97	8	GREEN ASH	FRAXINUS PENNSYLVANICA			
	98	10	BLACK WILLOW	SALIX NIGRA			
	99	8	BLACK WILLOW	SALIX NIGRA			
	100	8	BLACK WILLOW	SALIX NIGRA			
	101	8	BLACK WILLOW	SALIX NIGRA			
	102	8	BLACK WILLOW	SALIX NIGRA			
	103	13	BLACK WILLOW	SALIX NIGRA			
	104	11	BOXELDER	ACER NEGUNDO		✓	
	105	8	BLACK WILLOW	SALIX NIGRA			
	106	11	BLACK WILLOW	SALIX NIGRA			
	107	8	BLACK WILLOW	SALIX NIGRA			
	108	8	BLACK WILLOW	SALIX NIGRA			
	109	8	BLACK WILLOW	SALIX NIGRA			
	110	8	BLACK WILLOW	SALIX NIGRA			
	111	8	BLACK WILLOW	SALIX NIGRA			
	112	8	BLACK WILLOW	SALIX NIGRA			
	113	8	BLACK WILLOW	SALIX NIGRA			
	114	8	BLACK WILLOW	SALIX NIGRA			
	115	8	BLACK WILLOW	SALIX NIGRA			
	116	8	BLACK WILLOW	SALIX NIGRA			
	117	8	BLACK WILLOW	SALIX NIGRA			
	118	8	BLACK WILLOW	SALIX NIGRA			
	119	8	BLACK WILLOW	SALIX NIGRA			
	120	8	BLACK WILLOW	SALIX NIGRA			
	121	8	BLACK WILLOW	SALIX NIGRA			
	122	8	BLACK WILLOW	SALIX NIGRA			
	123	13	AMERICAN ELM	ULMUS AMERICANA			
	124	8	BLACK WILLOW	SALIX NIGRA			
	125	8	BLACK WILLOW	SALIX NIGRA			
	126	8	BLACK WILLOW	SALIX NIGRA			
	127	8	BLACK WILLOW	SALIX NIGRA			
	128	8	BLACK WILLOW	SALIX NIGRA			
	129	8	BLACK WILLOW	SALIX NIGRA			
	130	8	BLACK WILLOW	SALIX NIGRA			
	131	8	BLACK WILLOW	SALIX NIGRA			
	132	8	BLACK WILLOW	SALIX NIGRA			
	133	8	BLACK WILLOW	SALIX NIGRA			
	134	8	BLACK WILLOW	SALIX NIGRA			
	135	8	AMERICAN ELM	ULMUS AMERICANA			
	136	8	COTTONWOOD	POPULUS DEGRANDIDENTALIS			
	137	11	BLACK WILLOW	SALIX NIGRA			
	138	7	COTTONWOOD	POPULUS DEGRANDIDENTALIS			
	139	8	COTTONWOOD	POPULUS DEGRANDIDENTALIS			
	140	7	COTTONWOOD	POPULUS DEGRANDIDENTALIS			
X 2010	141	30	COTTONWOOD	POPULUS DEGRANDIDENTALIS			SPLIT AT BASE, HALF DEAD
	142	30	COTTONWOOD	POPULUS DEGRANDIDENTALIS			
	143	8	BOXELDER	ACER NEGUNDO		✓	FAIR TO POOR CONDITION
	144	30	COTTONWOOD	POPULUS DEGRANDIDENTALIS			
	145	8	AMERICAN ELM	ULMUS AMERICANA			
	146-A	30	TREE STAND				STAND OF TREES DOMINATED BY COTTONWOOD OF VARIOUS SIZES, LESSER AMERICAN ELM, BOXELDER, AND GREEN ASH. AVERAGE DENSITY 45 TREES > 6" DBH PER 30TH OR 700 TREES PER ACRE.

REMOVE	TREE	D.B.H.	COMMON NAME	SCIENTIFIC NAME	NON NATIVE	INVASIVE	NOTES
	162	10	COTTONWOOD	POPULUS DEGRANDIDENTALIS			
	163	8	BLACK WILLOW	SALIX NIGRA			POOR CONDITION
	164	27	COTTONWOOD	POPULUS DEGRANDIDENTALIS			
	165	13	COTTONWOOD	POPULUS DEGRANDIDENTALIS			
	166	8	COTTONWOOD	POPULUS DEGRANDIDENTALIS			
	167	10	COTTONWOOD	POPULUS DEGRANDIDENTALIS			
	168	8	COTTONWOOD	POPULUS DEGRANDIDENTALIS			
	169	12	COTTONWOOD	POPULUS DEGRANDIDENTALIS			
	110	8	COTTONWOOD	POPULUS DEGRANDIDENTALIS			
	111	10	COTTONWOOD	POPULUS DEGRANDIDENTALIS			
	112	8	COTTONWOOD	POPULUS DEGRANDIDENTALIS			
	113	8	COTTONWOOD	POPULUS DEGRANDIDENTALIS			
	114	10	COTTONWOOD	POPULUS DEGRANDIDENTALIS			
	115	8	COTTONWOOD	POPULUS DEGRANDIDENTALIS			
	116	8	COTTONWOOD	POPULUS DEGRANDIDENTALIS			
	117	7	COTTONWOOD	POPULUS DEGRANDIDENTALIS			FAIR TO POOR CONDITION
	118	10	COTTONWOOD	POPULUS DEGRANDIDENTALIS			
	119	12	COTTONWOOD	POPULUS DEGRANDIDENTALIS			
	120	8	COTTONWOOD	POPULUS DEGRANDIDENTALIS			
	121	8	COTTONWOOD	POPULUS DEGRANDIDENTALIS			
	122	8	BLACK WILLOW	SALIX NIGRA			
	123	13	AMERICAN ELM	ULMUS AMERICANA			
	124	8	COTTONWOOD	POPULUS DEGRANDIDENTALIS			
	125	10	COTTONWOOD	POPULUS DEGRANDIDENTALIS			
	126	10	COTTONWOOD	POPULUS DEGRANDIDENTALIS			
	127	10	COTTONWOOD	POPULUS DEGRANDIDENTALIS			
	128	8	COTTONWOOD	POPULUS DEGRANDIDENTALIS			
	129	8	COTTONWOOD	POPULUS DEGRANDIDENTALIS			
	130	10	COTTONWOOD	POPULUS DEGRANDIDENTALIS			
	131	8	COTTONWOOD	POPULUS DEGRANDIDENTALIS			
	132	10	AMERICAN ELM	ULMUS AMERICANA			
	133	8	COTTONWOOD	POPULUS DEGRANDIDENTALIS			
	134	14	BLACK WILLOW	SALIX NIGRA			FAIR CONDITION
	135	8	COTTONWOOD	POPULUS DEGRANDIDENTALIS			
	136	8	COTTONWOOD	POPULUS DEGRANDIDENTALIS			
	137	8	COTTONWOOD	POPULUS DEGRANDIDENTALIS			
	138	8	COTTONWOOD	POPULUS DEGRANDIDENTALIS			
	139	8	COTTONWOOD	POPULUS DEGRANDIDENTALIS			
	140	8	COTTONWOOD	POPULUS DEGRANDIDENTALIS			
	141	8	COTTONWOOD	POPULUS DEGRANDIDENTALIS			
	142	8	BOXELDER	ACER NEGUNDO		✓	FAIR TO POOR CONDITION
	143	8	COTTONWOOD	POPULUS DEGRANDIDENTALIS			
	144	8	AMERICAN ELM	ULMUS AMERICANA			
	145	8					
	146-A	45	TREE STAND				

X REMOVE DUE TO SITE CONSTRUCTION
XX REMOVE DUE TO TREE CONDITIONS
XXX PARTIALLY REMOVE DUE TO TREE CONDITIONS (REMOVE ONLY UNHEALTHY BRANCHES/TRUNKS)

TREE PRESERVATION NOTES

1. NO VEGETATION CLEARING TO BE STARTED WITHOUT COORDINATION WITH THE OWNER'S REPRESENTATIVE. TREES TO BE SAWED AND/OR REMOVED TO BE MARKED PRIOR TO ANY REMOVAL.
2. INSTALL SILT FENCE AND TREE PROTECTION FENCE PRIOR TO UNDERGROUND GRADING ACTIVITIES. INSTALL BARE FENCES AROUND DESIGNATED AT THE DRIP LINE OF TREE TO BE SAVED. INSPECT FENCES FOR DURATION OF CONSTRUCTION ACTIVITIES. UPON ESTABLISHMENT OF SAW, REMOVE FENCES AND DISPOSE OFFSITE.
3. NO MATERIALS, VEHICLES, OR EQUIPMENT CAN BE STORED WITHIN THE TREE PROTECTION AREAS.
4. TREE BRANCHES OF DECIDUOUS TREES SHALL REMAIN IN PROPOSED PEDESTRIAN OR VEHICULAR CIRCULATION UP TO 12' ABOVE THE GROUND.
5. SEE LANDSCAPE PLANS AND SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

LEGEND

- REMOVE TREE
- REMOVE UNHEALTHY BRANCHES/TRUNKS
- TREE CLEARING AREA
- SILT FENCE

TREE PRESERVATION SUMMARY

EXISTING

TOTAL EXISTING TREES
= 1,10 TREES (1,070 DBH) + STAND OF TREES AT AVERAGE DENSITY 45 TREES (DBH, 6" DBH) PER 30' AVERAGE OR 700 TREES PER ACRE.

REMOVAL

TOTAL REMOVAL DUE TO SITE CONSTRUCTION
= 58 TREES (314" DBH)

TOTAL REMOVAL DUE TO TREE CONDITIONS
= 3 TREES (70" DBH)

TOTAL PARTIAL REMOVAL DUE TO TREE CONDITIONS
= 2 TREES (34" DBH)

REPLACEMENT

PROPOSED FOR CREDITS OF EXISTING TREES SAVED ON SITE.

NORTH

0 50 100
SCALE: IN FEET

POPE

Pope Associates Inc.
[illegible]
St. Paul, [illegible]
Ph. [illegible]
Fax [illegible]

KRAUS-ANDERSON, COMPANIES

EBENEZER

RHO
Development Consulting
P.O. BOX 297
LONG LAKE, MN 55356
[illegible]

ORONO SENIOR HOUSING
ORONO, MN

DEVELOPMENT STAGE APPLICATION

TREE PRESERVATION PLAN

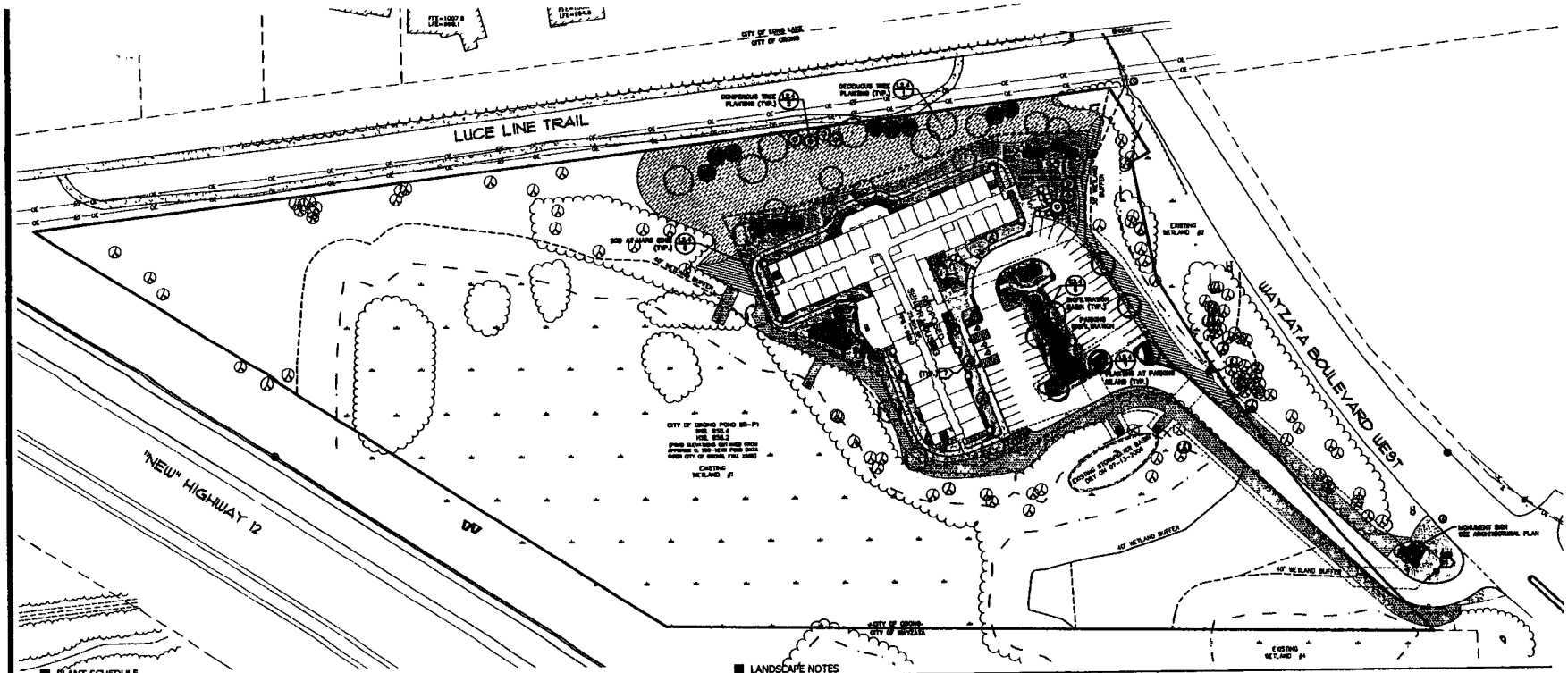
Issue of Bidding	
CITY SUBMITTAL ISSUE	01-14-11
CITY ENGINEERS COMMENTS	02-03-11
WATERSHED SUBMITTAL	03-03-11
DEVELOPMENT STAGE APPLICATION	03-17-11

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME, OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED LANDSCAPE ARCHITECT UNDER THE LAWS OF THE STATE OF MINNESOTA.

Signature: [illegible]
PLANNING DIRECTOR
DATE: 03/17/2011 REG. NO. [illegible]

Project No. M10-141
Drawn by PS
Checked by SAJ

SHEET
L1.1



PLANT SCHEDULE

KEY	QUANT.	COMMON NAME	SCIENTIFIC NAME	SIZE	ROOT COND.	MATURE SIZE
DECIDUOUS TREES						
	7	AUTUMN SPIRE MAPLE	ACER RUBRUM 'AUTUMN SPIRE'	2.5" CAL.	B&B	50'H X 25'W
	8	COMMON HACKBERRY	CELTIS OCCIDENTALIS	2.5" CAL.	B&B	40'H X 30'W
	6	QUAKING ASPEN	POPULUS TREMULOIDES	2.5" CAL.	B&B	50'H X 30'W
	6	SWAMP WHITE OAK	QUERCUS BICOLOR	2.5" CAL.	B&B	50'H X 40'W
EVERGREEN TREES						
	7	BLACK HILLS SPRUCE	PICEA GLAUCA DENSATA	6' HT.	B&B	35'H X 20'W
	8	PONDEROSA PINE	PINUS PONDEROSA	6' HT.	B&B	70'H X 25'W
ORNAMENTAL TREES						
	5	AUTUMN BRILLIANCE SERVICEBERRY	AMELANCHIER GRANDIFLORA 'AUTUMN BRILLIANCE'	1.5" CAL.	B&B	25'H X 15'W
	5	THORNLESS COCKSPUR HAWTHORN	CRATAEGUS CRUS-GALLI var. INERMIS	1.5" CAL.	B&B	20'H X 15'W
	3	PRAIRIFIRE FLOWERING CRAB	MALUS 'PRAIRIFIRE'	1.5" CAL.	B&B	20'H X 20'W
DECIDUOUS SHRUBS						
	55	ELDERBERRY BLACK CHOKECHERRY	ARONIA MELANOCARPA	24" HT.	POT	3'H X 5'W
	34	HYDRANGEA PEEGEE HYDRANGEA	GLEDITSIA AUREOLIA 'HAGENHOWE'	24" HT.	POT	3'H X 4'W
	13	GRAY DOGWOOD	CORNUS RACEMOSA	30" HT.	POT	6'H X 6'W
	35	BURNING BUSH	EUONYMUS ALATUS 'COMPACTUS'	30" HT.	POT	3'H X 5'W
	34	RED SPIRE SPIREA	ILEX VERTICILLATA 'MAMA'	18" HT.	POT	2.5'H X 4'W
	37	GOLDFINGER POTENTILLA	POTENTILLA FRUTICOSA 'GOLDFINGER'	18" HT.	POT	3'H X 3'W
	50	ANTHONY WATERER SPIREA	SPIRAEA X BUMALDA 'ANTHONY WATERER'	18" HT.	POT	2.5'H X 4'W
	31	PRAIRIE PETITE LILAC	SYRINGA VULGARIS 'PRAIRIE PETITE'	18" HT.	POT	3'H X 3'W
	50	TANGO WEIGELA	WEIGELA FLORIDA 'TANGO'	18" HT.	POT	2.5'H X 3'W

KEY	QUANT.	COMMON NAME	SCIENTIFIC NAME	SIZE	ROOT COND.	MATURE SIZE
EVERGREEN SHRUBS						
	49	HUGHES JUNIPER	JUNIPERUS HORIZONTALIS 'HUGHES'	18" SP	POT	1'H X 4'W
	12	BLUE STAR JUNIPER	JUNIPERUS SQUAMATA 'BLUE STAR'	24" HT	POT	2.5'H X 4'W
	13	YELLOW SPREADING JAPANESE YEW	TAXUS CUSPIDATA 'NANA AUREOSPIC'	24" HT.	POT	2'H X 4'W
	17	TECHNY ARBORVITAE	THUJA OCCIDENTALIS 'TECHNY'	24" HT.	POT	12'H X 6'W
PERENNIALS						
	300	FEATHER REED GRASS	CALAMAGROSTIS X ACUTIFLORA 'KARL FOERSTER'	1 GAL	POT	5'H X 2'W
		MAGNUS CONEFLOWER	ECHINACEA PURPUREA 'MAGNUS'	1 GAL	POT	3'H X 2'W
		JOE PYE WEED	EUPATORIUM DUBIUM 'LITTLE JOE'	1 GAL	POT	3'H X 2'W
		STELLA HAPPY DAYLILY	HEMEROCALLIS 'STELLA HAPPY'	1 GAL	POT	3'H X 2'W
		HOSTA	HOSTA 'BLUE UMBRELLAS'	1 GAL	POT	3'H X 2'W
		KOBOLD BLAZING STAR	LIATRIS SPICATA 'KOBOLD'	1 GAL	POT	3'H X 2'W
		SHENANDOAH SWITCH GRASS	PANICUM VIRGATUM 'SHENANDOAH'	1 GAL	POT	3'H X 2'W
		RUSSIAN SAGE	PEROVSKIA ATRIPLICIFOLIA 'RUSSIAN SAGE'	1 GAL	POT	4'H X 2'W
		EMERALD BLUE CREEPING PHLOX	PHLOX SUBULATA 'EMERALD BLUE'	1 GAL	POT	2'H X 2'W
		BLACK EYED SUSAN	RUDBECKIA FULGIDA 'GOLDSTURM'	1 GAL	POT	2'H X 2'W
		NEON SEDUM	SEDUM SPECTABILE 'NEON'	1 GAL	POT	2'H X 2'W

SUBSTITUTIONS:

IF ANY SUBSTITUTIONS ARE REQUIRED, SUBMIT SPECIFIC DOCUMENTS AND PROPOSED SUBSTITUTIONS TO LANDSCAPE ARCHITECT FOR APPROVAL 5 DAYS PRIOR TO PURCHASE AND/OR INSTALLATION.

LANDSCAPE NOTES

1. PRIOR TO SUBMITTING A BID, LANDSCAPE CONTRACTOR SHALL VISIT THE SITE AND RECONCILE ALL SITE CONDITIONS. THE CONTRACTOR IS TO VERIFY ALL SOURCE SERVICE AND ALL UTILITIES/UNDERGROUND FACILITIES LOCATED PRIOR TO ANY LANDSCAPE WORK. COORDINATE WITH THE GENERAL CONTRACTOR FOR INSTALLATION.
2. LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR FINISHED GRADING AND POST & SURFACE DRAINAGE IN ALL LANDSCAPE AREAS. LANDSCAPE CONTRACTOR MUST ENSURE THAT THE FINAL GRADES ARE SET AS SHOWN ON GRADING PLAN. IF ANY DISCREPANCIES ARE FOUND, IMMEDIATELY NOTIFY LANDSCAPE ARCHITECT FOR RESOLUTION.
3. ALL PLANT MATERIALS ARE TO CONFORM WITH STATE & LOCAL CONSTRUCTION STANDARDS AND THE CURRENT EDITION OF THE AMERICAN ASSOCIATION OF NURSERYMEN STANDARDS. ALL PLANT MATERIALS ARE TO BE HEALTHY, VIGOROUS STOCK, AND FREE FROM ANY DISEASES, DAMAGE, AND INFESTATION.
4. QUANTITIES OF PLANTS LISTED ON THE PLAN ARE TO CONFORM ANY DISCREPANCY BETWEEN THE QUANTITIES SHOWN ON THE PLANT SCHEDULE AND PLAN. PLACE PLANTS IN PROPER SPACING FOLLOWING LAYOUT PROVIDED.
5. ALL PLANTING IN TURF AREAS SHALL BE IRRIGATED WITH AN UNDERGROUND IRRIGATION SYSTEM. NO WATER IS ALLOWED ON ANY PAVEMENT, PERVIOUS, BUILDINGS, AND SIDEWALKS. THE LANDSCAPE CONTRACTOR IS TO DESIGN AND SUBMIT SHOP DRAWINGS OF IRRIGATION DESIGN AND CALCULATIONS TO LANDSCAPE ARCHITECT FOR REVIEW 5 DAYS PRIOR TO PURCHASE AND INSTALLATION. IRRIGATION DESIGN IS TO MEET ALL CITY PLUMBING CODES AND REQUIREMENTS.
6. ALL PLANTING IN NON-TURF AREAS SHALL BE IRRIGATED WITH AN UNDERGROUND IRRIGATION SYSTEM. NO WATER IS ALLOWED ON ANY PAVEMENT, PERVIOUS, BUILDINGS, AND SIDEWALKS. THE LANDSCAPE CONTRACTOR IS TO DESIGN AND SUBMIT SHOP DRAWINGS OF IRRIGATION DESIGN AND CALCULATIONS TO LANDSCAPE ARCHITECT FOR REVIEW 5 DAYS PRIOR TO PURCHASE AND INSTALLATION. IRRIGATION DESIGN IS TO MEET ALL CITY PLUMBING CODES AND REQUIREMENTS.
7. SEED ALL SHRUB AND PERENNIAL BEDS WITH SPN (6) INCH BLACK VINYL EDGING (BLACK DURAMOND OR APPROVED EQUAL).
8. APPLY FOUR (4) INCH DEPTH OF SHREDDED HARDWOOD BARK MULCH IN FOUR (4) FOOT DIAMETER RINGS AROUND ALL TREES LOCATED IN "SODDED" AREAS. NO VINYL EDGING IS REQUIRED FOR TREES LOCATED IN SODDED AREAS AND SEEDING AREAS.
9. APPLY FOUR (4) INCH DEPTH OF SHREDDED HARDWOOD BARK MULCH IN ALL SHRUB AREAS.
10. APPLY THREE (3) INCH DEPTH OF SHREDDED HARDWOOD BARK MULCH IN ALL PERENNIAL AREAS.
11. APPLY FOUR (4) INCH DEPTH OF TWO-THREE (2-3) INCH RINGER ROCK OVER WEED BARRIER FABRIC UNLESS OTHERWISE NOTED ON PLAN.
12. SOD SHOWN ON LANDSCAPE PLAN TO BE INSTALLED BY LANDSCAPE CONTRACTOR. SOD TO BE NEWLY SPRAYED, FREE OF WEEDS AND DISEASE. APPLY MINIMUM FOUR (4) INCHES OF TOPSOIL AND THOROUGHLY FERTILIZE TOP TWO (2) INCHES BEFORE LAYING SOD. LANDSCAPE CONTRACTOR TO SUBMIT SAMPLE SOD TO ARCHITECT FOR APPROVAL.
13. PLANTING SOIL FOR BACKFILLING TO BE TOPSOIL TO WHICH IS ADDED 2 LBS OF SLOW RELEASE COMMERCIAL FERTILIZER AND 1/3 YARD OF PEAT MOSS PER CUBIC YARD. TOPSOIL TO BE MINOT SELECT TOPSOIL BORROW SOIL.
14. SPREAD PLANTING SOIL AT MINIMUM EIGHTEEN (18) INCH DEEP IN ALL PERENNIAL BEDS PRIOR TO PLANTING.
15. FOLLOW LANDSCAPE DETAILS FOR ALL INSTALLATION, UNLESS OTHERWISE NOTED.
16. LANDSCAPE CONTRACTOR TO MAINTAIN PLANTS IN HEALTHY CONDITION THROUGHOUT WARRANTY PERIOD. THE WARRANTY PERIOD IS TWO GROWING SEASONS FROM DATE OF PERENNIAL ACCEPTANCE UNTIL FINAL ACCEPTANCE.

LEGEND

- SOD
- WETLAND BUFFER SEED MIX
- UPLAND SEED MIX
- EXISTING TREE
- 890 PLUG POT 24" O.C. SPACING

WOOD SUMH	AMORPHA FRUTICOSA
NEW ENGLAND ASTER	ASTER NOVAE-ANGLIAE
BUTTERFLY MILKWEED	ASCLEPIAS TUBEROSA
COMMON PRAIRIE CORDGRASS	CORDYPHA GRANDIFLORA 'EARLY SUNRISE'
JOE PYE WEED	EUPATORIUM MACULATUM
BLUE FLAG IRIS	IRIS VERSICOLOR
GREAT BLUE LOBELIA	LOBELIA SIPHILITICA
SWITCHGRASS	PANICUM VIRGATUM
GREENT PLANT	PHYSOSTEGIA VIRGINIANA
MOUNTAIN MINT	PYCNANTHEMUM VIRGINIANUM
BROWN-EYED SUSAN	RUDBECKIA SUBTOMENTOSA
CULVER'S ROOT	VERONICASTRUM VIRGINICUM
GOLDEN ALEXANDERS	ZIZIA AUREA

REFER TO SHEET L2.2 FOR SEEDING LISTS AND NOTES

LANDSCAPE REQUIREMENT

LANDSCAPE REQUIREMENT PER CODE SPAD SEC.70-930

TOTAL BUILDING GROSS AREA = 54,820 SF.
TOTAL SITE PERIMETER = 1,020 LF.
TOTAL DEVELOPED SITE PERIMETER = 1,020 LF.

	REQUIREMENT BASED ON GROSS BUILDING FOOTPRINT AREA	REQUIREMENT BASED ON TOTAL SITE PERIMETER	REQUIREMENT BASED ON TOTAL SITE PERIMETER	PROPOSED PLAN
OVERSTORY TREE	1 TREE/1,000 SQF = 55 TREES	1 TREE/40 LF PERIMETER = 26 TREES	1 TREE/40 LF PERIMETER = 46 TREES	= 46 TREES DECIDUOUS TREES = 30 TREES CONIFEROUS TREES = 16 TREES MAX. 30% OF REQUIRED TREES ORNAMENTAL TREES = 14 TREES (3 TREES = 1 OVERSTORY TREES)
SHRUB	1 SHRUB/200 SFS = 82 SHRUBS	1 SHRUB/30 LF PERIMETER = 170 SHRUBS	1 SHRUB/30 LF PERIMETER = 34 SHRUBS	= 404 SHRUBS
INTERIOR PARKING LOT 1 TREE/ 10 STALLS			= 3 TREES	= 3 TREES

ADDITIONAL TREES MAY BE ADDED AFTER BUILDING CONSTRUCTION, AT THE DIRECTION OF CITY STAFF UP TO THE NUMBER REQUIRED BY ORDINANCE.

NORTH

0 50 100
SCALE IN FEET

POPE

Pope Architects Inc.
[illegible]
St. Paul, MN [illegible]
Ph [illegible]
Fax [illegible]

KRAUS-ANDERSON COMPANIES

EBENEZER

RHO
Development Consulting
P.O. BOX 187
LONG LAKE, MN 55356
[illegible]

ORONO SENIOR HOUSING
ORONO, MN

DEVELOPMENT STAGE APPLICATION

LANDSCAPE PLAN

Issue and Release	
CITY SUBMITTAL ISSUE	01-14-11
CITY ENGINEERS COMMENTS	02-03-11
WATERSHED SUBMITTAL	03-02-11
DEVELOPMENT STAGE APPLICATION	03-17-11

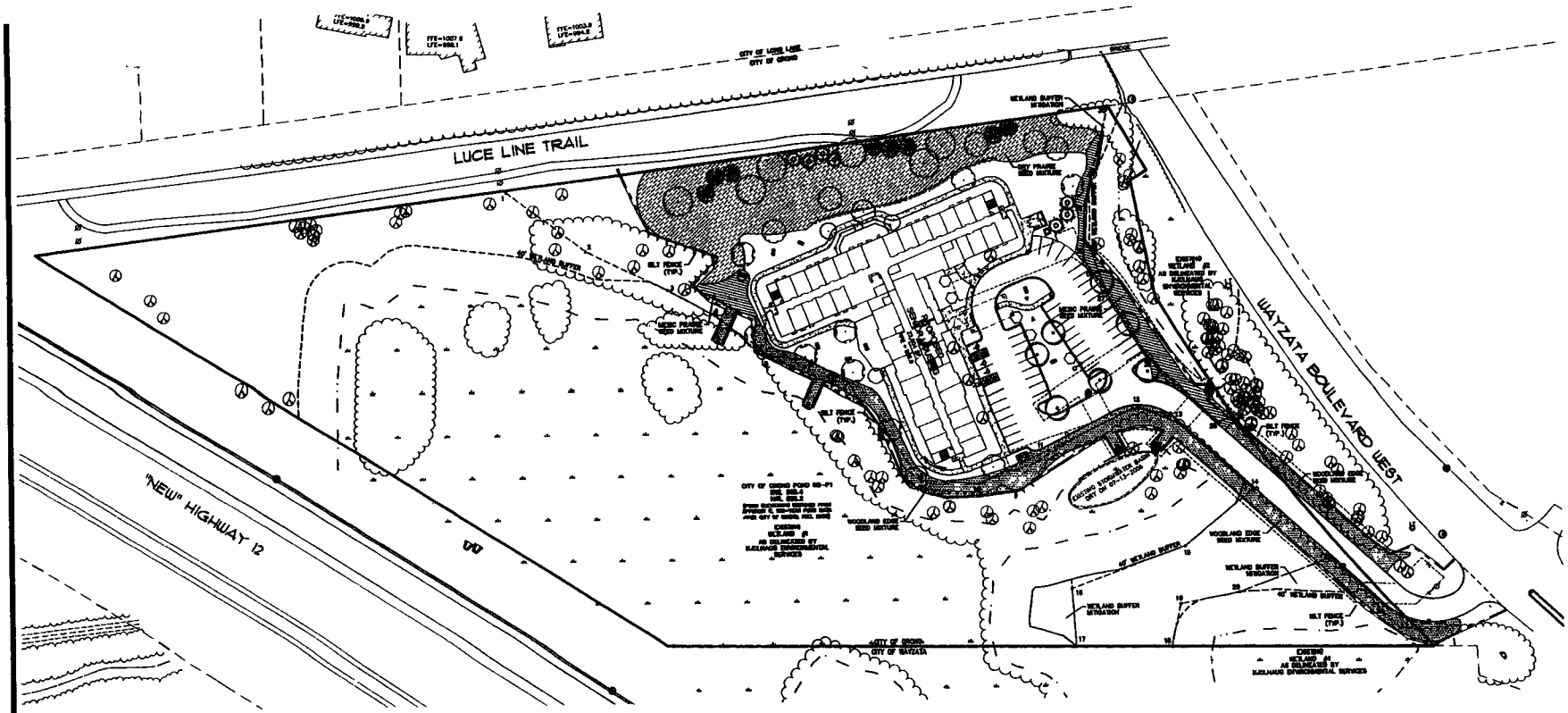
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME, OR UNDER MY DIRECT SUPERVISION, AND THAT I AM A DULY REGISTERED LANDSCAPE ARCHITECT UNDER THE LAWS OF THE STATE OF MINNESOTA.

M. BURKE SHANNON
DATE 02/17/2011 REG. NO. 43039

Drawing No.	M10-141
Drawn by	PS
Checked by	SMA

SHEET

L2.1



LEGEND

MESIC PRAIRIE SEED MIXTURE
SEED MIXTURE 25-041 MESIC PRAIRIE SOUTHEAST

BROADCAST SEEDING
GRASS – SEEDING RATE PLS 10 LBS/AC.
FORB – SEEDING RATE PLS 2 LBS/AC.
TEMPORARY – SEED MIXTURE 25-111 OATS COVER CROP SEEDING RATE PLS 30 LBS/AC.

WOODLAND EDGE SEED MIXTURE
SEED MIXTURE 25-211 WOODLAND EDGE SOUTH & WEST

BROADCAST SEEDING
GRASS – SEEDING RATE PLS 10 LBS/AC.
FORB – SEEDING RATE PLS 2 LBS/AC.
TEMPORARY – SEED MIXTURE 25-111 OATS COVER CROP SEEDING RATE PLS 30 LBS/AC.

DRY PRAIRIE SEED MIXTURE
SEED MIXTURE 25-021 DRY PRAIRIE SOUTHEAST

BROADCAST SEEDING
GRASS – SEEDING RATE PLS 10 LBS/AC.
FORB – SEEDING RATE PLS 2 LBS/AC.
TEMPORARY – SEED MIXTURE 25-111 OATS COVER CROP SEEDING RATE PLS 30 LBS/AC.

SILT FENCE

WETLAND BUFER SEEDING NOTES

1. PRIOR TO SUBMITTING A BID, LANDSCAPE CONTRACTOR SHALL VISIT THE SITE AND INCORPORATE ALL SITE CONDITIONS. THE CONTRACTOR IS TO VERIFY ALL COVER SHOWN AND ALL UTILITIES AND OTHER UNDERGROUND FACILITIES ARE LOCATED PRIOR TO ANY LANDSCAPE WORK. COORDINATE WITH THE GENERAL CONTRACTOR FOR INSTALLATION.
2. LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR FINISHED GRADING AND SOIL PREPARATION WITHIN ALL LANDSCAPE AREAS. LANDSCAPE CONTRACTOR MUST REPORT ANY SOIL PROBLEMS THAT ARE NOT AS SHOWN ON GRADING PLANS TO THE LANDSCAPE ARCHITECT AND OWNER'S REPRESENTATIVE. LANDSCAPE ARCHITECT FOR RESOLUTION.
3. SEED AND SPREAD TOPSOIL IN ALL GRADED AREAS OF WETLAND BUFFER AT MINIMUM DEPTH OF TWO INCH DEEP.
4. APPLY FIBER BLANKET OR CLEAN STRAW MULCH TO ALL SEEDED AREAS AT A RATE OF ONE AND ONE HALF (1 1/2) TONS PER ACRE. ANCHOR MULCH WITH A DISK OR TACKIFIER.
5. NO FERTILIZER IS ALLOWED IN BUFFER AREAS.
6. ALL EQUIPMENT ENTERING IN WETLAND BUFFER AREAS SHALL BE LIGHTWEIGHT EQUIPMENT TO MINIMIZE SOIL COMPACTION AND DAMAGE TO WETLAND BUFFER.
7. MAINTAIN SILT FENCE AND DITCH CHECK PROTECTION AS SHOWN ON GRADING PLAN UNTIL ESTABLISHMENT OF NATIVE SEEDING.
8. ALL NATIVE SEEDING USED ON THIS PROJECT SHALL BE CERTIFIED TO BE OF MINNESOTA ECOTYPE AS SPECIFIED SHOWN BY THE MINNESOTA CROP IMPROVEMENT ASSOCIATION (MCIA). DOCUMENTATION VERIFYING THE ORIGIN OF THE SEED IS TO BE PROVIDED TO THE LANDSCAPE ARCHITECT AT LEAST 30 DAYS PRIOR TO INSTALLATION DATE.
9. FOLLOW SEEDING METHODS, SEEDING INSTALLATION, AND SITE PREPARATION AS PER THE NEWLY SEEDED GENERAL TURF UNLESS NOTED OTHERWISE ON THE LANDSCAPE PLANS OR IN THE SPECIFICATION SECTION.

REFER TO SHEET C3.5 FOR WETLAND BUFFER MAINTENANCE PLAN

NORTH

SCALE IN FEET 0 50 100

POPE

POPE ARCHITECTS INC.
700 TRIBUNE FIRST DRIVE
ST. PAUL, MN 55102-2000
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FAX (651) 642-9001

KLAUS-ANDERSON COMPANIES

LIBENTZER

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FAX (612) 473-9002

ORONO SENIOR HOUSING
ORONO, MN

DEVELOPMENT STAGE APPLICATION

WETLAND BUFFER & UPLAND SEEDING PLAN

Issue Date/Revision	
CITY SUBMITTAL ISSUE	01-14-11
CITY ENGINEERS COMMENTS	02-03-11
WATERSHED SUBMITTAL	03-02-11
DEVELOPMENT STAGE APPLICATION	03-17-11

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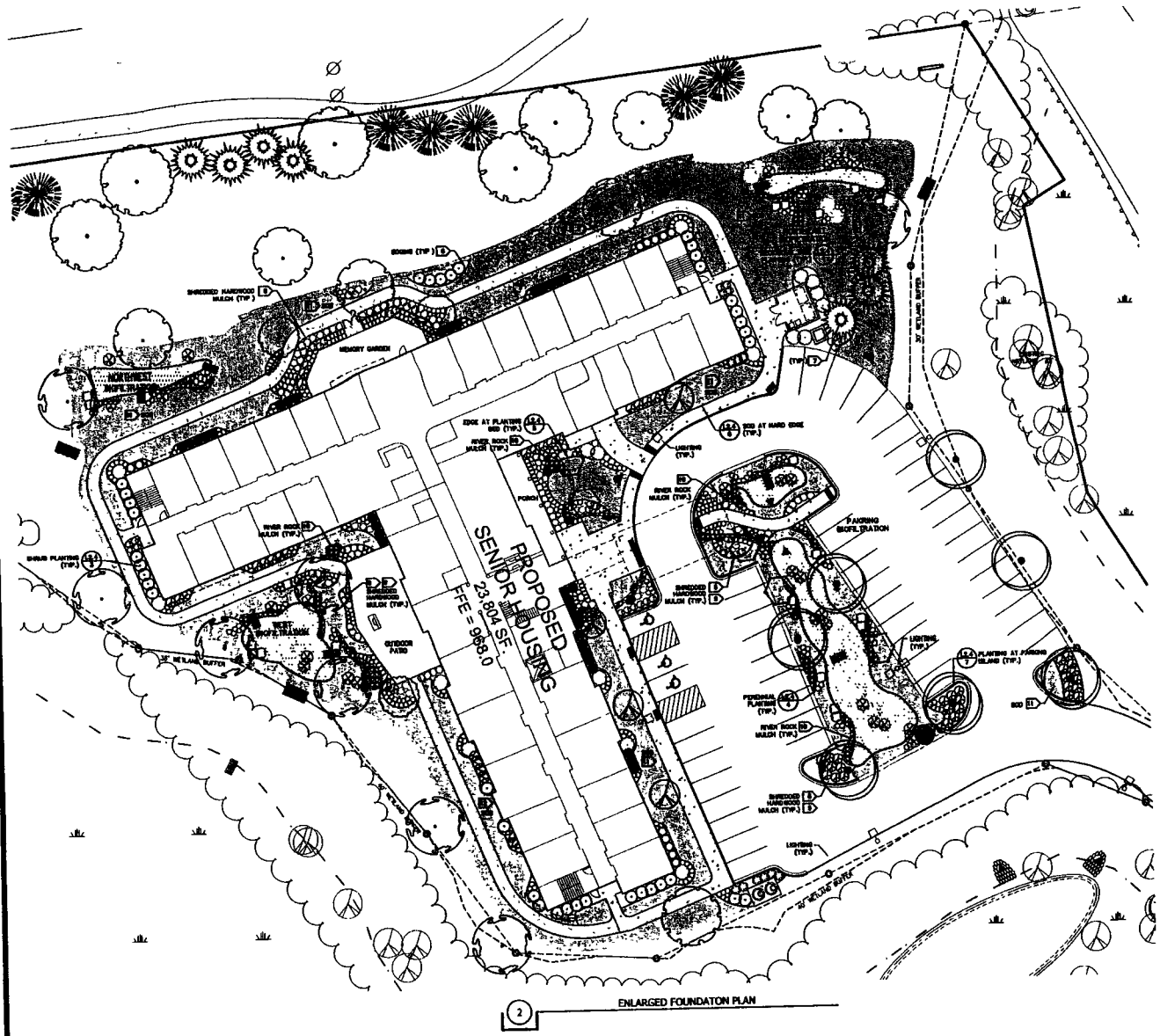
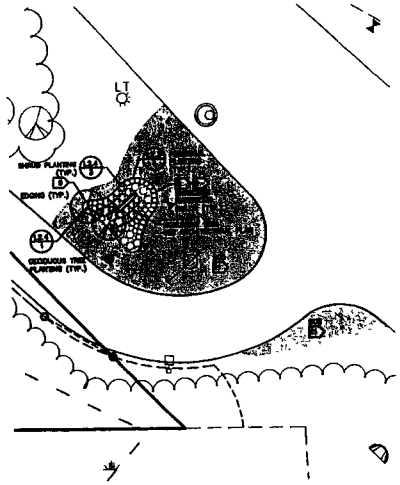
PLANNING DIVISIONS
DATE: 03/17/2011 REG. NO. 13208

Operation No. M10-141
Drawn by PB
Checked by SHJ

SHEET
L2.2



ENLARGED FOUNDATON PLAN



ENLARGED MONUMENT AREA

BIOFILTRATION NOTES

21. AVOID COMPACTING SOILS IN PROPOSED BIOFILTRATION BASIN.
22. MAINTAIN FREE FROM WEEDS AND OTHER INVASIVE PLANT MATERIAL.
23. LANDSCAPE ARCHITECT WILL INSPECT CONDITIONS OF BIOFILTRATION BASIN UPON COMPLETION OF INSTALLATION AND GIVE WRITTEN INITIAL ACCEPTANCE. FOLLOWING ABOVEGRADY DATE LANDSCAPE ARCHITECT WILL INSPECT BIOFILTRATION BASIN FOR FINAL ACCEPTANCE. INSPECTIONS WILL INCLUDE OVERALL CONDITIONS OF PLANTINGS, REPLACEMENT OF DEAD WEEDS, AND MAINTENANCE OF ANY DOCUMENTATION. FINAL ACCEPTANCE WILL BE GIVEN TO CONTRACTOR AFTER ALL COMMENTS ARE ADDRESSED UPON THIS INSPECTION.
24. AFTER FIRST GROWING SEASON REMOVE ALL DEAD PLANT DEBRIS FROM PREVIOUS GROWING SEASON AND TRIMS SHRUBS AS NECESSARY TO MAINTAIN ACCEPTABLE APPEARANCE OF BIOFILTRATION BASIN.
25. MONITOR AND CONTROL SEDIMENTATION IN PRE-TREATMENT AREAS (TURF) AND IN BIOFILTRATION BASINS FOR ONE FULL YEAR. TURF IN PRE-TREATMENT AREAS SHALL BE MOWED WITH LOW GROUND PRESSURE EQUIPMENT (TO AVOID SOIL COMPACTION) TO 3-4" HEIGHT
26. MONITOR MOISTURE IN ALL BIOFILTRATION BASINS FOR ONE FULL YEAR. SUPPLEMENT WATER IF THERE IS INSUFFICIENT RAINFALL PER WEEK (ONE INCH PER WEEK).
27. CONTRACTOR IS TO ENSURE PERCOLATION RATE OF AMENDED NATIVE SOIL GREATER THAN ONE INCH PER HOUR.

SEE SHEET L2.1 FOR LANDSCAPE SCHEDULE QUANTITIES & NOTES

NORTH

0 20 40
SCALE IN FEET

POPE

Pope Associates Inc.
[illegible]
St. Paul, MN [illegible]
Ph. [illegible]
Fax [illegible]

KRAUS-ANDERSON, COMPANIES

EBENEZER

RHO
Development Consulting
P.O. BOX 387
LONG LAKE, MN 55356
PHONE 952-473-[illegible]
FAX 952-473-[illegible]

ORONO
SENIOR
HOUSING
ORONO, MN

DEVELOPMENT
STAGE
APPLICATION

ENLARGED
LANDSCAPE
PLAN

Issue and Revisions	
CITY SUBMITTAL ISSUE	01-14-11
CITY ENGINEERS COMMENTS	02-03-11
WATERSHED SUBMITTAL	03-09-11
DEVELOPMENT STAGE APPLICATION	03-17-11

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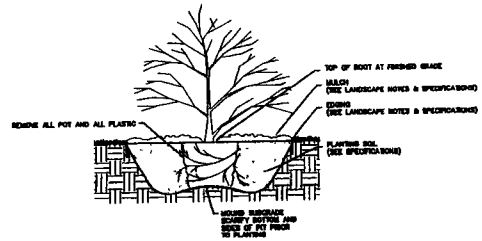
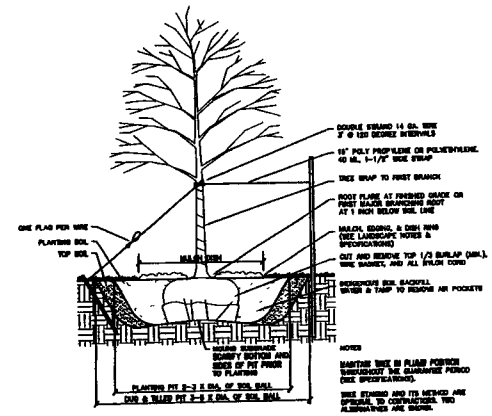
PLANNING DIVISION
DATE 03/17/2011 REG. NO. [illegible]

Drawing No.	M10-141
Drawn by	PS
Reviewed by	SMJ

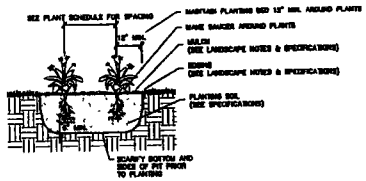
SHEET
L2.3



3 SHRUB PLANTING NO SCALE

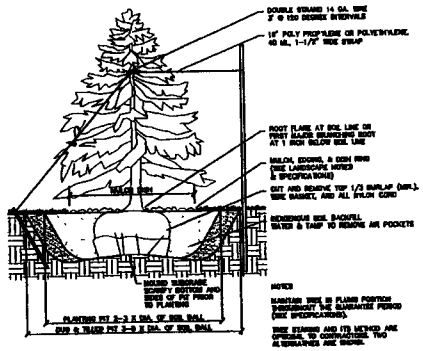


1 DECIDUOUS TREE PLANTING NO SCALE

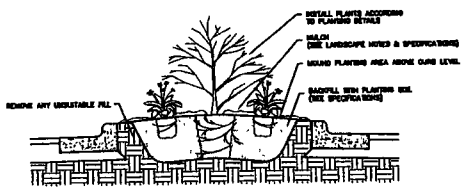


4 PERENNIAL PLANTING NO SCALE

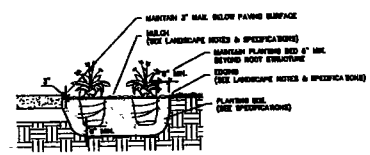
6 SOD AT HARDSCAPE EDGE NO SCALE



2 CONIFEROUS TREE PLANTING NO SCALE



7 PLANTING AT PARKING ISLAND NO SCALE



5 EDGING AT PLANTING BED NO SCALE

POPE

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Environmental Planning & Design
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KRAUS-ANDERSON, COMPANIES

EBENEZER

RHO Development Consulting
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LONG LAKE, MN 55356
PHONE: 952-473-4461
FAX: 952-473-4461

ORONO SENIOR HOUSING
ORONO, MN

DEVELOPMENT STAGE APPLICATION

LANDSCAPE DETAILS

Issue Schedule	
CITY SUBMITTAL ISSUE	01-14-11
CITY ENGINEERS COMMENTS	02-03-11
WATERSHED SUBMITTAL	03-02-11
DEVELOPMENT STAGE APPLICATION	03-17-11

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PLANNING SUPERVISOR
DATE 03/17/2011 REG. NO. 43609

Project No.	M10-143
Drawn by	PB
Reviewed by	SMJ

SHEET

L2.4

SWPP SUMMARY/OVERVIEW

THIS STORM WATER POLLUTION PREVENTION PLAN (SWPP) HAS BEEN DEVELOPED TO ADDRESS THE POLLUTION PREVENTION MANAGEMENT MEASURES INSPECTION AND MAINTENANCE REQUIREMENTS OF NPDES PERMIT [illegible], PART B, SUBPART A. THE SWPP INCLUDES A COMBINATION OF NARRATIVE, ATTACHED FIGURES, AND PLAN SHEETS THAT DESCRIBE THE TEMPORARY AND PERMANENT STORM WATER MANAGEMENT PLAN FOR THE PROJECT.

CONTACTS

OWNER: KRAUS ANDERSON REALTY
CONTACT: MATT ALEXANDER
PHONE: 952-546-5400
EMAIL: MALEXANDER@KARREALTY.COM

ENGINEER: DEVELOPMENT CONSULTING, INC
CONTACT: STEVE JOHNSTON
PHONE: 612-333-0024
EMAIL: STEVE.JOHNSTON@DEVELOPMENT.COM

THE GENERAL CONTRACTOR (OPERATOR) SHALL ATTACH THEIR REQUIRED CONTACT INFORMATION TO THE SWPP AFTER THE CONTRACT FOR THE PROJECT IS AWARDED.

CONTRACTOR: KRAUS ANDERSON CONSTRUCTION
CONTACT: JAY BOSTROM
PHONE: 612-338-7331
EMAIL: JAYBOSTROM@KRAUSANDERSON.COM

GENERAL PROJECT INFORMATION

PROJECT NAME: ORONO SENIOR HOUSING
PROJECT LOCATION: ORONO, MN
CONSTRUCTION START DATE: MAY, 2011
CONSTRUCTION END DATE: MAY, 2012
THIS PROJECT WILL CONSIST OF: REDEVELOPMENT OF APPROXIMATELY 3.0 ACRES SITE FOR THE DEVELOPMENT OF THE 51,000 SF. ORONO SENIOR HOUSING.

AMENDMENTS TO THE SWPP

THE SWPP WILL BE AMENDED AS NEEDED AND/OR AS REQUIRED BY PROVISIONS OF THE PERMIT. AMENDMENTS WILL BE APPROVED BY BOTH THE OWNER AND CONTRACTOR (OPERATOR) AND WILL BE ATTACHED TO THE SWPP AS AN ADDITIONAL SHEET. THE SWPPP AND AMENDMENTS WILL BE KEPT ON SITE BY THE CONTRACTOR (OPERATOR) WHENEVER CONSTRUCTION ACTIVITY IS IN PROGRESS.

GENERAL SWPPP RESPONSIBILITIES

THE CONTRACTOR (OPERATOR) SHALL PROVIDE A KNOWLEDGEABLE AND EXPERIENCED PERSON(S) TO OVER SEE THE IMPLEMENTATION OF THE SWPP AND THE INSTALLATION, INSPECTION AND MAINTENANCE OF THE EROSION AND SEDIMENT CONTROL BMP'S BEFORE, AND DURING CONSTRUCTION.

BOTH THE OWNER AND CONTRACTOR (OPERATOR) SHALL BE RESPONSIBLE FOR THE PROPER TERMINATION AND/OR TRANSFER OF THE PERMIT.

THE OWNER WILL BE RESPONSIBLE FOR THE LONG TERM OPERATION AND MAINTENANCE OF THE PERMANENT STORM WATER MANAGEMENT SYSTEM(S) AS DEFINED IN AN MAINTENANCE AGREEMENT WITH THE WATERSHED DISTRICT.

UNLESS SPECIFICALLY STATED THE ENGINEER SHALL HAVE NO RESPONSIBILITY FOR ANY SWPPP ACTIVITIES DURING OR AFTER CONSTRUCTION.

TRAINING REQUIREMENTS

PREPARER/DESIGNER OF THE SWPPP: STEPHEN JOHNSTON, PE
EMPLOYER: DEVELOPMENT CONSULTING, INC.

THE CONTRACTOR (OPERATOR) SHALL PROVIDE AT LEAST ONE TRAINED PERSON TO REVIEW THIS DOCUMENT, APPLY FOR NECESSARY PERMITS, OVERSEE THE IMPLEMENTATION OF THE SWPPP AND TO INSTALL, INSPECT, MAINTAIN AND REPAIR BMP'S.

TRAINING MUST BE IN CONFORMANCE WITH THE NPDES CONSTRUCTION PERMIT REQUIREMENTS. TRAINING DOCUMENTATION MUST KEPT ON-SITE WITH THE SWPPP AND THE TRAINED PERSON MUST BE AVAILABLE ON-SITE WITHIN 72 HOURS.

IMPLEMENTATION SEQUENCE:

CONTRACTOR SHALL COMPLY WITH THE FOLLOWING SEQUENCE. THE CONTRACTOR MAY MAKE ADJUSTMENTS TO THE SEQUENCE IF NEEDED TO ADDRESS ACTUAL FIELD CONDITIONS.

1. PERFORM MINOR DEMOLITION NEEDED TO INSTALL BMP'S
2. INSTALL ROCK CONSTRUCTION ENTRANCE(S)
3. INSTALL PERIMETER SEDIMENT CONTROL MEASURES
4. PROTECT POPULATION BASINS (IF ANY)
5. COMPLETE DEMOLITION
6. COMPLETE MINOR SITE GRADING
7. STABILIZE SITE
8. BEGIN BUILDING CONSTRUCTION
9. INSTALL UTILITIES, CURB & GUTTER, PAVING, ETC.
10. GRADE BOTTOM OF BASINS WHEN WORK DONE TO PREVENT COMPACTION
11. COMPLETE FINAL GRADING, STABILIZATION AND PLANTINGS

AFTER CONSTRUCTION IS COMPLETED AND THE SITE IS STABILIZED REMOVE ANY TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES AND RESTORE ANY AREAS DISTURBED BY THEIR REMOVAL.

INSPECTION AND MAINTENANCE

ALL INSPECTIONS, MAINTENANCE, REPAIRS, REPLACEMENTS AND REMOVAL ARE TO BE CONSIDERED INCIDENTAL TO THE BMP BID ITEMS.

THE CONTRACTOR (OPERATOR) IS RESPONSIBLE FOR COMPLETING REQUIRED INSPECTIONS MAINTENANCE AND OBSERVATION OF REPAIRS CONTROLS AND BMP'S AS NEEDED TO ENSURE COMPLIANCE WITH THE PERMIT REQUIREMENTS.

THE CONTRACTOR (OPERATOR) SHALL INSPECT THE CONSTRUCTION SITE ONCE EVERY SEVEN (7) DAYS DURING ACTIVE CONSTRUCTION AND WITHIN 24 HOURS AFTER A RAINFALL EVENT GREATER THAN 0.5 INCHES IN 24 HOURS.

THE CONTRACTOR (OPERATOR) SHALL KEEP A SUMMARY MAINTENANCE/CONSTRUCTION OBSERVATION REPORT TO BE RECORDED AFTER EACH SITE VISIT/OBSERVATION. RECORDS SHALL INCLUDE THE FOLLOWING:

1. DATE AND TIME OF INSPECTION
2. NAME OF PERSON CONDUCTING INSPECTION
3. FINDINGS AND RECOMMENDATIONS FOR CORRECTIVE ACTIONS IF NECESSARY
4. CONDITION OF BMPS TAKEN
5. DATE AND AMOUNT OF RAINFALL GREATER THAN 0.5 INCHES IN 24 HOURS
6. WHETHER OR NOT DISCHARGE HAS TO BE MADE
7. A SITE MAP INDICATING ACTIVE CONSTRUCTION AREAS AND LAND DISTURBING ACTIVITIES.

THE CONTRACTOR (OPERATOR) SHALL SUBMIT A COPY OF THE WRITTEN INSPECTIONS MONTHLY TO THE OWNER.

THE CONTRACTOR (OPERATOR) SHALL KEEP THE SWPPP, ALL INSPECTION REPORTS AND AMENDMENTS ON-SITE. THE CONTRACTOR (OPERATOR) SHALL DESIGNATE A SPECIFIC LOCATION TO KEEP THE RECORDS WHENEVER CONSTRUCTION ACTIVITY IS IN PROGRESS.

ALL EROSION PREVENTION AND SEDIMENTATION CONTROL BMP'S MUST BE INSPECTED TO L[illegible]ARITY AND EFFECTIVENESS. ALL NONFUNCTIONAL BMP'S MUST BE REPAIRED, REPLACED OR SUPPLEMENTED[illegible] FUNCTIONAL BMP'S. THE CONTRACTOR (OPERATOR) MUST DETERMINE AND COMPLY WITH THE FOLLOWING INSPECTION AND MAINTENANCE REQUIREMENTS:

1. ALL SEDIMENT BARRIERS INCLUDING SILT FENCE MUST BE REPAIRED REPLACED OR SUPPLEMENTED WHEN THEY BECOME NONFUNCTIONAL OR THE SEDIMENT REACHES 1/3 THE EXCEEDS VOLUME. DRAINAGE AND REMOVAL MUST BE COMPLETED WITHIN 72 HOURS OF DISCOVERY.
2. TEMPORARY AND PERMANENT SEDIMENT BASINS MUST BE DRAINED AND THE SEDIMENT REMOVED WHEN THE DEPTH OF SEDIMENT COLLECTED IN THE BASIN REACHES 1/3 THE STORAGE VOLUME. DRAINAGE AND REMOVAL MUST BE COMPLETED WITHIN 72 HOURS OF DISCOVERY.
3. SURFACE WATERS, INCLUDING DRAINAGE DITCHES AND CONVEYANCE SYSTEMS, MUST BE INSPECTED FOR EVIDENCE OF EROSION AND SEDIMENT DEPOSITION. THE OPERATOR SHALL REMOVE ALL DELTAS AND SEDIMENT DEPOSITED IN SURFACE WATERS, INCLUDING DRAINAGE WAYS, DITCHES BASINS, AND OTHER DRAINAGE SYSTEMS. THE OPERATOR SHALL STABILIZE THE AREAS WHERE SEDIMENT REMOVAL RESULTS IN EXPOSED SOIL. REMOVAL AND STABILIZATION MUST TAKE PLACE WITHIN 7 DAYS OF DISCOVERY UNLESS PRECLUDED BY LEGAL, REGULATORY OR PHYSICAL CONSTRAINTS. THE CONTRACTOR (OPERATOR) IS RESPONSIBLE FOR CONTACTING ALL LOCAL, REGIONAL, STATE AND FEDERAL AUTHORITIES AND RECEIVING ANY APPLICABLE PERMITS, PRIOR TO CONDUCTING ANY WORK.
4. CONSTRUCTION SITE VEHICLE EXIT LOCATIONS SHALL BE INSPECTED DAILY FOR EVIDENCE OF OFF-SITE SEDIMENT TRACKING ONTO PAVED SURFACES. TRACKED SEDIMENT MUST BE REMOVED FROM ALL PAVED SURFACES WITHIN 24 HOURS OF DISCOVERY.
5. THE CONTRACTOR (OPERATOR) IS RESPONSIBLE FOR THE OPERATION AND MAINTENANCE OF TEMPORARY AND PERMANENT WATER QUALITY BMP'S. AS WELL AS EROSION AND SEDIMENT CONTROL BMP'S FOR THE DURATION OF THE CONSTRUCTION WORK AT THE SITE.
6. IF SEDIMENT ESCAPES THE CONSTRUCTION SITE OFF-SITE ACCUMULATIONS OF SEDIMENT MUST BE REMOVED IN A MANNER AND AT A FREQUENCY SUFFICIENT TO MINIMIZE OFF-SITE IMPACTS.
7. ALL DISTURBANCE AREAS MUST BE INSPECTED TO ENSURE THAT NO SEDIMENT FROM ONGOING CONSTRUCTION ACTIVITIES IS REACHING THE DISTURBANCE AREAS AND THOSE AREAS ARE PROTECTED FROM COMPACTION DUE TO CONSTRUCTION EQUIPMENT DRIVING ACROSS THE DISTURBANCE AREA.

RELATED REVIEWS AND PERMITS:

ENVIRONMENTAL, ARCHEOLOGICAL, LOCAL, STATE, AND/OR FEDERAL REVIEWS/PERMITS:

TYPE OF REVIEW	REQUIRED ACTIONS
LOCAL WATERSHED SITE PLAN	PERMITS
COUNTY ACCESS & UTILITY	PERMITS
WATERSHED LAND DISTURBANCE, STORMWATER MANAGEMENT	PERMITS
MPCA SANITARY SEWER EXTENSION, NPDES	PERMITS
DEPARTMENT OF HEALTH, DIVISION OF WATERSHEDS	PERMITS

POLLUTION PREVENTION MANAGEMENT MEASURES

THE CONTRACTOR (OPERATOR) SHALL BE RESPONSIBLE FOR ALL POLLUTION PREVENTION MANAGEMENT MEASURES. THE CONTRACTOR (OPERATOR) IS RESPONSIBLE FOR INFORMING ALL VISITORS AND/OR PERSONNEL ON-SITE OF THE POLLUTION PREVENTION MANAGEMENT MEASURES.

ALL POLLUTION PREVENTION MANAGEMENT MEASURES ARE TO BE CONSIDERED INCIDENTAL TO THE MOBILIZATION BID ITEM, UNLESS OTHERWISE NOTED. POLLUTION PREVENTION MANAGEMENT MEASURES INCLUDE BUT ARE NOT LIMITED TO THE FOLLOWING:

THE CONTRACTOR (OPERATOR) IS RESPONSIBLE FOR THE PROPER DISPOSAL, IN COMPLIANCE WITH MPCA DISPOSAL REQUIREMENTS, OF ALL SOLID WASTE AND HAZARDOUS MATERIALS ON-SITE.

CONCRETE TRUCKS SHALL NOT BE ALLOWED TO WASH OUT OR DISCHARGE SURPLUS CONCRETE OR DRAIN WASH WATER ON-SITE, UNLESS DONE IN AN ADEQUATE LIQUID-TIGHT CONTAINMENT SYSTEM. THE ENGINEERED SYSTEM PROVIDED BY THE CONTRACTOR (OPERATOR) MUST INCLUDE THE DRAWINGS FOR THE PROJECT FILE AND WRITTEN ASSURANCE THAT THE SYSTEM WILL WORK AS DESIGNED AND MEANS FOR DISCHARGE OF CONCRETE OR CONCRETE WASH WATER WHEN IT IS DEEMED OF PROPERLY STATE FORMAT A MINIMUM OF A 100-YEAR STORM EVENT. ANY LIQUID AND SOLID WASTE MUST BE DISPOSED OF PROPERLY AND IN COMPLIANCE WITH MPCA REGULATIONS. A SIGN SHALL BE INSTALLED ADJACENT TO EACH WASH OUT SYSTEM TO INFORM CONCRETE SUBCONTRACTORS TO UTILIZE THE PROPER FACILITIES. THE CONCRETE WASHOUT CONTAINMENT SYSTEM AND ALL RELATED ITEMS SHALL BE CONSIDERED INCIDENTAL TO THE MOBILIZATION BID ITEM.

ALL NONHAZARDOUS WASTE MATERIALS SHALL BE COLLECTED AND STORED IN A SECURELY LIDDED METAL DUMPSTER OR OTHER APPROVED CONTAINMENT METHOD AT THE END OF EACH DAY. ANY ALTERNATIVE TO A METAL DUMPSTER MUST BE SUBMITTED IN WRITING FOR APPROVAL BY THE PROJECT MANAGER. THE DUMPSTER SHALL BE EMPTIED AS NECESSARY TO PREVENT AN OVERFLOW. NO CONSTRUCTION DEBRIS OR SOLID WASTE SHALL BE BURIED ON-SITE.

A LICENSED SANITARY WASTE MANAGEMENT CONTRACTOR SHALL COLLECT ALL SANITARY WASTE FROM THE PORTABLE UNITS AT A RATE NECESSARY TO MAINTAIN SANITARY FUNCTION.

ALL VEHICLES ON-SITE SHALL BE MONITORED FOR LEAKS AND RECEIVE REGULAR PREVENTIVE MAINTENANCE TO REDUCE THE CHANCE OF LEAKAGE.

ALL FERTILIZERS SHALL BE STORED IN A COVERED SHELTER. PARTIALLY USED BAGS SHALL BE TRANSFERRED TO A SEALABLE BIN TO REDUCE THE CHANCE OF SPILLAGE.

PETROLEUM PRODUCTS SHALL BE STORED IN TIGHTLY SEALED CONTAINERS WHICH ARE CLEARLY LABELED.

SPILL KITS SHALL BE INCLUDED WITH ALL FUELING SOURCES AND MAINTENANCE ACTIVITIES. SECONDARY CONTAINMENT MEASURES SHALL BE INSTALLED AND MAINTAINED BY THE OPERATOR.

ANY ASPHALT SUBSTANCES USED ON-SITE SHALL BE APPLIED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

ALL PAINT CONTAINERS AND CURING COMPOUNDS SHALL BE TIGHTLY SEALED AND STORED WHEN NOT REQUIRED FOR USE. EXCESS PAINT AND/OR CURING COMPOUNDS SHALL NOT BE DISCHARGED INTO THE STORM SEWER SYSTEM AND SHALL BE PROPERLY DISPOSED OF ACCORDING TO MANUFACTURER'S INSTRUCTION.

MATERIALS AND EQUIPMENT NECESSARY FOR SPILL CLEAN-UP SHALL BE KEPT IN AN ENCLOSED TRAILER OR SHED ON-SITE. EQUIPMENT SHALL INCLUDE, BUT NOT LIMITED TO, BROOMS, MOP'S, DUST PANS, RAGS, GLOVES, GOGGLES, ABSORBENT (KITTY LITTER) OIL ABSORBENT BOOMS AND DIAPERS AND BUCKETS.

ALL SPILLS SHALL BE CONTAINED AND CLEANED UP IMMEDIATELY UPON DISCOVERY. SPILLS LARGE ENOUGH TO REACH THE STORM WATER CONVEYANCE SYSTEM SHALL BE REPORTED TO THE MINNESOTA DUTY OFFICER AT 1-800-422-0798.

EXTERNAL WASHING OF TRUCKS AND OTHER CONSTRUCTION VEHICLES AND ENGINE DEGREASING ARE PROHIBITED AT THE CONSTRUCTION SITE.

THE SWPPP INCLUDES THE FOLLOWING SHEETS:

GENERAL SWPPP NOTES AND SHEETS - SWPPP1.1
EXISTING AND PROPOSED CONTOURS AND SOIL ESTABLISHMENT SHEETS - C3.1, C3.2, C3.3 & SWPPP1.1
SWPPP DETAIL SHEETS -C3.4

PROJECT SPECIFIC INFORMATION

(NOTED AREAS ARE ROUNDED TO THE NEAREST HUNDREDTH OF AN ACRE)

TOTAL PROJECT AREA: 10.25 AC
TOTAL LAND AREA TO BE DISTURBED: 3.01 AC
POST-CONSTRUCTION IMPERVIOUS AREA: 1.92 AC
POST-CONSTRUCTION IMPERVIOUS AREA: 1.26 AC
PRE-CONSTRUCTION IMPERVIOUS AREA: 0.70 AC

RECEIVING WATERS WITHIN 1 MILE FROM PROJECT BOUNDARIES:
NAME OF WATER BODY: LAKE WINTER, CLEARWATER CREEK
DOES STORMWATER DISCHARGE DIRECTLY TO AN IMPAIRED OR SPECIAL WATER: NO
DOES STORMWATER DISCHARGE DIRECTLY TO WETLAND: NO
THE PROJECT DOES NOT DISCHARGE TO A DESIGNATED PER.

PROPOSED STORM WATER TREATMENT SUMMARY

STORMWATER IS TREATED BY REPLACEMENT BASIN
STORMWATER IS NOT TREATED BY BMP'S
THE PROJECT DOES NOT DISCHARGE TO A DESIGNATED PER.
TOTAL PROJECT AREA: 10.25 AC
TOTAL AREA TREATED BY BMP'S: 3.01 AC
THE PROJECT DISCHARGES TO WETLANDS

TYPE OF STORM WATER MANAGEMENT SYSTEM:

PERMANENT STORMWATER TREATMENT MEASURES ARE NOT REQUIRED BY THE NPDES CONSTRUCTION PERMIT. DISCHARGE TO REGIONAL TREATMENT SYSTEM.

EROSION PREVENTION MEASURES AND TIMING:

THE CONTRACTOR (OPERATOR) IS RESPONSIBLE FOR ALL EROSION PREVENTION MEASURES FOR THE PROJECT. EROSION PREVENTION MEASURES INCLUDE BUT ARE NOT LIMITED TO THE FOLLOWING:

THE CONTRACTOR (OPERATOR) SHALL PLAN AND IMPLEMENT APPROPRIATE CONSTRUCTION PRACTICE AND CONSTRUCTION PHASING TO MINIMIZE EROSION AND RETAIN VEGETATION WHENEVER POSSIBLE

ALL AREAS NOT TO BE DISTURBED SHALL BE DELINEATED WITH FLAGS, STAKES, SIGNS, OR OTHER MEANS NECESSARY TO PROTECT THESE AREAS BEFORE CONSTRUCTION BEGINS ON THE SITE.

ALL DRAINAGE DITCHES AND/OR SWALES SHALL HAVE TEMPORARY OR PERMANENT STABILIZATION WITHIN 24 HOURS OF CONNECTING TO A SURFACE WATER OR 24 HOURS AFTER CONSTRUCTION ACTIVITY IN THE DITCH/SWALE HAS TEMPORARILY OR PERMANENTLY CEASED.

ALL PIPE OUTLETS SHALL HAVE TEMPORARY OR PERMANENT ENERGY DISSIPATION WITHIN 24 HOURS OF CONNECTING TO A SURFACE WATER.

ALL EXPOSED SOILS SHALL BE STABILIZED AS SOON AS POSSIBLE TO LIMIT SOIL EROSION. IN NO CASE SHALL UN-WORKED AREAS, INCLUDING STOCK PILES, HAVE EXPOSED SOILS FOR MORE THAN 14 DAYS WITH PROVIDED TEMPORARY OR PERMANENT STABILIZATION. (7 DAYS FOR PROJECTS WITH A RECEIVING WATER THAT IS IMPAIRED OR SPECIAL)

SITE SOIL INFORMATION:

SOIL INFORMATION PROVIDED IS OBTAINED FROM THE USGS SOIL SURVEY
INFORMATION AND IS FOR NPDES PERMIT INFORMATION ONLY. THE OPERATOR SHALL NOT RELY ON THIS SOIL INFORMATION

SOIL NAME	HYDROLOGIC SOIL CLASSIFICATION
LEE LETHER LOAM*	C
LEEDA LEEDA LOAM*	C
LEEDA LEEDA LOAM*	C
LEEDA LEEDA LOAM*	D
LISBA MOHNTON & BARNEBO	D

* ON-SITE SOILS ARE HIGHLY DISTURBED BASED ON PAST LAND USE

SEDIMENT CONTROL MEASURES AND TIMING

THE OPERATOR (CONTRACTOR) IS RESPONSIBLE FOR ALL SEDIMENT CONTROL MEASURES FOR THE PROJECT. SEDIMENT CONTROL MEASURES INCLUDE BUT ARE NOT LIMITED TO THE FOLLOWING:

SEDIMENT CONTROL MEASURES SHALL BE ESTABLISHED ON ALL DOWN GRADIENT PERIMETERS BEFORE ANY UPGRADIENT LAND DISTURBING ACTIVITIES BEGIN. THESE MEASURES SHALL REMAIN IN PLACE UNTIL FINAL STABILIZATION HAS BEEN ESTABLISHED.

ON SLOPES WITH 3:1 OR STEEPER GRADES THERE SHALL BE NO UNBROKEN SLOPE LENGTH GREATER THAN 75 FEET.

ALL STORM DRAIN INLETS AND CULVERT INLETS SHALL BE PROTECTED BY AN APPROPRIATE BMP DURING CONSTRUCTION UNTIL ALL SURROUND WITH POTENTIAL FOR DISCHARGING TO THE INLET HAS BEEN STABILIZED. INLET AND OUTLET PROTECTION SHALL CONFORM TO THE 2008 MNDOT SPECIFICATIONS 3372 AND 3891.

STOCK PILES SHALL BE PROVIDED WITH AN EFFECTIVE SEDIMENT PERIMETER CONTROL AND SHALL NOT BE PLACED IN ANY TYPE OF SURFACE WATER.

VEHICLE TRACKING SHALL BE MINIMIZED WITH EFFECTIVE BMP'S. WHERE THE BMP'S FAIL TO PREVENT SEDIMENT FROM TRACKING ONTO STREETS THE CONTRACTOR SHALL CONDUCT STREET SWEEPING TO REMOVE ALL TRACKED SEDIMENT.

TEMPORARY SEDIMENT BASINS

TEMPORARY SEDIMENT BASINS ARE REQUIRED WHERE TEN (10) OR MORE ACRES DRAIN TO COMMON LOCATION (5 OR MORE ACRES FOR PROJECTS THAT DISCHARGE TO IMPAIRED AND/OR SPECIAL WATERS)

THE OPERATOR SHALL INSTALL TEMPORARY SEDIMENT BASIN AS INDICATED IN THE PLANS OR AS REQUIRED BY THE NPDES CONSTRUCTION PERMIT

TEMPORARY SEDIMENT BASINS SHALL BE CONSTRUCTED AND MADE OPERATIONAL CONCURRENT WITH THE START OF SOIL DISTURBANCE THAT IS UPGRADIENT AND CONTRIBUTES RUNOFF TO THE AREA.

TEMPORARY SEDIMENT BASINS SHALL BE CONSTRUCTED TO PREVENT SHORT-CIRCUITING OF STORM WATER TREATMENT AND PREVENT DISCHARGE OF FLOATING DEBRIS.

TEMPORARY SEDIMENT BASINS SHALL BE PROVIDED WITH ENERGY DISSIPATION TO PREVENT SOIL EROSION.

DEWATERING AND BASIN DRAINING ACTIVITIES

THE OPERATOR IS RESPONSIBLE FOR ADHERING TO ALL DEWATERING AND SURFACE DRAINAGE REGULATIONS. INCLUDING BUT NOT LIMITED TO THE FOLLOWING:

ENGINEER POSSIBLE WATER FROM DEWATERING ACTIVITIES SHALL DISCHARGE TO A TEMPORARY AND/OR PERMANENT SEDIMENT BASIN.

IF WATER CANNOT BE DISCHARGED TO A SEDIMENTATION BASIN, IT SHALL BE TREATED WITH THE OTHER APPROPRIATE BMP'S TO EFFECTIVELY REMOVE SEDIMENT.

ALL DISCHARGE POINTS SHALL BE PROTECTED FROM EROSION AND SCOUR.

DISCHARGE WATER SHALL BE DISPERSED OVER AN EFFECTIVE ENERGY DISSIPATION MEASURE.

ALL WATER FROM DEWATERING SHALL BE DISCHARGED IN A MANNER THAN DOES NOT CAUSE NUISANCE CONDITIONS, EROSION, OR INUNDATION OF WETLANDS.

FINAL STABILIZATION

THE OPERATOR IS RESPONSIBLE FOR ENSURING FINAL STABILIZATION OF THE SITE. FINAL STABILIZATION INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING:

ALL SOIL DISTURBING ACTIVITIES HAVE BEEN COMPLETED.

ALL EXPOSED SOILS HAVE BEEN UNIFORMLY STABILIZED WITH AT LEAST 70% VEGETATION COVERAGE.

ALL DRAINAGE DITCHES, PONDS AND ALL STORM WATER CONVEYANCE SYSTEMS HAVE BEEN CLEARED OF SEDIMENT AND STABILIZED TO PREVENT EROSION.

ALL TEMPORARY BMPS HAVE BEEN REMOVED AND PROPERLY DISPOSED.

FINAL STABILIZATION SHALL BE PERFORMED IN ACCORDANCE WITH MNDOT 2008 SPECIFICATION 2575.

POPE

Pope Associates Inc.
[illegible]
St. Paul, MN [illegible]
Ph. [illegible]
Fax [illegible]

KRAUS-ANDERSON COMPANIES

EBENEZER

PHO Development Consulting
P.O. BOX 357
LONG LAKE, MN 55356

ORONO SENIOR HOUSING
ORONO, MN

DEVELOPMENT STAGE APPLICATION

SWPPP PLAN

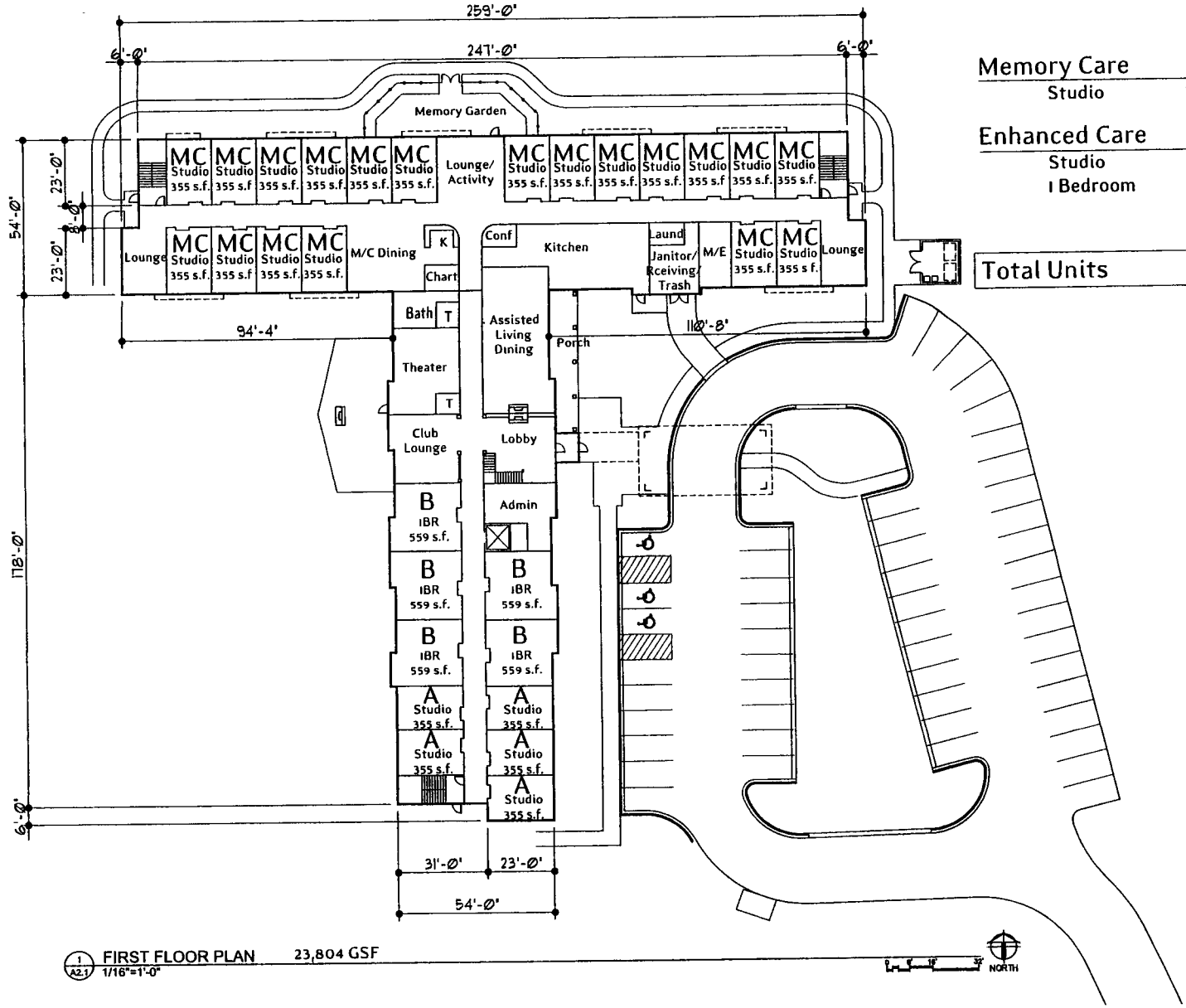
Issue of Notice	
CITY SUBMITTAL ISSUE	01-14-11
CITY ENGINEERS COMMENTS	02-03-11
WATERSHED SUBMITTAL	03-02-11
DEVELOPMENT STAGE APPLICATION	03-17-11

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

STEVEN E. JOHNSTON
DATE 03/17/2011 REG. NO. [illegible]

Checked by: M10-141
Drawn by: PS
Drafted by: SMJ

SHEET
SWPPP1.1



Memory Care

Studio	355 s.f.	19 Units

Enhanced Care

Studio	355 s.f.	5 Units
1 Bedroom	556 s.f.	5 Units
		10 Units

Total Units 62 Units

1 / A2.1 FIRST FLOOR PLAN 23,804 GSF
1/16"=1'-0"

POPE

POPE ASSOCIATES INC.
ON EVERGREEN PARK DRIVE
ST. PAUL, MN 55113-1110
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FAX (651) 642-1201

KRAUS-ANDERSON, COMPANIES

EBENEZER

ORONO SENIOR HOUSING
ORONO, MN

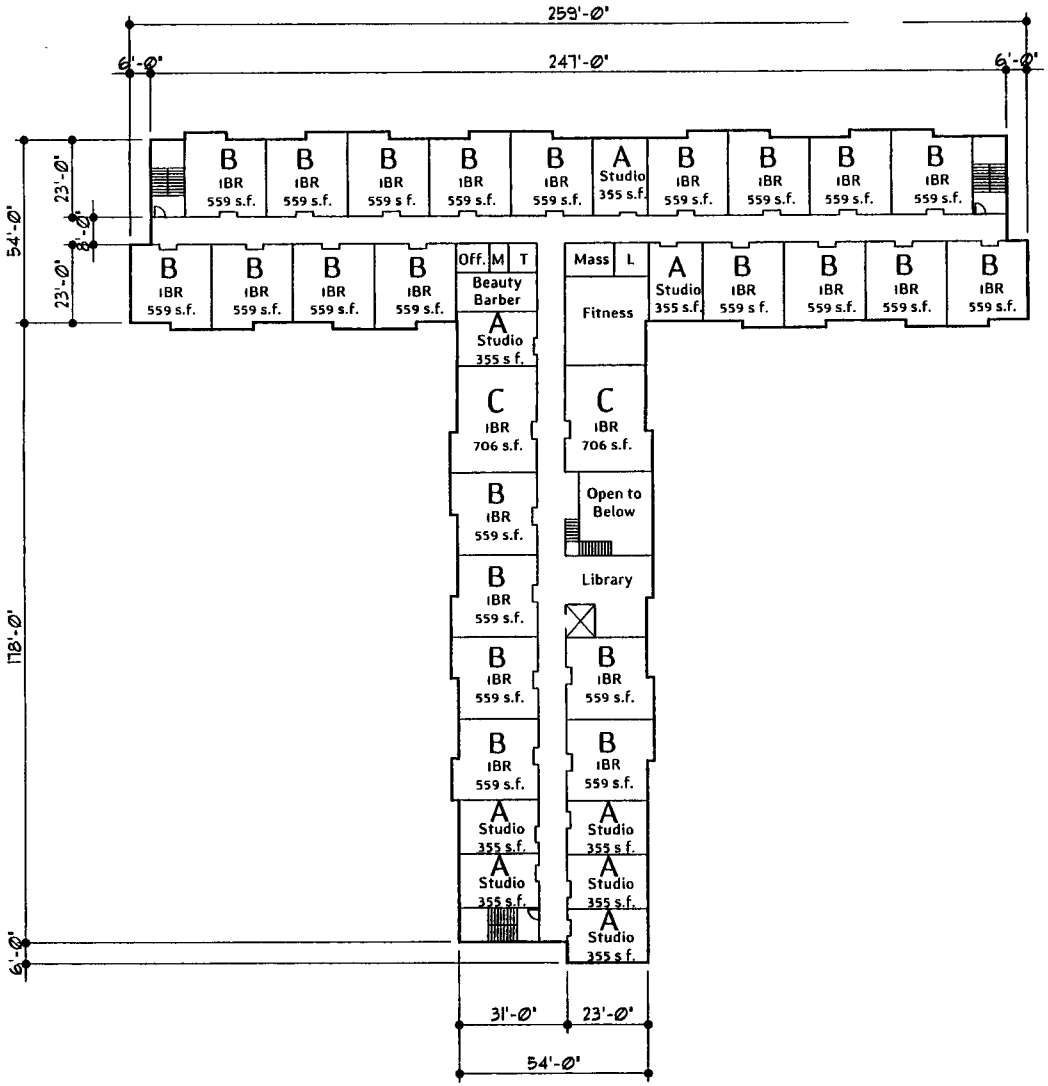
CITY SUBMITTAL

FIRST FLOOR PLAN

Issue and Revision:
CITY SUBMITTAL ISSUE 01-14-11
CITY SUBMITTAL RE-ISSUE 03-17-11

Project No. 41300-10108
Drawn by DTP
Checked by DN

SHEET
A2.1

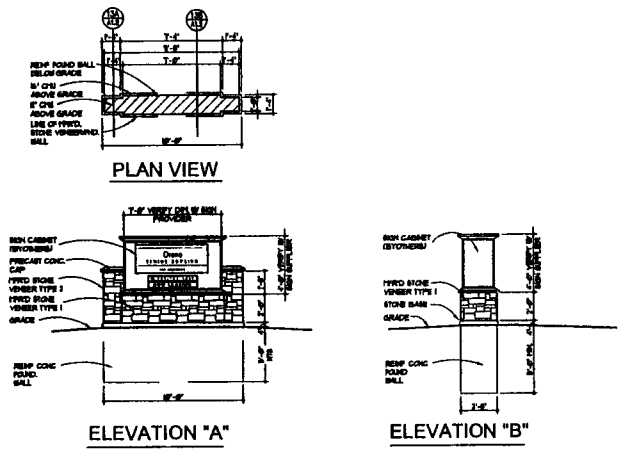


2 A2.2 SECOND FLOOR PLAN 24,087 GSF
1/16"=1'-0"

NORTH

Assisted Living

Studio	355 s.f.	8 Units
1 Bedroom	556 s.f.	23 Units
1 Bedroom+	706 s.f.	2 Units
		33 Units



1 A2.2 MONUMENT SIGN ELEVATIONS
1/4"=1'-0"

POPE

POPE ASSOCIATES INC.
1000 EGERTY PARK DRIVE
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FAX (651) 645-0900

KRAUS-ANDERSON, COMPANIES

EBENEZER

ORONO SENIOR HOUSING
ORONO, MN

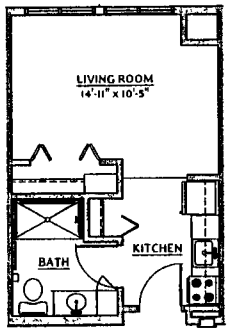
CITY SUBMITTAL

SECOND FLOOR PLAN

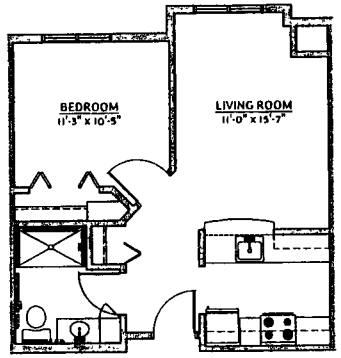
Issue of Addenda:
CITY SUBMITTAL ISSUE 01-14-11
CITY SUBMITTAL RE-ISSUE 03-17-11

Contractor No. 41300-10198
Drawn by DTP
Checked by DN

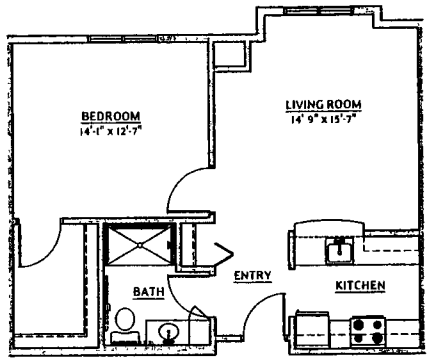
SHEET
A2.2



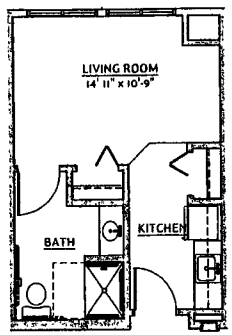
1 A2.3 A UNIT - STUDIO 355 S.F.
1/4"=1'-0"



2 A2.3 B UNIT - ONE BEDROOM 556 S.F.
1/4"=1'-0"



3 A2.3 C UNIT - ONE BEDROOM 706 S.F.
1/4"=1'-0"



4 A2.3 MC UNIT - STUDIO (MEMORY CARE) 355 S.F.
1/4"=1'-0"

POPE

POPE ASSOCIATES INC.
1000 ENERGY PARK DRIVE
ST. PAUL, MN 55108-5118
PH. (651) 642-9799
FAX (651) 642-1517

KRAUS-ANDERSON COMPANIES

EBENEZER

ORONO
SENIOR
HOUSING
ORONO, MN

CITY
SUBMITTAL

ENLARGED
UNIT FLOOR
PLANS

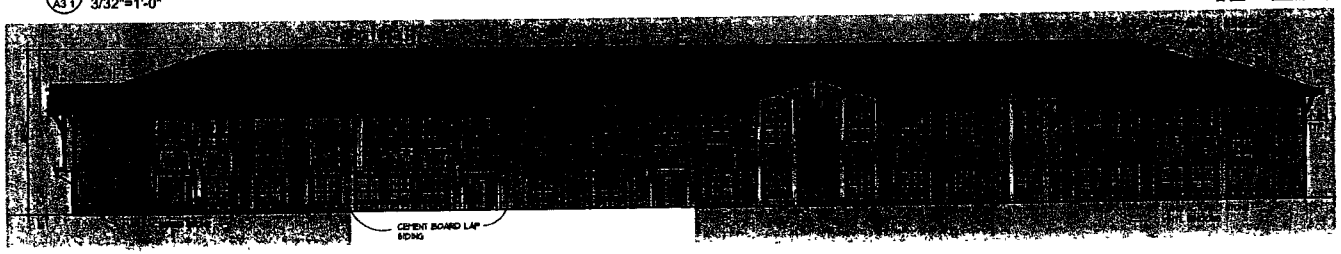
Issue and Revision:

CITY SUBMITTAL ISSUE	01-14-11
CITY SUBMITTAL RE-ISSUE	03-17-11

Project No.	41300-10189
Drawn by	GTP
Checked by	DN

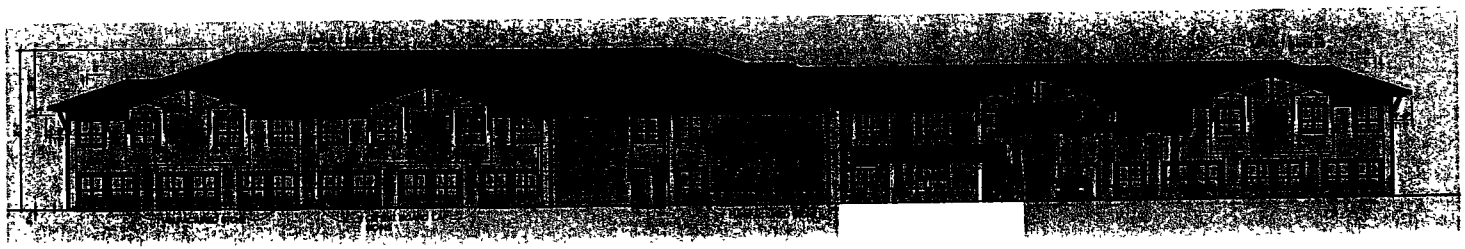
SHEET
A2.3

1 A3.1 EAST ELEVATION
3/32"=1'-0"



2 A3.1 WEST ELEVATION
3/32"=1'-0"

3 A3.1 NORTH ELEVATION
3/32"=1'-0"

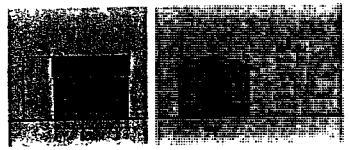


4 A3.1 SOUTH ELEVATION
3/32"=1'-0"

BUILDING HEIGHT CALCULATION

Orono standards for a building on a slab foundation

START WITH	The distance between the slab and the highest roof peak, the top of the cornice of a flat roof, the deck line of a mansard roof, or the uppermost point on a round or other arch-type roof	30'-4" To ridge from floor line
SUBTRACT	Half the distance between the highest window and highest roof peak of the pitched roof	6'-4"
ADD	The distance between the slab and the highest existing grade with the foundation.	0"
EQUALS	Defined building height.	24' 5"



5 A3.1 STORAGE BLDG ELEVATIONS
3/32"=1'-0"

POPE

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KRAUS-ANDERSON, COMPANIES

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ORONO SENIOR HOUSING
ORONO, MN

CITY SUBMITTAL

EXTERIOR ELEVATIONS

Issue and Revision:
CITY SUBMITTAL ISSUE 01-14-11
CITY SUBMITTAL RE-ISSUE 03-17-11

Seminar No. 41200-10108
Drawn by DTP
Checked by DN

SHEET
A3.1