City of Seward, NE

Tuesday, July 7, 2015

Regular Session

Item G9

CONSIDERATION OF A PLAN FOR STORM WATER RUNOFF AND SANITARY SEWER IMPROVEMENTS FOR ST. JOHN'S NEW DAYCARE CENTER TO BE LOCATED AT HILLCREST DR AND COLUMBIA AVE - John Hughes

Consideration of financial participation in the relocation of sanitary sewer line and improvements

Consideration of financial participation in the relocation storm sewer and consideration of constructing a new storm sewer line

Administrative Report: St. John's Church is constructing a new Child Development Center on the property to the north of St. John Church/School located at the intersection of Columbia Ave. and Hillcrest Drive.

They are proposing relocating a current storm drain and a sanitary sewer line that cuts across the property and have reviewed the storm drainage system in this area and are proposing a new line be constructed.

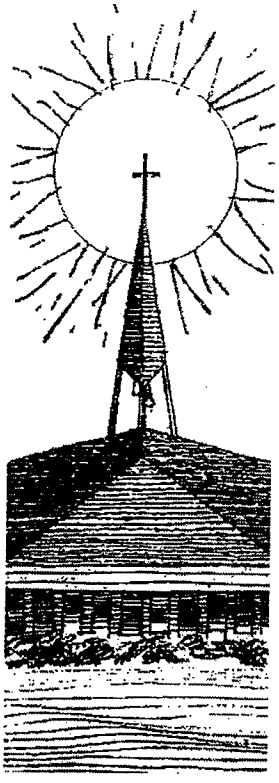
They are requesting the City consider participating in the financial aspects of relocating and constructing the infrastructure.

St. John's Church first presented the request at the June 2, 2015 City Council meeting. Council directed staff to provide recommendations on financial participation in the project.

At the 6/16/15 meeting, Council tabled the request until additional information was obtained on the condition of the waste lines. This information will be presented at the meeting.

Following the presentation and discussion, Council to determine appropriate action.

Staff Contact:



The Ministries of St. John Lutheran
www.stjohnseward.org

Church
919 N Columbia AVE
Seward, NE 68434
402-643-2983

School
877 N Columbia AVE
Seward, NE 68434
402-643-4535

Child Development Center
20 Main ST
Seward, NE 68434
402-643-3122

The Lutheran Church—Missouri Synod

June 26, 2015

Seward City Council

Dear Members of the Seward City Council:

Greetings to you in the name of our Savior, Jesus Christ! I am writing to you in regards to the development and construction of the new Child Development Center (CDC) that is being constructed at the corner of Hillcrest and Columbia Avenues.

Our CDC is in the "business" of providing best educational practices in a safe, faith-based and nurturing environment for effective learning of children ages 18 months through sixth grade. We have offered this service in the Seward community since the fall of 1992, when we opened the center in the basement of Schuelke Hall, a dormitory on the campus of Concordia University. Seeing the need for this type of early childhood education and childcare in our community, the congregation of St. John moved and expanded the CDC ministry into our current facility that is located at the corner of Columbia Avenue and Hwy. 34. By moving into that location, we were able to expand our service to 68 children at a time. This was a blessing for us in 1997.

Since that time, the CDC has become accredited by:

- National Association of Educating the Young Child—the only early childhood center in Seward County that has this accreditation.
- National Lutheran School Accreditation
- State of Nebraska—Nature Explore Outdoor Classroom.

At the same time, the need for such type of early childhood education and childcare that the CDC provides has been requested by more and more residents of Seward. And, as Seward has experienced growth with more families moving into our community, the need for more childcare has been recognized. This need has been recognized by Seward County Economic Development. With this increasing need for the care that the CDC provides, we have been moved to expand the ministry that we provide to the families of the community. To do this, the construction of a new facility has begun. With the opening of the new facility, we will be able to serve 140+ children at one time instead of the current 68.

Why would we do this? Why would we spend $3,225,000 to build a new center? It certainly isn't so that we can see more profit for our "business." You see, St. John's CDC is one of three not-for-profit centers in the community. We serve alongside:

- Bright Beginnings Child Development Center operated by Seward United Methodist Church
- St. Vincent Catholic School—Their center is contained within their school.

The CDC is operated by St. John Lutheran Church as a service to the community, providing quality, Christ-centered early childhood education and childcare for those who need it and desire such a service in this type of setting. As we provide this service, clients pay fees for the service and the remaining cost for operating is provide by congregational support.

So, why are we building a new and expanded center? Because St. John congregation desires to serve those who call Seward their home. At the current time, less than 12% of the families that use our service at the CDC are from our congregation. 78% of our families are from the community. They have come to live here, to work here, to raise their families here and we are wanting to walk along side them as they raise their children. Therefore, not only are we not-for-profit, we are also in existence to serve others and not ourselves.

It is with these facts in mind, that we approach you with the request to consider the options that have been presented to the council by our Building Committee and Engineers. As we work to provide this much needed service to the community, which only makes Seward more attractive in drawing more residents and employers to our community, we would like for you to consider the following as a "win-win" situation for the city and for St. John CDC:

Since there is a storm-water drainage issue in the area that the CDC is being built, St. John congregation offers the city the 2 1/2 lots that we own on the east side of Columbia Avenue, just north of the intersection of Columbia and Hillcrest Avenues. These are being offered to the city as a site to build a storm-retention pond to help the city with the issues of storm runoff in this area. According to engineer designs, such a storm-retention pond could hold up to 16,000 cubic feet of water in a storm. This would slow down some of the runoff in this area and help the city with the issue at the bottom of the hill on Hillcrest Avenue, just west of Columbia Avenue. In exchange for these 2 1/2 lots for the storm-retention pond, St. John Lutheran Church is asking for the city to share in the cost of the relocation of the 8 inch sanitary sewer line that needed to be moved to accommodate our new center.

At first glance, this may seem like a unique, interesting or maybe even hard-to-understand offer; however, with the work that we are doing on this site, the offer of space for the city to put in a storm-retention pond to help with yet another drainage issue that the city is facing, I believe that this is an offer that is worth your consideration and acceptance. And, if you have further questions about this offer, I would direct you to speak with our general contractor, Hampton Construction, and our engineering firm, Rega Engineering Group, Inc.

Whether this offer is accepted or not, St. John will continue its service to the city of Seward and the Seward community. We will continue to serve the growing number of families with quality, accredited, not-for-profit childcare. We will continue to be there in times of crisis, providing counseling and support to those in need. We will continue to offer our facilities to the community at no cost for baseball games, basketball tournaments, public school sports and activity banquets and 4th of July events. And, we will continue to be actively involved, helping to make the city of Seward and the surrounding area a place where people would desire to live, work and raise their families.

Thank you for your consideration of our neighbor-friendly proposal,

Pastor Scott D. Bruick
Pastor Leader

POST DEVELOPMENT DRAINAGE STUDY REPORT

ST. JOHN'S CDC

SEWARD, NEBRASKA

July 2, 2015

REGA PROJECT 121180

PREPARED FOR:

City of Seward

Seward, NE

PREPARED BY:

REGA ENGINEERING GROUP, INC.

LINCOLN, NEBRASKA

REGA ENGINEERING GROUP, INC.

TABLE OF CONTENTS

ATTACHMENTS

DRAINAGE SUMMARY
ST. JOHN'S CDC
SEWARD, NE

PURPOSE:

The primary objective of this study was to create a formal report solidifying the calculations used for design of the detention cell and mitigation of the Child Development Center (CDC) site and church parking lot.

PROJECT LOCATION & DESCRIPITION:

St. John's Lutheran church is located at the intersection of Hillcrest Drive and N. Columbia Ave. in Seward, Nebraska. In preparation for the future child development center, a detention basin has been designed as part of the parking lot paving project west of the existing church. The location of the proposed child development center is located north of the church as shown **Figure 1: Pre-development conditions for St. John's CDC**. The current gravel parking lot is bordered by the existing church on the east, Hillcrest Drive on the north, and residential housing on the south and west. Post development parking lot plans can be found in Appendix B.

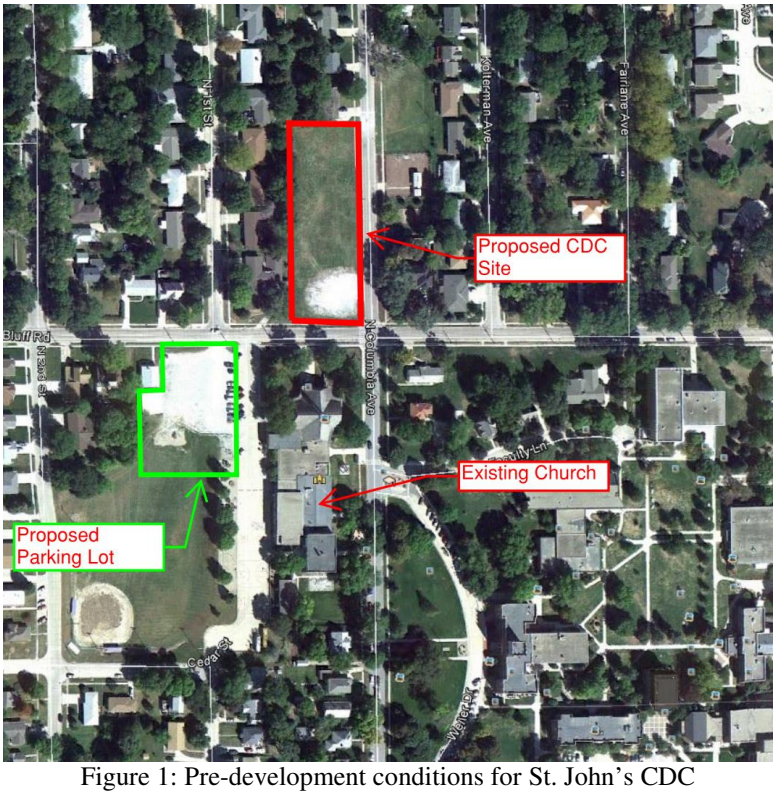


Figure 1: Pre-development conditions for St. John's CDC

STUDY PROCEDURE:

Hydrology

A hydrologic analysis was performed using Hydrographs by Hydraflow to determine the impacts of the proposed drainage on post-construction conditions. The SCS Method was used to model storm events and estimate hydrologic conditions for this study. This method relates runoff rates to precipitation depths, land use and topography. The peak runoff rate is determined by an empirical equation that relates the quantity of runoff from a given area to a total rainfall falling at a uniform rate on the same area.

Inputs required for the SCS method include:

- Drainage area (acres)
- Curve number
- Time of concentration
- Storm distribution

SCS curve numbers, used for predicting peak runoff, are based on the various land uses and soil types as determined by the National Cooperative Soil Survey published by the United States Department of Agriculture Natural Resources Conservation Service. In the case of multiple land uses, a weighted average is calculated. Curve numbers for this project ranged from 74 for good conditioned grass with slow to moderate infiltration rates to 98 for hard surfaces (concrete/roof). The sub basin area, land use, hydrologic soil group, curve number and time of concentration for each sub-basin were calculated

Time of concentration was calculated using the TR-55 method, which takes into account the average basin slope and hydraulic length for each subarea. The hydraulic length is the distance required from the most remote point in the drainage area to the catchment point.

A type II rainfall distribution, which has a storm duration of 24 hours, was used to model the 2-10-100 year storm events. Due to the close proximity of the project to Lincoln, the design rainfall intensity rates were estimated from Technical Paper No. 40 by the Weather Bureau, as shown in **Table 1: City of Lincoln, NE 24-hour design rainfall**.

Table 1: City of Lincoln, NE 24-hour design rainfall

Frequency	**24-hr Rainfall (in.)**
2-year	3.00
10-year	4.69
100-year	6.68

Pre-development drainage areas were determined for both the proposed CDC Site and the proposed parking lot. Three pre-development drainage areas were found on the both CDC site and west of the existing church. The increase in runoff for post-development conditions was calculated and modeled based on the proposed CDC site layout plan. A detention cell was designed southwest of the proposed parking lot to capture and slowly release the difference in pre and post development flows on the CDC Site.

Hydraulic Analysis

A hydraulic analysis was performed to estimate the flow capacity of the proposed culverts within the study area and pond storage capacities for the 2, 10, and 100 year storm events. Hydragraphs by Hydraflow software was used to perform this analysis. Manning's equation was utilized which relates the flow capacity to pipe size, roughness and slope. By using this technique, one can model and evaluate a detention pond used to attenuate peak runoff rates exceeding the capacity of the outlet structure. Outputs of the model include the total storage volume and upstream high water elevation. The 2,10, and 100 year water elevations and storm water release rates from the pipes for each sub-basin are shown below in **Table 2: Storm Water Runoff Volumes** and **Table 3: High Water Elevations**.

Table 2: Storm Water runoff Volumes

	Peak Runoff Rates (Cubic Feet)		
Sub-Basin	**2-Year Storm**	**10-Year Storm**	**100-Year Storm**
Pre-development CDC Site	4,129	9,637	17,116
Post-development CDC	7,796	14,473	22,653
Pre-Post CDC Site Difference	**3,667**	**4,836**	**5,537**
Pre-development Parking Lot	5,496	10,054	15,609
Post-development Parking Lot	8,008	12,883	18,632
Pre-Post Parking Lot Difference	**2,512**	**2,829**	**3,023**
Combined Pre-Post Different	**6,179**	**7,665**	**8,560**
Detention Basin Volume	9,063	9,063	9,063
Extra Capacity	**2,884**	**1,398**	**503**

Table 3: Pond Elevation Heights

Post-development Sub-Basin Number	**2-Year Water Elevation (ft. above sea level)**	**10-Year Water Elevation (ft. above sea level)**	**100-Year Water Elevation (ft. above sea level)**	**Top of Pond (ft. above sea level)**
1	1481.18	1481.84	1482.31	1483.00

FINDINGS:

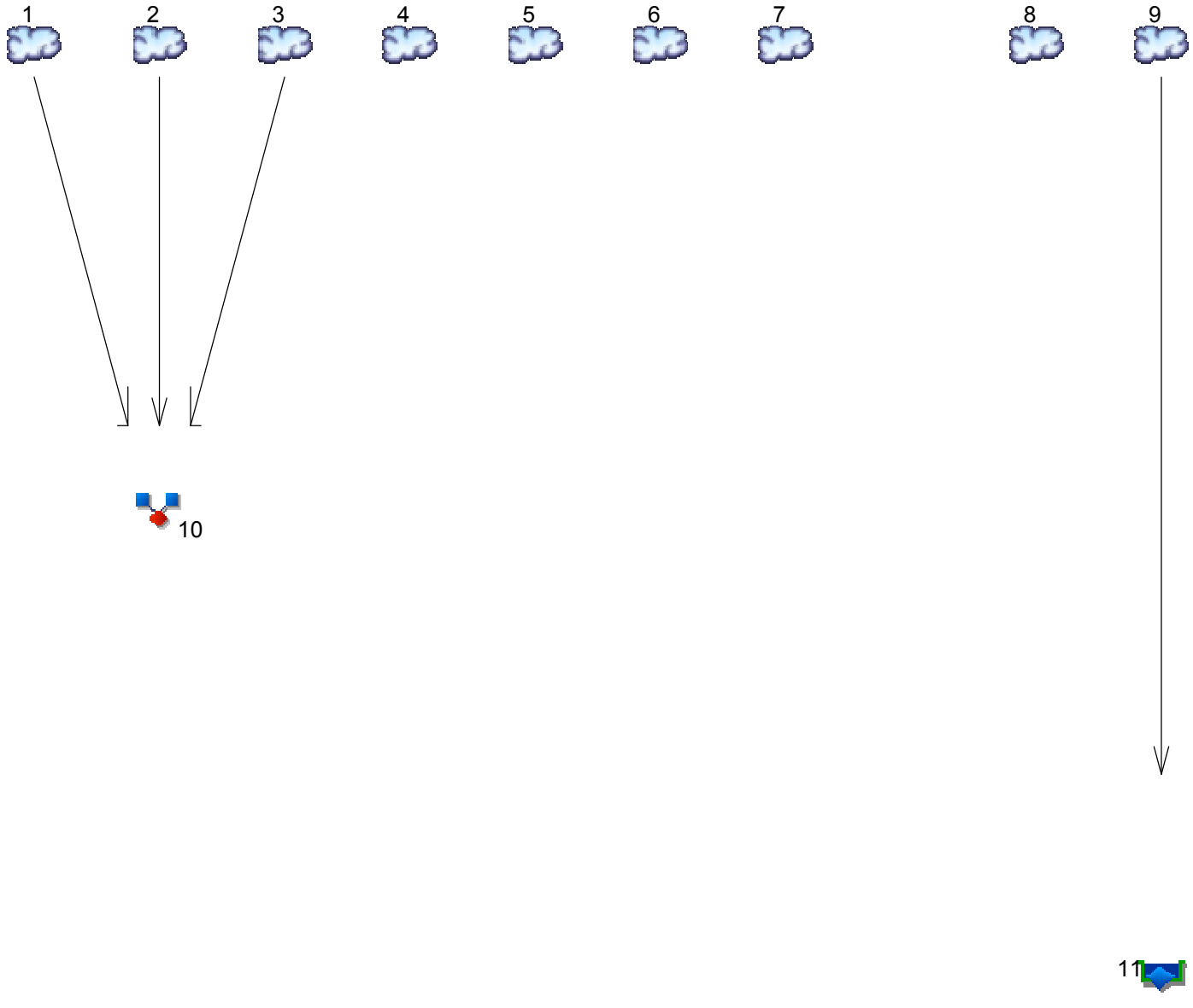
The primary objective of this study was to create a detention basin to mitigate the additional runoff of the proposed child development center to at or below the pre-development levels for the 2, 10 and 100-year storm events. Results in Table 2 show the volume of the detention basin has additional capacity than the pre-post development difference. It should be noted that with the slight reduction in the building footprint that resulted in the additional capacity shown in Table 2.

APPENDIX A

HYDROGRAPHS

Watershed Model Schematic

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2015 by Autodesk, Inc. v10.4



Legend

Hyd.	Origin	Description
1	SCS Runoff	Pre-Development Area 1
2	SCS Runoff	Pre-Development Area 2
3	SCS Runoff	Pre-Development Area 3
4	SCS Runoff	Post-Development Area 1 (North Side)
5	SCS Runoff	Pre-Development Area 4
6	SCS Runoff	Pre-Development Area 5
7	SCS Runoff	Pre-Development Area 6
8	SCS Runoff	Parking Lot Area Pre-Development (Gravel)
9	SCS Runoff	Parking Lot Area Post-Development (Concrete)
10	Combine	Combined North Pre-Development Area
11	Reservoir	<no description>

Project: 121180 Pre-Post Storm Runoff 01_04_13.gpw | Thursday, 07 / 2 / 2015

Hydrograph Return Period Recap

Hyd. No.	Hydrograph type (origin)	Inflow hyd(s)	Peak Outflow (cfs)							Hydrograph Description
			1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr	
1	SCS Runoff	------	-------	1.401	-------	2.424	3.326	4.183	5.001	5.900	Pre-Development Area 1
2	SCS Runoff	------	-------	0.061	-------	0.105	0.143	0.179	0.214	0.252	Pre-Development Area 2
3	SCS Runoff	------	-------	0.369	-------	0.631	0.860	1.077	1.286	1.515	Pre-Development Area 3
4	SCS Runoff	------	-------	3.816	-------	5.503	6.886	8.121	9.262	10.49	Post-Development Area 1 (North Side
5	SCS Runoff	------	-------	3.408	-------	5.300	6.899	8.349	9.700	11.16	Pre-Development Area 4
6	SCS Runoff	------	-------	1.143	-------	1.613	1.996	2.337	2.652	2.990	Pre-Development Area 5
7	SCS Runoff	------	-------	0.955	-------	1.266	1.518	1.743	1.951	2.176	Pre-Development Area 6
8	SCS Runoff	------	-------	2.676	-------	3.816	4.749	5.580	6.347	7.171	Parking Lot Area Pre-Development (
9	SCS Runoff	------	-------	3.436	-------	4.526	5.414	6.208	6.942	7.734	Parking Lot Area Post-Development (
10	Combine	1, 2, 3,	-------	1.789	-------	3.135	4.325	5.435	6.488	7.644	Combined North Pre-Development Ar
11	Reservoir	9	-------	0.523	-------	0.595	0.823	1.241	2.073	3.066	<no description>

Proj. file: 121180 Pre-Post Storm Runoff 01_04_13.gpw | Thursday, 07 / 2 / 2015

Hydrograph Summary Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2015 by Autodesk, Inc. v10.4

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	1.401	2	720	3,264	------	------	------	Pre-Development Area 1
2	SCS Runoff	0.061	2	718	124	------	------	------	Pre-Development Area 2
3	SCS Runoff	0.369	2	718	742	------	------	------	Pre-Development Area 3
4	SCS Runoff	3.816	2	716	7,796	------	------	------	Post-Development Area 1 (North Side
5	SCS Runoff	3.408	2	720	7,809	------	------	------	Pre-Development Area 4
6	SCS Runoff	1.143	2	716	2,363	------	------	------	Pre-Development Area 5
7	SCS Runoff	0.955	2	716	2,171	------	------	------	Pre-Development Area 6
8	SCS Runoff	2.676	2	716	5,496	------	------	------	Parking Lot Area Pre-Development (
9	SCS Runoff	3.436	2	716	8,008	------	------	------	Parking Lot Area Post-Development (
10	Combine	1.789	2	718	4,129	1, 2, 3,	------	------	Combined North Pre-Development Ar
11	Reservoir	0.523	2	726	8,003	9	1481.18	2,827	<no description>

Hydrograph Summary Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2015 by Autodesk, Inc. v10.4

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	3.326	2	720	7,617	------	------	------	Pre-Development Area 1
2	SCS Runoff	0.143	2	718	289	------	------	------	Pre-Development Area 2
3	SCS Runoff	0.860	2	718	1,731	------	------	------	Pre-Development Area 3
4	SCS Runoff	6.886	2	716	14,473	------	------	------	Post-Development Area 1 (North Side
5	SCS Runoff	6.899	2	718	15,875	------	------	------	Pre-Development Area 4
6	SCS Runoff	1.996	2	716	4,262	------	------	------	Pre-Development Area 5
7	SCS Runoff	1.518	2	716	3,543	------	------	------	Pre-Development Area 6
8	SCS Runoff	4.749	2	716	10,054	------	------	------	Parking Lot Area Pre-Development (
9	SCS Runoff	5.414	2	716	12,883	------	------	------	Parking Lot Area Post-Development (
10	Combine	4.325	2	718	9,637	1, 2, 3,	------	------	Combined North Pre-Development Ar
11	Reservoir	0.823	2	726	12,879	9	1481.84	4,718	<no description>

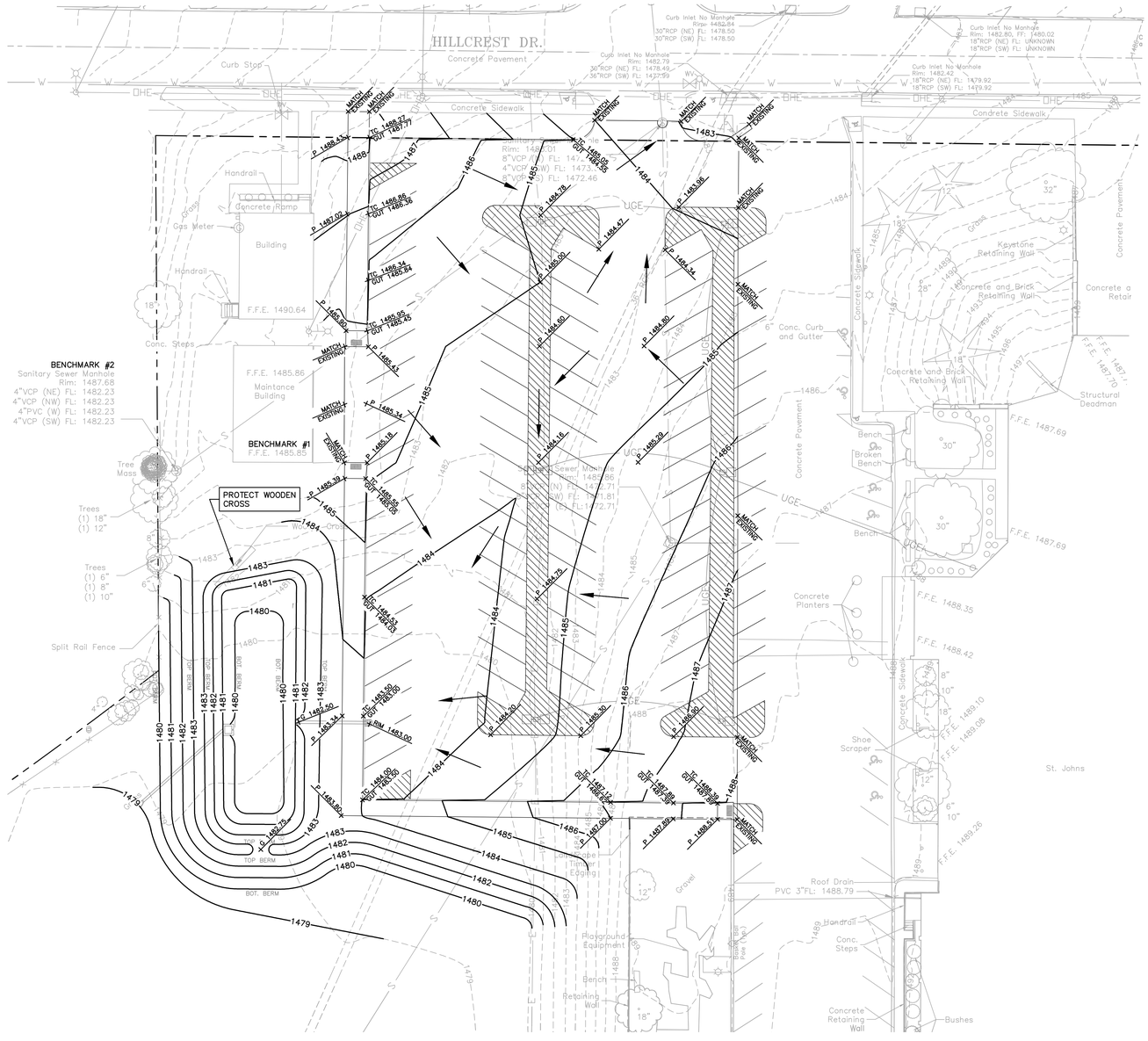
Hydrograph Summary Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2015 by Autodesk, Inc. v10.4

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	5.900	2	718	13,528	------	------	------	Pre-Development Area 1
2	SCS Runoff	0.252	2	716	512	------	------	------	Pre-Development Area 2
3	SCS Runoff	1.515	2	716	3,075	------	------	------	Pre-Development Area 3
4	SCS Runoff	10.49	2	716	22,653	------	------	------	Post-Development Area 1 (North Side
5	SCS Runoff	11.16	2	718	26,145	------	------	------	Pre-Development Area 4
6	SCS Runoff	2.990	2	716	6,563	------	------	------	Pre-Development Area 5
7	SCS Runoff	2.176	2	716	5,164	------	------	------	Pre-Development Area 6
8	SCS Runoff	7.171	2	716	15,609	------	------	------	Parking Lot Area Pre-Development (
9	SCS Runoff	7.734	2	716	18,632	------	------	------	Parking Lot Area Post-Development (
10	Combine	7.644	2	718	17,116	1, 2, 3,	------	------	Combined North Pre-Development Ar
11	Reservoir	3.066	2	722	18,628	9	1482.31	6,356	<no description>

APPENDIX B

PLANS AND DETAILS



NORTH
SCALE 1" =20 '

20 0 20 40 60 Feet

LEGEND

- PROPERTY LINE (ASSUMED)
- 1288 – EXISTING CONTOURS
- 1293 – PROPOSED CONTOURS
- TC XXXX.XX – TOP OF CURB SPOT ELEVATION
- GUT XXXX.XX – CURB GUTTER ELEVATION
- P XXXX.XX – PAVEMENT SPOT ELEVATION
- G XXXX.XX – SPOT GROUND ELEVATION
- DIRECTION OF FLOW

Retain the Location Request Number for YOUR Own Protection!

Diggers Hotline of Nebraska
1-800-331-5666 (STATEWIDE)

NOTE:
UNDERGROUND UTILITY LOCATIONS SHOWN ARE FROM INFORMATION PROVIDED TO US FROM UTILITY COMPANIES. UTILITY COMPANIES MAKE NO WARRANTIES OR GUARANTEES REGARDING THE ACCURACY OF THE INFORMATION CONTAINED IN THEIR DOCUMENTS AND PROVIDES IT ONLY AS GENERAL INFORMATION TO THE RECEIVER. FOR SPECIFIC LOCATIONS DURING CONSTRUCTION CALL "DIGGERS HOTLINE" 1-800-331-5666 (STATEWIDE) PRIOR TO DIGGING.

BENCHMARK INFO:

BENCHMARK #1, MAINTENANCE BUILDING, SOUTH EAST GARAGE DOOR, F.F.E.=1485.85

BENCHMARK #2, N. RIM SANITARY SEWER MANHOLE RIM=1487.68

REGA NO. 121180

ISSUED FOR:	DATE:	BY:
100% CONSTRUCTION SET	04/29/13	REGA

BVH ARCHITECTS

ARCHITECT
BAHR VERMEER HAECKER ARCHITECTS
440 N 8TH ST STE 100
LINCOLN NE 68508
V 402 475 4551
F 402 475 0226
bvh.com

CIVIL ENGINEER
REGA ENGINEERING GROUP, INC.
1620 S 70TH ST, SUITE 103
Lincoln, NE. 68506
V 402 484 7342
F 402 484 7344

STRUCTURAL ENGINEER
R.O. YOUKERS INC.
1201 O Street, Suite 310
LINCOLN NE 68508
V 402 477 7640
F 402 477 7631
royoukers.com

MECHANICAL/ELECTRICAL ENGINEER
ENGINEERING TECHNOLOGIES, INC
825 M STREET STE 200
LINCOLN NE 68508
V 402 476 1273
F 402 476 1274
eti-engineers.com

Revision Schedule	
Date	Description

REGA
ENGINEERING GROUP, INC.
1620 SOUTH 70TH ST.,SUITE 103
LINCOLN, NEBRASKA 68506
(402).484.7342
- ENGINEERING
- PLANNING

ST. JOHNS LUTHERAN CHURCH & SCHOOL RENOVATION

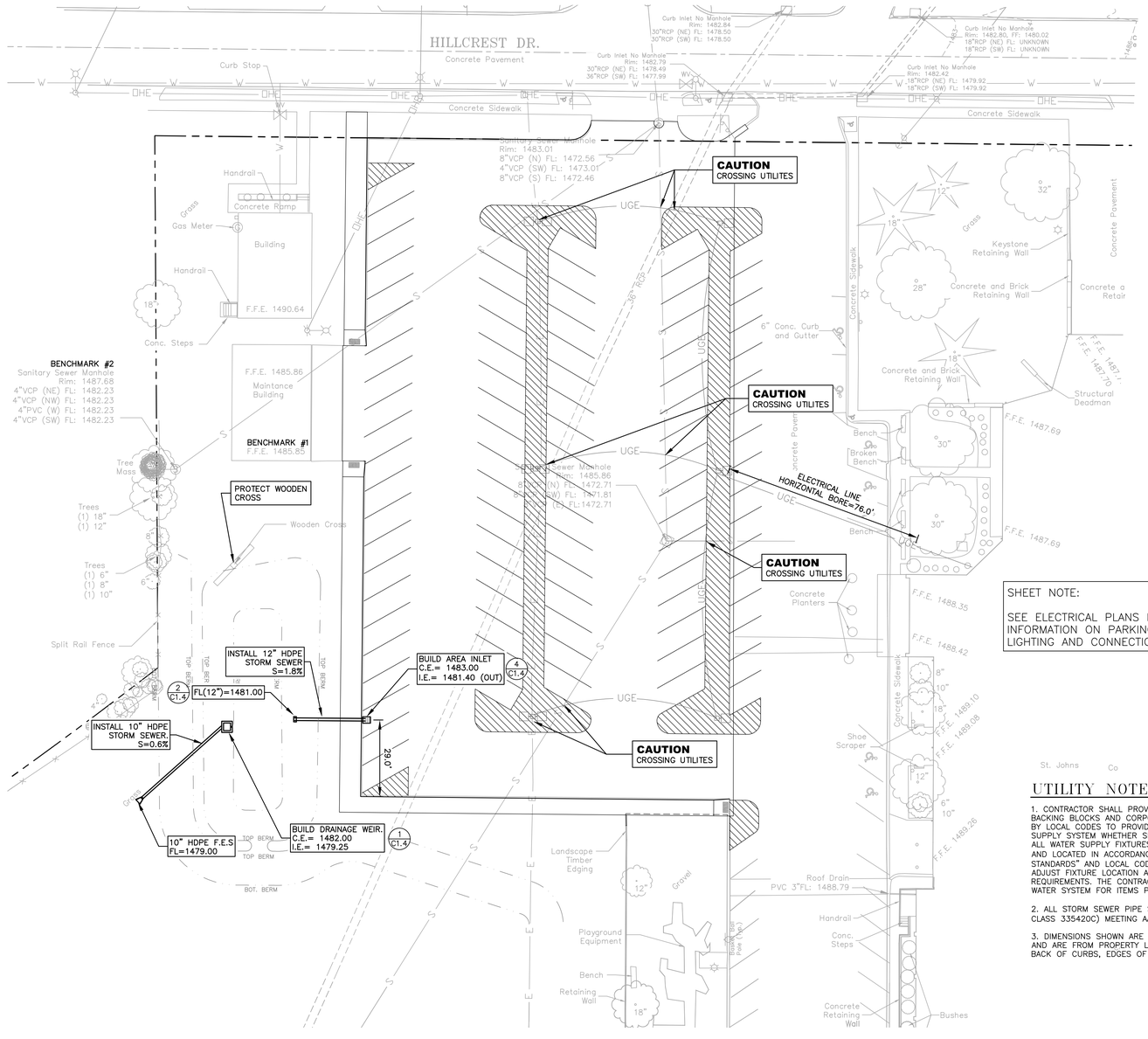
PROJECT: L12074 DATE: 29 APRIL 2013

THIS DOCUMENT WAS ORIGINALLY ISSUED AND SEALED BY DANIEL J. ROSENTHAL, E-7588 ON 4.29.2013. THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT.

GRADING PLAN

Project North

C1.3



SHEET NOTE:

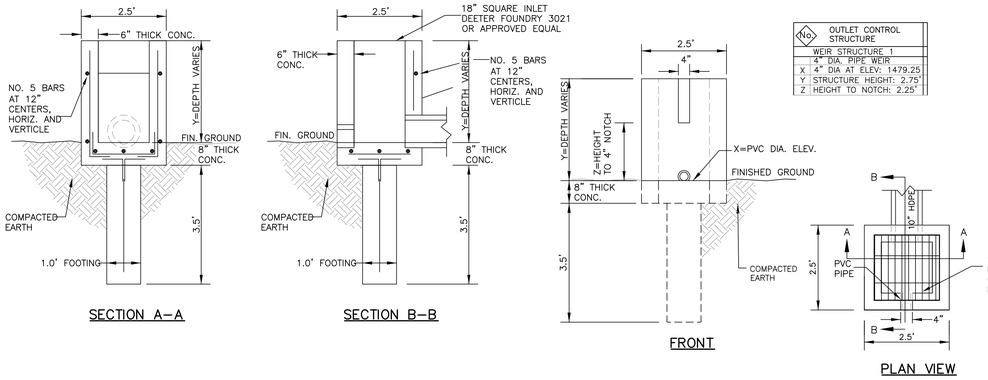
SEE ELECTRICAL PLANS FOR ALL INFORMATION ON PARKING LOT LIGHTING AND CONNECTIONS.

UTILITY NOTES:

1. CONTRACTOR SHALL PROVIDE ALL BENDS, TEES, ELBOW, BACKING BLOCKS AND CORPORATION STOPS AS REQUIRED BY LOCAL CODES TO PROVIDE A FULLY FUNCTIONAL WATER SUPPLY SYSTEM WHETHER SHOWN ON THE DRAWINGS OR NOT. ALL WATER SUPPLY FIXTURES SHALL BE SUPPLIED, INSTALLED AND LOCATED IN ACCORDANCE WITH THE "TEN STATE STANDARDS" AND LOCAL CODES GOVERNING CONSTRUCTION. ADJUST FIXTURE LOCATION AS REQUIRED TO MEET CODE REQUIREMENTS. THE CONTRACTOR SHALL CONTACT THE LINCOLN WATER SYSTEM FOR ITEMS PROVIDED BY THEM.

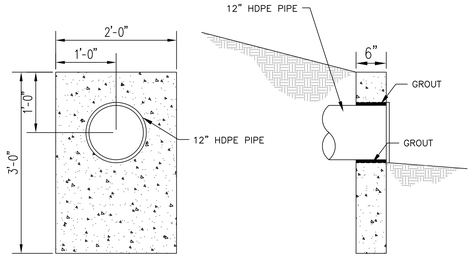
2. ALL STORM SEWER PIPE SHALL BE HDPE TYPE C OR S (CELL CLASS 335420C) MEETING AASHTO M294.

3. DIMENSIONS SHOWN ARE TO CENTERLINE OF PIPES OR FITTINGS AND ARE FROM PROPERTY LINES, CENTERLINES OF DRIVEWAYS, BACK OF CURBS, EDGES OF SIDEWALKS OR FACES OF WALLS.

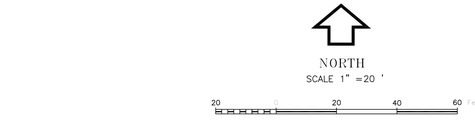


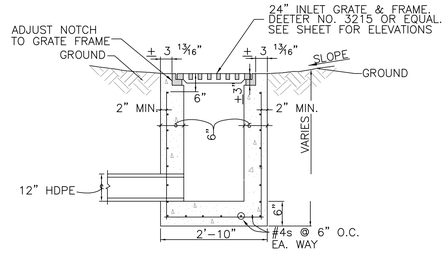
No.	OUTLET CONTROL STRUCTURE
	WEIR STRUCTURE 1
	4" DIA. PIPE WEIR
X	4" DIA AT ELEV. 1479.25
Y	STRUCTURE HEIGHT: 2.75'
Z	HEIGHT TO NOTCH: 2.25'

1 C1.4 DRAINAGE WEIR DETAIL
NO SCALE

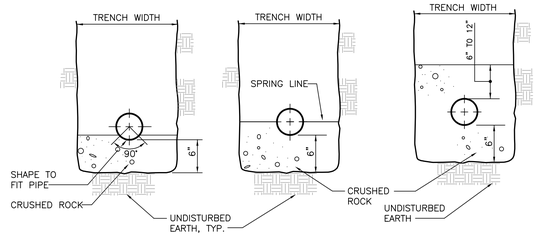


2 C1.4 PRECAST CONCRETE UNDERDRAIN HEADWALL
NO SCALE





4 C1.4 AREA INLET DETAIL
NO SCALE



DIP OR RCP | ABS OR PVC (COMPOSITE WALL) | ABS, PVC, OR HDPE (SOLID WALL)

NOTES:

1. TRENCH WIDTH: MINIMUM = PIPE O.D. PLUS 1'-4"
   MAXIMUM = PIPE O.D. PLUS 2'-0"
2. CRUSHED ROCK FOR PIPE BEDDING FOR PIPES 15 INCHES IN DIAMETER AND SMALLER SHALL CONFORM TO GRADATIONS AS FOLLOWS:

SIEVE SIZE	PERCENTAGE PASSING
3/4 INCH	100
3/8 INCH	60 ± 15
NO. 4	30 ± 15
NO. 10	15 ± 10
NO. 200	5 ± 5

3. CRUSHED ROCK FOR PIPE BEDDING SHALL BE SUBSIDIARY TO THE COST OF THE PIPE. IF UNSTABLE TRENCH BOTTOM SUBGRADE CONDITIONS ARE ENCOUNTERED, ADDITIONAL CRUSHED ROCK FOR BEDDING AND EXTENT SHALL BE AS DIRECTED BY THE ENGINEER.
   THE COST, MEASUREMENT, AND PAYMENT FOR ADDITIONAL CRUSHED ROCK FOR UNSTABLE TRENCH BOTTOM SUBGRADE PIPE BEDDING CONDITIONS SHALL BE PAID FOR PER TON OF CRUSHED ROCK PLACED.
4. TRENCH SHALL BE BRACED, SHEETED OR SLOPED AS NECESSARY FOR THE SAFETY OF WORKMEN AND PROTECTION OF OTHER UTILITIES IN ACCORDANCE WITH APPLICABLE LOCAL, STATE, AND FEDERAL REGULATIONS.
5. HDPE SHOWN IS FOR DRAINAGE AND NOT WELL FIELD. SEE MECHANICAL PLANS FOR WELL FIELD INFORMATION.

3 C1.4 PIPE ENVELOPE
NO SCALE

LEGEND

- PROPERTY LINE (ASSUMED)
- PROPOSED STORM SEWER LINE (3 C1.4, 4 C1.4)
- PROPOSED AREA INLET
- AREA LIGHTS, (SEE ELECTRICAL PLANS)
- UGE UGE – UNDERGROUND ELECTRICAL (SEE ELECTRICAL PLANS)

Retain the Location Request Number for YOUR Own Protection!

Diggers Hotline of Nebraska
1-800-331-5666 (STATEWIDE)

NOTE:
UNDERGROUND UTILITY LOCATIONS SHOWN ARE FROM INFORMATION PROVIDED TO US FROM UTILITY COMPANIES. UTILITY COMPANIES MAKE NO WARRANTIES OR GUARANTEES REGARDING THE ACCURACY OF THE INFORMATION CONTAINED IN THEIR DOCUMENTS AND PROVIDES IT ONLY AS GENERAL INFORMATION TO THE RECEIVER. FOR SPECIFIC LOCATIONS DURING CONSTRUCTION CALL "DIGGERS HOTLINE" 1-800-331-5666 (STATEWIDE) PRIOR TO DIGGING.

BENCHMARK INFO:

BENCHMARK #1, MAINTENANCE BUILDING, SOUTH EAST GARAGE DOOR, F.F.E.=1485.85

BENCHMARK #2, N. RIM SANITARY SEWER MANHOLE RIM=1487.68

REGA NO. 121180

ISSUED FOR:	DATE:	BY:
100% CONSTRUCTION SET	04/29/13	REGA

BVH ARCHITECTS

ARCHITECT
BAHR VERMEER HAECKER ARCHITECTS
440 N 8TH ST STE 100
LINCOLN NE 68508
V 402 475 4551
F 402 475 0226
bvh.com

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REGA ENGINEERING GROUP, INC.
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V 402 484 7342
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STRUCTURAL ENGINEER
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F 402 477 7631
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ENGINEERING TECHNOLOGIES, INC
825 M STREET STE 200
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eti-engineers.com

Revision Schedule	
Date	Description

ST. JOHNS LUTHERAN CHURCH & SCHOOL RENOVATION

PROJECT: L12074 DATE: 29 APRIL 2013

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UTILITY PLAN

Project North

C1.4