

**REQUEST FOR EXCEPTION TO
RAPID CITY DESIGN STANDARD / CRITERIA / REGULATIONS**

PROJECT Proposed Lot 1 of Block 1 of Shortcut Subdivision

DATE: 3/9/2015 SUBMITTED BY: Mike Stetson, Dream Design International,
(Include Name, Company Name, Email Address & Phone Number)

PIN #: 63188 mikes@dreamdesigninc.com, (605) 348-0538

LEGAL DESCRIPTION: Lot 1 of Block 1, Shortcut Subdivision (formerly a portion of Govt Lot 1 of the NE 1/4 of Section 4) Located in Section 4, T1N, R8E, BHM, Rapid City, Pennington County, South Dakota

EXCEPTION REQUESTED: SECTION _____ STD / CRITERIA / REG Criteria

DESCRIPTION OF REQUEST: Exception request for stipulations in the March 5, 2015 Staff Report (No. 15PL015 - Preliminary Subdivision Plan)

RECEIVED

JUSTIFICATION: See attached page
(Please use back of sheet if additional room is needed)

MAR 17 2015

**ENGINEERING
SERVICES**

SUPPORTING DOCUMENTATION: Yes No

PROPERTY OWNER'S SIGNATURE**: *Deanne Parkhurst* DATE: 3-17-2015

**Or Agent, if previously designated by the Owner in writing.

FOR STAFF ONLY

STAFF COMMENTS: The City's Master-planning identifies two water mains along the East Anamosa Corridor. These mains will serve the City's low level and North Rapid High level service zones. Parallel water mains are required per master plan & per service zone locations.

STAFF RECOMMENDATION: Deny request to not install 2nd water main along north side of E. Anamosa. Approve request to not provide sidewalk plans

REVIEWED BY: *[Signature]* DATE: 3-26-15

AUTHORIZATION:

APPROVED

DENIED

Breen C. Amburge DATE: 3/26/2015
COMMUNITY PLANNING DIRECTOR

APPROVED

DENIED

[Signature] DATE: 3-26-15
PUBLIC WORKS DIRECTOR

FILE #: 15EX051

Revised 07/1/14

ASSOCIATED FILE#: 15pl015



CITY OF RAPID CITY

RAPID CITY, SOUTH DAKOTA 57701

Public Works Department Engineering Services Division

300 Sixth Street

Telephone: (605) 394-4154 FAX: (605) 355-3083

Web: www.rcgov.org

March 27, 2015

Dream Design International, Inc.
Mike Stetson
528 Kansas City Street, Suite 4
Rapid City, SD 57701

Re: Exception File No. 15EX050

Dear Mike Stetson:

Enclosed please find a copy of the original exception request that was filed with the assigned file number and the decision details.

In the event that an exception request is denied, the Director of Public Works or the Director of Community Planning will advise the applicant of such denial in writing. Any applicant that disputes the denial of an exception may appeal such denial. In order to appeal the denial the applicant shall file a written request of appeal to the Director within ten (10) working days of the denial. The appeal will be placed on the next Public Works Committee agenda, which will then go to The City Council for final consideration.

If you have any questions or need additional information, please contact our office at 605-394-4154.

Sincerely,

Susan Donat

Susan Donat
Administrative Secretary

Enclosure



EQUAL OPPORTUNITY EMPLOYER

Justification for Exceptions to stipulations listed under recommendation in the March 5, 2015 Staff Report (No. 15PLO15 – Preliminary Subdivision Plan):

2. There is an existing 16 inch water main along E Anamosa Street. No improvements or additional water services are currently proposed on Lot 1 of Block 1 of Shortcut Subdivision. The installation of an additional water main along E Anamosa Street only on Lot 1 would be isolated and not add capacity. The construction plans for Anamosa Street have a 2 percent slope towards the roadway for 13.33 ft north of the curb and this is how the lot appears to be graded. Minimal grading would be needed to add a sidewalk and one will be constructed once the lot is developed. Two pictures on the next page show the existing grading. An exception is requested for this stipulation.



North side of E Anamosa Street looking west



North side of E Anamosa Street looking east

STAFF REPORT
March 5, 2015

No. 15PL015 - Preliminary Subdivision Plan

ITEM 7

1. Upon submittal of a Development Engineering Plan application, construction plans showing the installation of a sidewalk and a 16 inch water main in compliance with the City's Master Utility Plan along Anamosa Street shall be submitted for review and approval or an Exception shall be obtained. If an Exception is obtained, a copy of the approved Exception shall be submitted with the Development Engineering Plan application;
2. Upon submittal of a Development Engineering Plan application, construction plans showing the installation of a sidewalk and a 16 inch water main in compliance with the City's Master Utility Plan along E. Anamosa Street shall be submitted for review and approval or an Exception shall be obtained. If an Exception is obtained, a copy of the approved Exception shall be submitted with the Development Engineering Plan application;
3. Upon submittal of a Development Engineering Plan application, the plat document shall be revised to show the dedication of 35 feet of right-of-way along the section line highway which is one-half of the required right-of-way width. In addition, construction plans shall be submitted for review and approval showing the installation of a minimum 26 foot wide paved surface, curb, gutter, sidewalk, street light conduit, water and sewer or an Exception shall be obtained or the section line highway shall be vacated. If an Exception is obtained, a copy of the Exception shall be submitted with the Development Engineering Plan application;
4. Upon submittal of a Development Engineering Plan application, water plans and analysis prepared by a Registered Professional Engineer shall be submitted for review and approval in accordance with the Infrastructure Design Criteria Manual or an Exception shall be obtained. The water plan and analysis shall demonstrate that the water service is adequate to meet estimated domestic flows and required fire flows to support the proposed development. If an Exception is obtained, a copy of the approved Exception shall be submitted with the Development Engineering Plan application. Utility easements shall be secured as needed;
5. Upon submittal of a Development Engineering Plan application, sewer plans prepared by a Registered Professional Engineer as per the Infrastructure Design Criteria Manual shall be submitted for review and approval or Exception shall be obtained. If an Exception is obtained, a copy of the approved Exception shall be submitted with the Development Engineering Plan application;
6. Upon submittal of a Development Engineering Plan application, a drainage plan in compliance with the City's Drainage Basin Plan shall be submitted for review and approval if subdivision improvements are required. In addition, the plat document shall be revised to provide drainage easements as necessary;
7. Upon submittal of a Development Engineering Plan application, an Erosion and Sediment Control Plan in compliance with the adopted Stormwater Quality Manual and the Infrastructure Design Criteria Manual shall be submitted for review and approval if subdivision improvements are required;
8. Prior to Development Engineering Plan approval, engineering reports required for construction approval shall be accepted and agreements required for construction approval shall be executed. In addition, permits required for construction shall be approved and issued and construction plans shall be accepted in accordance with the Infrastructure Design Criteria Manual. All final engineering reports shall be signed and sealed by a Registered Professional Engineer;
9. Prior to approval of the Development Engineering Plan application, a Development



CITY OF RAPID CITY

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March 26, 2015

Mr. Mike Stetson, P.E.
Dream Design International, Inc.
528 Kansas City Street
Rapid City, SD 57701

Re: Request for Exception to not install a parallel water main along East Anamosa Street and to not provide sidewalk construction plans
Proposed Lot 1 of Block 1, Shortcut Subdivision
NW $\frac{1}{4}$ S4, T1N, R8E, Rapid City, Pennington County, South Dakota

Dear Mr. Stetson,

The Request for Exception to not install a parallel water main along the north side of East Anamosa Street as required by the City of Rapid City Infrastructure Design Criteria Manual (IDCM) and the City's Utility Master Plan(s) for the referenced project is denied.

Section 3.5.1 and Figure 3.1, Item 6, of the Rapid City Infrastructure Design Criteria Manual states "A second parallel water main shall be constructed in the opposite boulevard area for all streets designated as an arterial or future arterial regardless of the street width." East Anamosa Street is a Principal Arterial Street with a single 16" water main constructed in the south boulevard. The City's Master Utility Plan (excerpt attached) shows two water mains along this portion of the E. Anamosa Street corridor. In addition, there is a separation of water service zones approximately adjacent to E. Anamosa, and the two water mains are required to provide service to the both Low Level and North Rapid High Level Water Service Zones in this area.

Based on more recent master planning and water modeling, the water main to be installed along the north side of E. Anamosa St. needs to be a 20" main, not 16" as previously identified. The costs of the oversized water main in excess of the base size required for the proposed lot would be eligible for reimbursement by the City. In accordance with the City's adopted utility plan, and IDCM criteria, a 20" water main is required to be installed with this subdivision platting project.



EQUAL OPPORTUNITY EMPLOYER

The Request for Exception to not provide sidewalk construction plans for the referenced project is approved. Based on the information provided with the exception request, it appears the right-of-way adequately graded to allow installation of a future sidewalk without creating an undue hardship on a future owner.

The denial of this exception request may be appealed to the City Council by requesting it be placed on the next Public Works Committee agenda. Please contact the Public Works Engineering Department if you desire to appeal. The City Council has final approval of exception requests.

Sincerely,

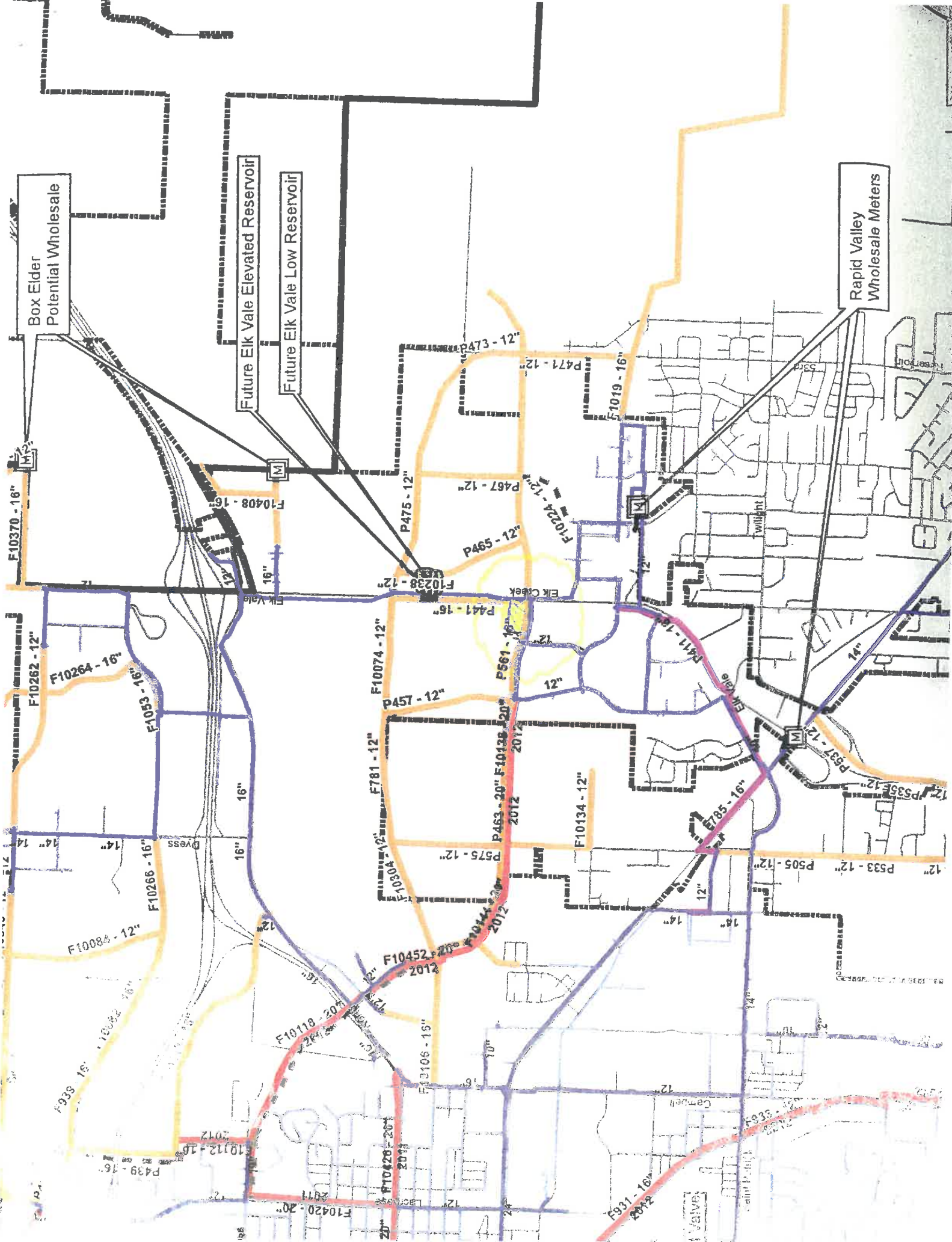
City of Rapid City

A handwritten signature in blue ink, appearing to read 'Ted Johnson', is written over the typed name.

Ted Johnson
Project Manager

Encl: As noted.

Cc: Planning file 15PL015



>= 10 Inch

Future Distribution Mains

Capital Improvement Type

Future Raw Water

New Existing

Improvement

After 2030 Improvement

Expansion

After 2030 Expansion

Figure 6.4
Water System
Capital Improvement Projects
Rapid City, SD



100 Feet

The *Northeast Sanitary Sewer Interceptor Study* addressed sewer service for approximately 4,100 acres north of I-90. Haines Avenue, the Meade/Pennington County Line, the Box Elder Creek Flood Plain, Elk Vale Road and I-90 bound this area. The wastewater from this entire area would flow by gravity to the lift station north of the Visitor Information Center, which is located in the northeast quadrant of Exit 61/I-90. This proposed sewer system would also be available in the future to service the majority of the study area between La Crosse Street and East North Street. Additionally this area is now under study as part of the *Northeast Area Analysis Future Land Use Neighborhood Area Map, Road Network Analysis and Utilities Plan, and Infrastructure Feasibility Analysis*. However, for the immediate future an alternate method of servicing this area would be required.

The remainder of the study area between East North Street and Elk Vale Road would connect to either Rapid City's wastewater collection system, or to the Rapid Valley Sanitary District's collection system. Wastewater treatment for the entire study area would be provided at Rapid City's Water Reclamation Plant.

Due to the varied topography of Rapid City, multiple pressure zones have been developed for the water distribution system. The *Municipal Water System Study and Report*, dated December 1985, indicated that the East Anamosa Street Extension Study Area would generally be served by the Low Level Pressure Zone which provides water service below a U.S.G.S elevation of 3,320 feet above sea level. However, in order to provide adequate pressure to the area, the city has lowered the pressure zone elevation to 3,300 feet. The central portion of the study area between East North Street and Elk Vale Road has a maximum elevation of 3,413 feet above sea level. Before development can occur above the 3,300 level, either a water booster station with an elevated reservoir or an extension from the North Rapid High Level Zone would be required. The high level zone is at an elevation of 3,544 feet. Therefore, by connecting to the high level zone at the intersection of La Crosse and East Anamosa Streets, service could be provided to the highest elevations in the study area by installing a water line along the East Anamosa Street Extension. The 1985 report also addressed existing and future major water supply lines and included estimated year 2005 flows, pressures and potential reservoir locations.

Three drainage basins transect the study area between East North Street and Elk Vale Road. Two of these basins, the *Unnamed Tributary Drainage Basin*, and the *Racetrack Draw Drainage Basin* have completed basin design plans. The *Perrine Drainage Basin Design Basin* was in the process of being developed and only preliminary information was available at the time of this writing. Several detention facilities are either in place or are planned to reduce the rate of discharge from these basins. These three basins ultimately drain into Rapid Creek.

The area between La Crosse Street and East North Street generally drains to the northeast into the Box Elder Drainage Basin. A basin design plan is not available at the present time for this area.

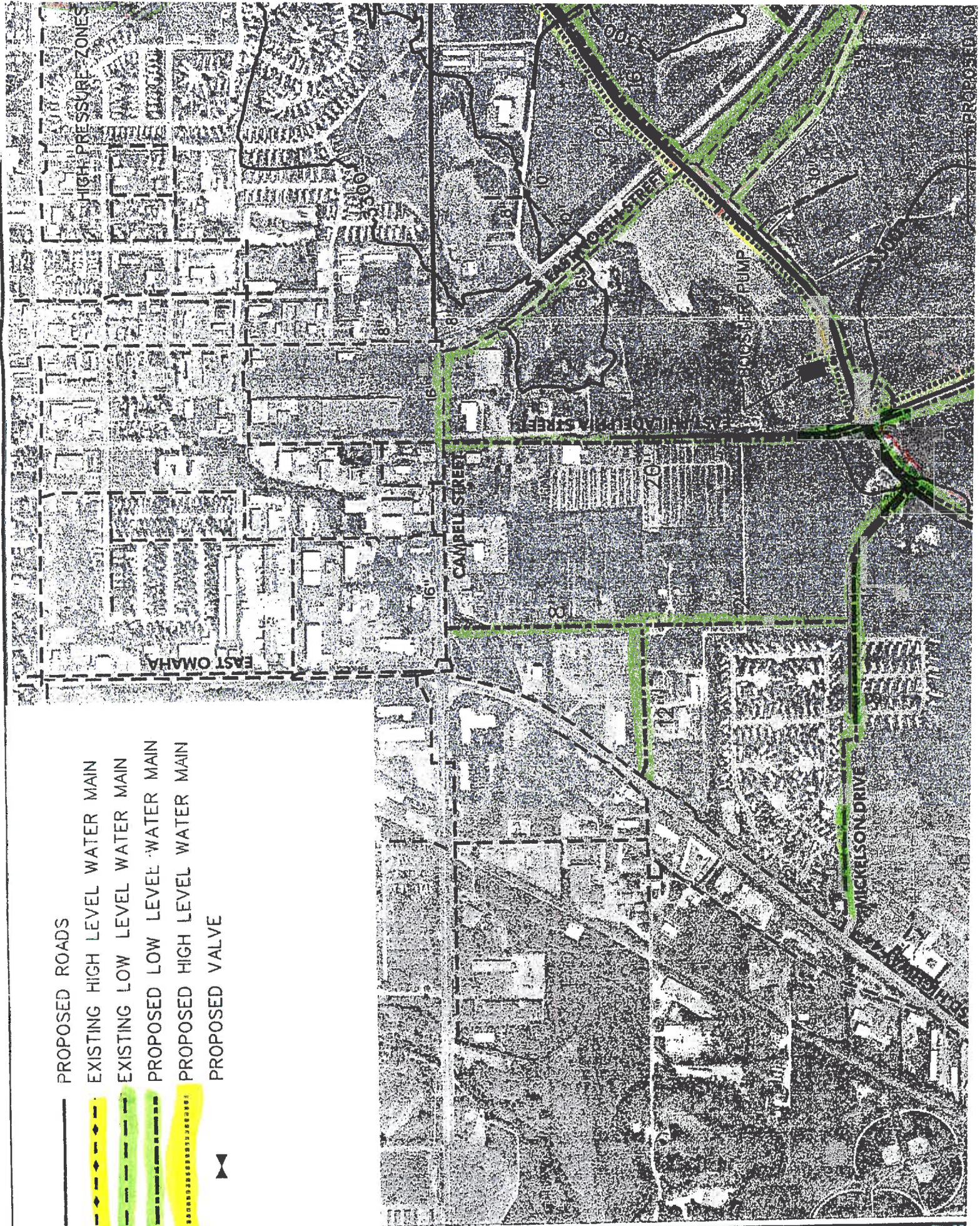
Water

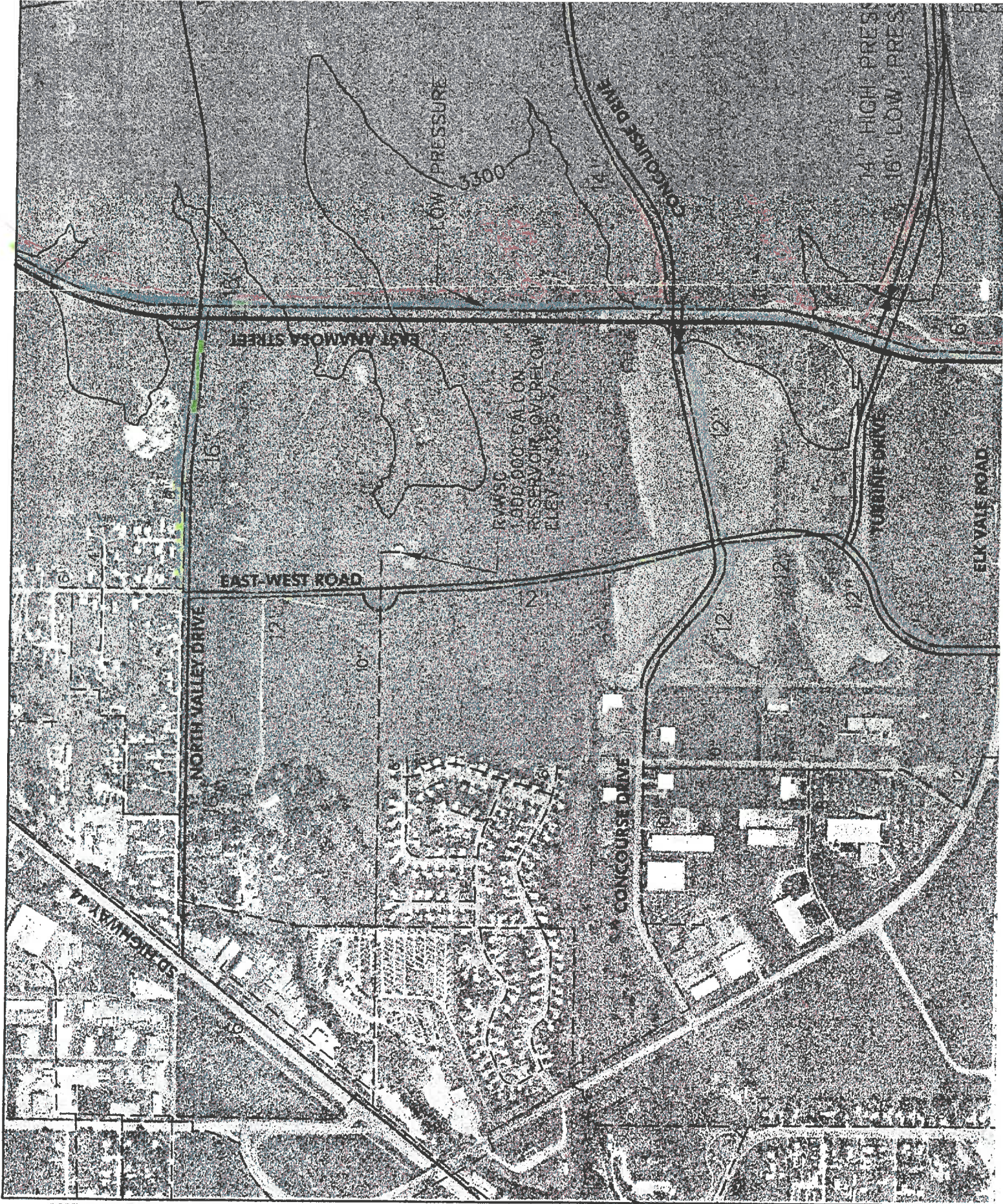
The alignments for primary waterlines shown in Figure 13 and Figure 14 were selected to follow planned major collectors and arterials. This will allow for a reduction in construction costs and needed easements. The following is a description of the proposed major alignments for the **high level system**:

A 12-inch water main will connect to the east end of the existing 10-inch water main on East Anamosa and will parallel the proposed East Anamosa Street alignment to the proposed intersection of East Anamosa and E. Philadelphia Street that will be placed on E. Philadelphia Street. The 12-inch main will transition into a 14-inch main and parallel E. Philadelphia Street to the east, through the study area to the intersection of the proposed Turbine Drive. At this intersection the 14-inch main will transition to a 20-inch main and continue east across Elk Vale Road to a proposed future high-level reservoir. Approximately one-quarter mile to the east

- PROPOSED ROADS
- EXISTING HIGH LEVEL WATER MAIN
- EXISTING LOW LEVEL WATER MAIN
- PROPOSED LOW LEVEL WATER MAIN
- PROPOSED HIGH LEVEL WATER MAIN
- PROPOSED VALVE

DATE: 05/24/2000
 DRAWN BY: S. A. MATT





of the proposed intersection of E. Philadelphia Street and East Anamosa the 14-inch main will be infused with water from the proposed low-level system in combination with a booster pump to achieve the desired pressure. Two other 14-inch water mains will service the high level system. Both will tee off of the main line described above. One of the water mains will begin at the proposed intersection of E. Philadelphia Street and the Turbine Drive; the other will begin at the intersection of E. Philadelphia Street and Concourse Drive. Both will parallel their respective proposed road alignments, Turbine Drive and Concourse Drive, southward until the 3,300 level is encountered.

The following is a description of the proposed major alignments for the **low-level system**:

A 20-inch main will provide the primary flow carrying capacity from the proposed two million-gallon reservoir to the proposed intersection of East Anamosa and E. Philadelphia Street. From this intersection, the 20-inch main will continue west paralleling East Philadelphia and connect into the existing 16-inch main at the intersection of East Philadelphia and Cambell Street. At the proposed intersection of East Philadelphia and Mickelson Drive a 12-inch main will tee off the 20-inch trunkline and parallel Mickelson Drive southwards to an existing 8-inch main. From the proposed intersection of E. Philadelphia Street and East Anamosa, a 16-inch main will tee off in both the northwesterly and southeasterly directions. The water main that heads to the northwest along East Anamosa will connect into an existing 12-inch water main near Menards and then transition back into a 16-inch main that will be the primary supply line for the northwest section of the study area. A 16-inch main connects to the proposed trunkline at the proposed intersection of East Anamosa and E. Philadelphia Street, and follows East Anamosa alignment southeasterly until it reaches Elk Vale Road. At the proposed intersection of Elk Vale Road and East Anamosa, the water main transitions to a 12-inch main and follows Elk Vale Road southward to tie into an existing 12-inch water main near the business park. From their respective intersections, three mains will tee south off of East Anamosa Street along Valley Drive, Concourse Drive and Turbine Drive to existing water mains. The proposed water main along Valley Drive will be a 16-inch, while the other two water mains will be 12-inch. The proposed 12-inch main that parallels "East-West Road" will start at the proposed Valley Drive main and end at the proposed "East-West Road" main. One other proposed 16-inch main will start at the proposed intersection of East Anamosa and Turbine Drive, and parallel Turbine Drive to the North until intersecting with the proposed Eglin Street alignment. Then, the main will run west until it connects into the existing 16-inch main along Eglin Street.

Sizing And Fire Flow Pressures

The water line sizing was developed on a conceptual level and no precise calculations or models were performed. Based on discussions with City staff, the recommended fire flow for this study was established at

3,000 gallons per minute. Conceptual sizes were reviewed and confirmed, and a 12-inch line was calculated to be the minimum pipe diameter to carry the fire flow.

Pressure Zones

Two pressure zone systems were designated by this study, the E. Philadelphia High Level System and the East Anamosa Low Level System. The E. Philadelphia High Level System would serve all water needs from 3,300 feet above sea level to 3,450 feet above sea level in the study area. The E. Philadelphia High Level system will connect to the North Rapid High Level System at the east end of the existing East Anamosa with a 14-inch water main. The high level system will be served by the proposed low level reservoir/booster pump combination and the future high level reservoir to be located east of Elk Vale Road. This system would also help serve the East Anamosa Low Level System via the use of pressure reducing stations.

The East Anamosa Low Level will serve all water needs up to a maximum of 3,300 feet above sea level. It will be supplied by the low-level reservoir, connections to other low level systems and the high level system via use of pressure reducing stations.

Storage

The *Municipal Water System Study and Report*, dated 1985, proposed storage that would consist of a two million gallon low-level reservoir located approximately one-quarter mile northeast of the proposed intersection of East Anamosa and E. Philadelphia Street. This would serve the low-level system and the high level system with the aid of a booster pump station. Additionally a high-level reservoir is planned just to the east of Elk Vale Road.

Integration with existing utilities.

The proposed water mains were designed to connect into existing water mains whenever possible to provide sufficient system looping.

Phasing Plans

Phasing for the water system in the study area will primarily follow development. The most logical order of progression would be the industrial park area, the northwest section of the project, the area around Menards, areas in the immediate vicinity of newly built sections of East Anamosa, and lastly the E. Philadelphia High Level System.

Opinions of Probable Cost

Costs are included in Table 3.

Potential Funding Sources

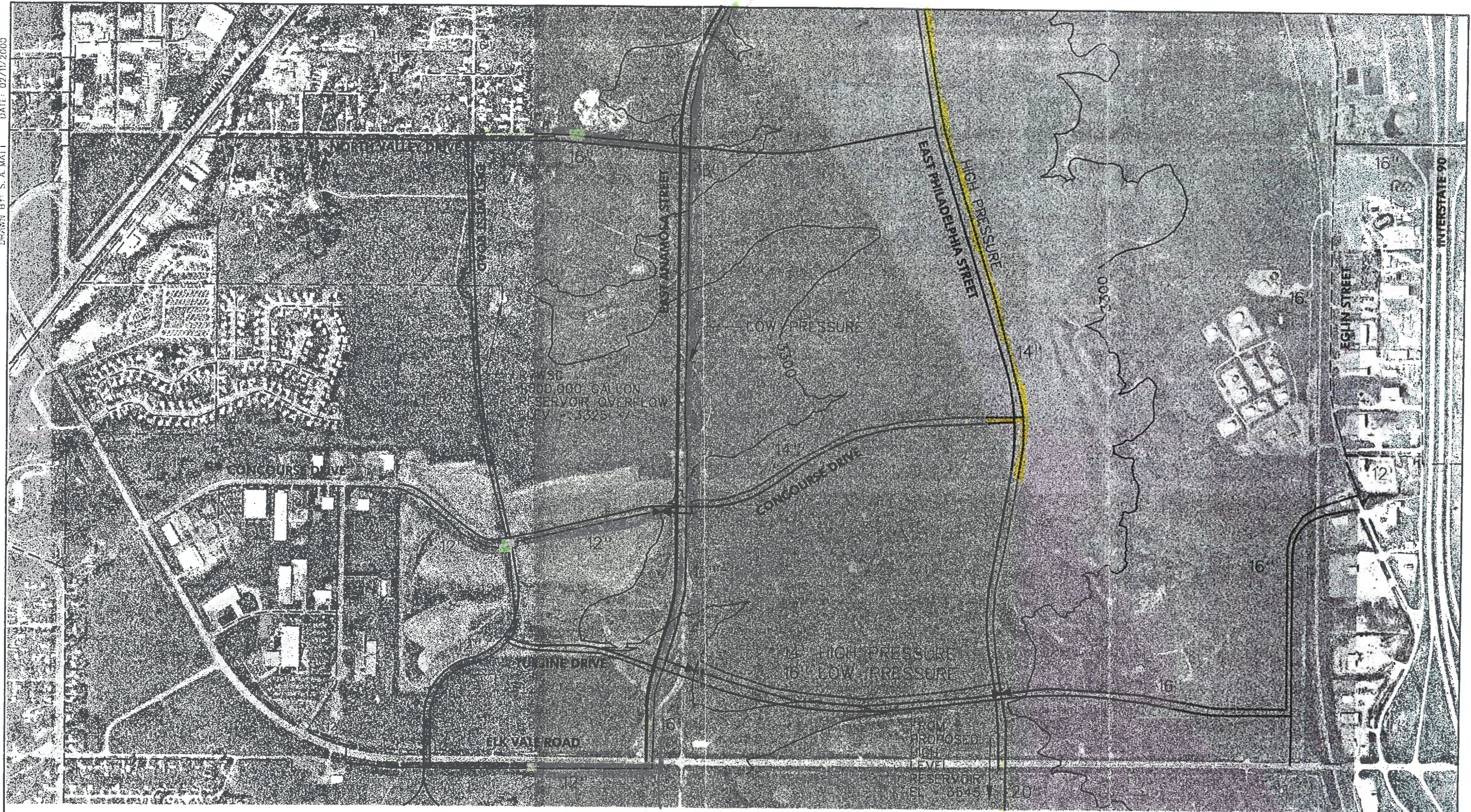
There are several funding sources available for the water improvements proposed in this study. These sources include the State Revolving Fund (SRF), Community Development Block Grants, revenue bonds, assessment programs and cash reserves from the Water Enterprise Fund.

Sewer

Alignments

In the northwest area of the study, proposed sewer mains S-1 through S-8 flow to the north and ultimately will cross under Interstate 90 and connect to the future northeast area system. All of these proposed sewer mains are 8-inch except S-8 and S-10 that are proposed as 10-inch sewer mains. Sewer main S-9 flows to this same intersection, where the accumulation of flows from sewer main S-1 through S-8 join to enter S-10 under Interstate 90. If the northwest area developed before the northeast area sewer system was complete, Alternate 1 shows flows S-1 through S-8 joining S-9 and pumped back to a crossing on East North Street via a 10-inch sewer main.

To the west of the E. Philadelphia Street extension area, proposed sewer mains S-12 and S-13 both enter the existing sewer mains near Menards. The sewer mains that flow all the way down to Grimm Drive may need to be upgraded depending on actual flows once this area is entirely developed.



SCALE: 1" = 800'

Handwritten notes:
 12" HP N.R.
 12" HP N.R.

WATER UTILITY EXISTING AND CONCEPTUAL LAYOUT EAST

EAST ANAMOSA STREET EXTENSION STUDY

98-660/660UTL02.DGN

