

CLEARFIELD CITY COUNCIL
AGENDA AND SUMMARY REPORT
May 31, 2016 – WORK SESSION

Executive Conference Room
Third Floor
55 South State Street
Clearfield, UT 84015

6:00 P.M. WORK SESSION

Presentation and Discussion on the Compensation Plan
Presentation and Discussion on the Updated Storm Water Master Plan

*****COUNCIL ADJOURN*****

Dated this 26th day of May, 2016.

/s/Nancy R. Dean, City Recorder

The City of Clearfield, in accordance with the ‘Americans with Disabilities Act’ provides accommodations and auxiliary communicative aids and services for all those citizens needing assistance. Persons requesting these accommodations for City sponsored public meetings, service programs or events should call Nancy Dean at 525-2714, giving her 48-hour notice.



Capital Facilities Plan

Storm Water Systems

June 2016



Civil Engineering Consultants, PLLC.

5141 South 1500 West
Riverdale, Utah 84405
801 – 866 - 0550

Capital Facilities Plan Storm Water Systems

for
Clearfield City, Utah

Adopted by the Clearfield City Council
??? Date 2016

Mayor
Mark Shepherd

City Council
Keri Benson
Kent Bush
Nike Peterson
Vern Phipps
Bruce Young

 Civil Engineering Consultants, PLLC.

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SECTION 1 - INTRODUCTION

Section 1 - Introduction

1.1 Purpose and Scope

The ultimate purpose of this Report is to assist Clearfield City in providing an efficient, safe and adequate life sustaining Storm Water Utility for the City residents.

As necessary, develop a City-wide Storm Water Plan for the construction and/or replacement of inadequate or non-existing facilities; prepare cost estimates, construction time table schedules and possible funding sources for the implementation, upgrade/replacement of the storm water utilities.

This Storm Water Capital Facilities Plan will serve as a base plan for long range capital improvement projects and may serve as a base plan for the development of Impact Fees, due to growth.

1.2 Additional Sources of Information and Data

Population and growth projections for the City were developed using information provided by the U. S. Bureau of the Census, the State of Utah – Governor’s Office of Planning and Budget and Clearfield City.

The Clearfield City, “Storm Water Management Master Plan” using a computer-model was developed during the period of October 2003 through September 2004. Many of the recommendation found in this earlier report were used in determining the deficiencies and recommended storm water improvements under existing conditions and scenarios.

Additional deficiencies and recommendations for modification to the Clearfield City Storm Water System were obtained during planning and review meetings with the City Public Works Staff.

Field inspections and reports, video pipeline surveys and other information obtained from the City Public Works Staff in regards to the storm water systems has assisted greatly in the preparation of this Capital Facilities Report.

1.3 Clearfield City Background*

Clearfield City is located in northern Davis County and is bordered by Hill Air Force Base, Layton City and the Wasatch Mountains on the East, and Syracuse, West Point and Clinton Cities and the Great Salt Lake on the West.

Clearfield City was incorporated as a City . . .

Clearfield City was one of the last communities to be settled in the North part of Davis County. Clearfield City was once known as “Sandridge”. There was little available water and the land was thought to be unproductive. The name was later changed to Clearfield from a suggestion of a teacher, who got the idea as she looked out over the attractive open surroundings.

An emigrant couple from England was the first known settlers in Clearfield City. Richard and Emily Hamblin had lived with relatives in Layton City for a few years, and in 1877 they decided to make their own home in the area that is now Clearfield City.

. . . on the 17th of July 1922.

Water had to be brought in from Kay's Creek in Layton City, so the Hamblin's first concern was finding a closer water supply. Mr. Hamblin dug several surface wells without success until 1881 when he struck water. He constructed a windmill to supply irrigation water and grew strawberries, which he marketed. After the completion of the East Canyon Dam in 1884, water was supplied by the Davis and Weber Counties canal.

As the Clearfield area developed, farming grew in the area; the local farmers needed a market for their surplus produce. The Woods Cross Canning Cooperative was begun in 1892. The cannery employed hundreds of people each season and was a significant Davis County employer before defense installations came to the County. The cannery closed after a fire in the late 1970s.

In 1869 the Utah Central Railroad came through the Clearfield Area. In 1905 the Bamberger Electric, another railroad, took passengers between Ogden and Salt Lake City, stopping in Clearfield City.

The construction of the Hill Air Force Base began in 1940 and the facility eventually stretched along the eastern border of Clearfield City.

On the southwestern side of Clearfield, the U.S. Navy installed the Clearfield Naval Supply Depot. Construction began in June 1942 and was finished in April 1943. The Clearfield Naval Supply Depot was phased out by 1962.

The Naval facility did not stay empty long; private firms soon began moving into the large warehouse buildings. The area became known as the Freeport Center and today is a major western hub for manufacturing, warehousing, and distribution.

During the 2000 U.S. Census, the population in Clearfield City was measured and accepted as 25,974 people.

In 2004, the population of Clearfield City was estimated at approximately 27,227 people.

In December 2007, discussions between the Clearfield City Community Development Director the U.S. Census Bureau and the Utah State – Governor’s Office of Planning and Budget the Clearfield City population was determined to be 29,002 people.

In January 2016, the population of Clearfield City was estimated at approximately 30,467 people (Development Services Department – Planning & Zoning).

*See: Daughters of Utah Pioneers, East of Antelope Island (1969); Leonard J. Arrington and Archer L. Durham, "Anchors Aweigh in Utah: The U.S. Naval Supply Depot at Clearfield, 1942-1962," Utah Historical Quarterly 31 (1963); Ward J. Roylance, Utah: A Guide to the State (1982); Kathy Kelly, "Cannery Once Bustling Operation," Lakeside Review (25 May 1993), Mary Peach.

SECTION 2 - DEMOGRAPHICS

Section 2 - Demographics

2.1 Clearfield City Overview

The Clearfield City Government consists of a Mayor, five-member City Council, and a seven member Planning and Zoning Commission and a Board of Adjustments.

The Public Works Department manages the storm water utility for a population of ~ 30,467.

The administration staff includes: A City Manager and Executive Department, Chief of Police, City Attorney, Community Development Director, Community Services Director, Administrative Services Director, Planning and Zoning Administrator, Public Works Director, City Recorder and support staff.

The Storm Water utility is operated and maintained by the Public Works Department. The monthly storm water user fees are collected and administered through the Clearfield City Administrative Services Department.

2.2 Clearfield City Storm Water Sources

The following two-charts summarize the approximate number of private and public properties that generate and contribute storm water run-off within the City boundaries for the year ending 2006 and 2016:

Storm Water – Run-off Generators - 2006

Residential	5,669
Commercial	538
Manufacturing (Freeport Area)	252
City Buildings and Facilities	16
Parks	12
Cemeteries	1
Churches	20
Schools	6

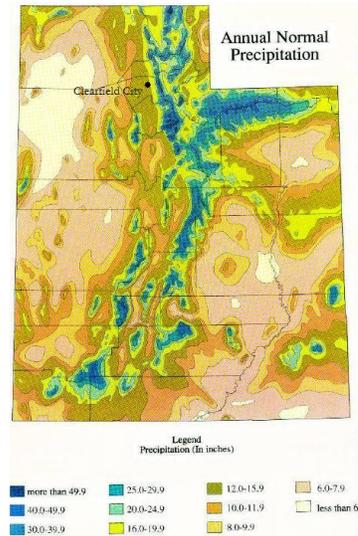
The following chart updates and summarizes the approximate number of private and public properties that generate and contribute storm water run-off within the City boundaries for the year ending 2016:

Storm Water – Run-off Generators - 2016

Residential	5,985
Multi-Unit Residential	293
Commercial /Industrial	567
City Buildings and Facilities	16
Parks	15
Cemeteries	1
Churches	20
Schools	6

2.3 Geographic Setting

The climate of Clearfield is semi-arid with an annual average precipitation of approximately 20.75 inches per year. The average high temperature occurs in July at 89.90° F and the average low temperature occurs in January at 18.60° F.



2.4 Environment

The City is moderately vegetated with residential lawns, gardens and a variety of deciduous and evergreen trees.

The Utah History Encyclopedia states that the native plant species for the Northern portions of the State of Utah include: greasewood, shadscale or salt brush with some saltgrass, sagebrush, seepweed, and rabbitbrush.

The elevation change through Clearfield City is approximately 355 feet from the lowest elevation of 4320 to the highest elevation of 4675 mean sea level (MSL).

2.5 Population

The City of Clearfield grew drastically during the 1940's with the formation of Hill Air Force Base and in the 1950's with the nation-wide increase in suburb and bedroom community populations and has been steadily growing since then.

Recent increase in population is due to land development, housing start-up and Commercial and Manufacturing increases.

During the 2000 U.S. Census, the population in Clearfield City was measured and accepted as 25,974 people.

In 2004, the population of Clearfield City was estimated at approximately 27,227 people.

In December 2007, discussions between the Clearfield City Community Development Director the U.S. Census Bureau and the Utah State – Governor's Office of Planning and Budget the Clearfield City population was determined to be 29,002 people.

In January 2016, the population of Clearfield City was estimated at approximately 30,467 people (Development Services Department – Planning & Zoning).

2.6 Land Use

2.6.1 Current Land Use Designations

The current General Land Use Plan “the General Plan” is shown on Map 2.1. Shown on Map 2.2, are the various types of zones utilized and permitted within the Clearfield City boundaries.

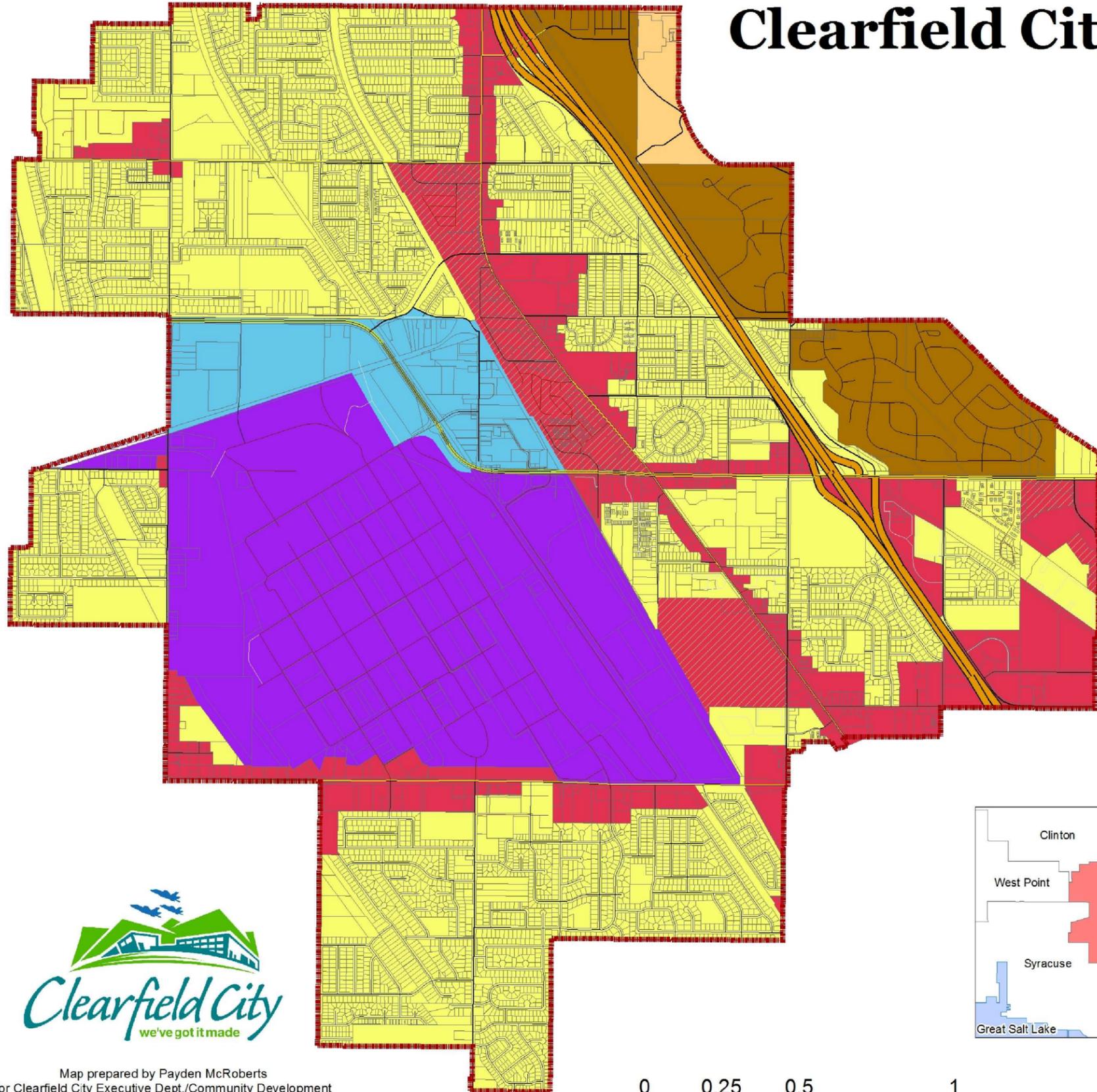
The primary land use types in Clearfield City are as follows:

Agricultural Uses (A-zones), Residential Uses - integrated residential uses, planned residential unit developments - PRUD, mobile homes, cluster subdivision (R-zones), Commercial Uses – light retail and office, general commercial (C-zones), Manufacturing zones (M-zones), Buffer Zones (B-zones) and the Hill Air Force Base Zone (HAFB-zones).

Clearfield City General Plan



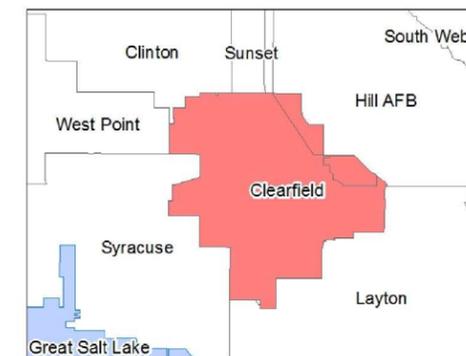
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Legend

Future Land Use

- Business Park
- Commercial
- Falcon Hill
- Hill AFB
- Manufacturing
- Mixed Use
- Residential



REVISIONS	
NO.	DATE

DATE: MARCH 2016
DRAWN: JLN
DESIGNED: NSN

PROJECT / LOCATION: CAPITAL FACILITIES PLAN
CLEARFIELD CITY MAP
GENERAL LAND USE PLAN

CLIENT: CLEARFIELD CITY
PROJECT NUMBER: cc16001
FILE:
SHEET: Map 2.1



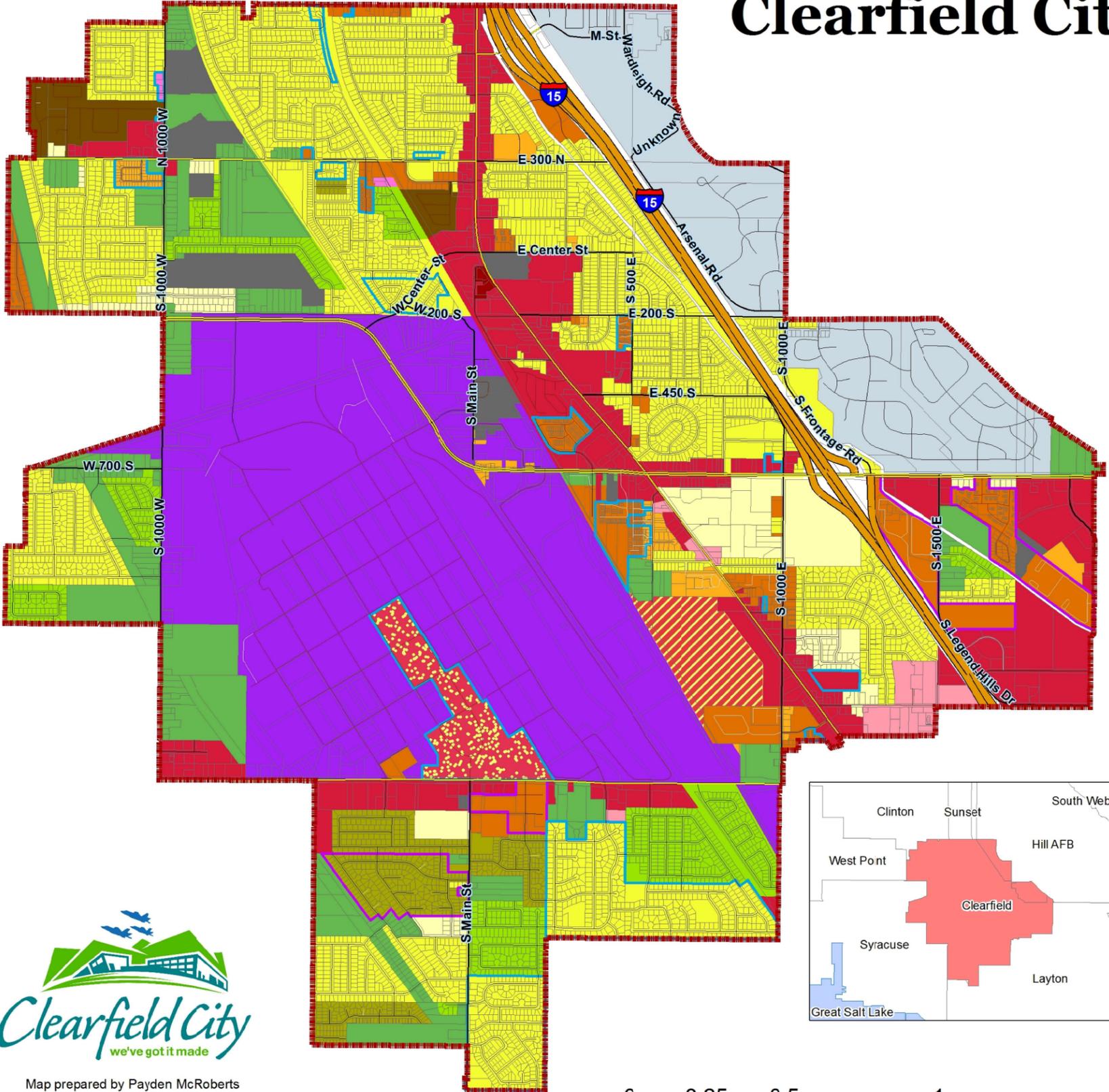
Map prepared by Payden McRoberts
for Clearfield City Executive Dept./Community Development
December 10, 2015



Clearfield City Zoning Map



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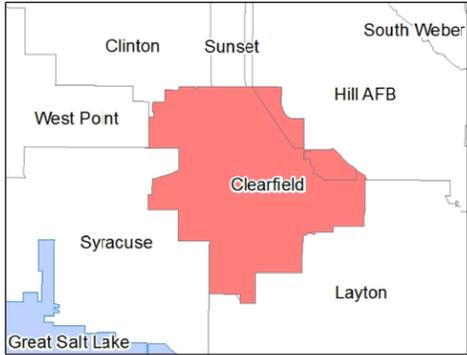
Legend

Zoning

- Agricultural A-1
- Buffer B-1
- Commercial C-1
- Commercial C-2
- Commercial Residential C-R
- Downtown Redevelopment D-R
- Hill Air Force Base HAFB
- Industrial M-1
- Mixed Use MU
- Public Facilities P-F
- Residential R-1-6
- Residential R-1-8
- Residential R-1-9
- Residential R-1-O
- Residential R-2
- Residential R-3
- Residential R-M

Zoning Overlays

- Planned Development P-D
- Special Purpose S-P



Map prepared by Payden McRoberts
for Clearfield City Executive Dept./Community Development
December 9, 2015

REVISIONS	
NO.	DATE

DATE: MARCH 2016
DRAWN: JLN
DESIGNED: NSN

PROJECT / LOCATION: CAPITAL FACILITIES PLAN
CLEARFIELD CITY MAP
ZONING MAP

CLIENT: CLEARFIELD CITY
PROJECT NUMBER: cc16001
FILE:
SHEET: Map 2.2

2.6.2 Future Land Use

The Land Use Plan the “General Plan”, is prepared, managed and updated under the direction of the Clearfield City Planning Commission. The latest revision of the “General Plan” was of the 10th of December 2015.

The Master Zoning Plan manages and guides the projected growth patterns based upon the planning goals adopted by the City Council, Planning Commission, and the City Administration Staff and with local citizen input. The latest revision of “Zoning Plan” was the 9th of December 2015.

The population projections and distribution of zones have been used herein to project future areas of growth and to assist in the planning for storm water utility growth and to predict modification and changes.

2.6.3 Planning for Growth In Clearfield City

The future expansion and growth of City provided services and facilities, i.e., Culinary Water, Sanitary Sewer, Storm Drainage, Parks & Recreation, Roadways, Equipment and Buildings and others, must be considered early in the development of the City infrastructure and utility systems development. The better the growth projections, the less that is required for system expansion/re-construction and the less future City funds are required, due to initial inadequate facility forecasting, planning and sizing.

In Master Planning for future population growth the infrastructure analysis and facility sizing, it is necessary to project growth patterns and population projections for the total and future City boundary build-out. As all cities grow and land is annexed or boundaries re-adjusted, the master facility utility planning process is a very dynamic complicated, on-going process.

Clearfield City has Master Planned their Storm Water infrastructure utilities better than most Cities. The largest and main problem with the existing storm water infrastructure in Clearfield City is the age, obsolescence and growth changes of the existing facilities.

In projecting the future Capital Facility needs within the City limits, as well, projecting the build-out population totals and date of build-out in Clearfield City; several group discussions, meetings and reports have been conducted and reviewed. The Clearfield City Planning Office and the State of Utah - Governor’s Office of Planning and

Budget were contacted and consulted to forecast build-out population totals and estimated build-out dates, and the projected in-fill population totals. Other important data and guidance was obtained from the Clearfield City Public Works Department Staff, the City Planning Staff, and the City Community Development Director's Office.

The population forecasting information reviewed and obtained from City and State agencies suggest that the City should reach a total build-out population by the year 2027, with in-fill growth continuing for years to follow.

Considering a constant 1% straight-line population growth, for the next 20-years, the current City population of 29,002 persons, is projected to grow to a build-out population of approximately 35,000 persons, by the year end of 2027.

Projected population for year 2017 = 32,036 persons (10.46% growth)
Projected population for year 2027 = 35,387 persons (10.46% growth)

Table 2.3 Population Growth Projection of 1% -
for the future years of 2017 and 2027.

SECTION 3 – STORM WATER SYSTEM

Section 3 – The Storm Water System

3.1 Clearfield City Storm Water System Overview

Historically, the need to manage storm water drainage evolved from private property owners, discharging from their properties, the excess storm water they could not manage or control.

The local Cities and/or local political jurisdictions have by default assumed responsibility for handling and regulating storm water, trying to avoid or decrease damage to property and to prevent loss of life. The storm water draining from private property, from the city streets and from public buildings and other facilities must be regulated and controlled.

The present day situation now requires the local political jurisdiction to manage and regulate all storm water discharged from private and public properties.

The Clearfield City Storm Water Management Plan has been developed and regulates storm water collection, storage and discharge similar to the vast majority of neighboring political jurisdictions along the Wasatch Front Mountains and Valleys.

In general, the Clearfield City Storm Water Management Plan allows up to 0.20 cubic feet per acre of storm water received via rain/snow, to be discharged in a controlled method, from private property into City constructed storm water facilities. The volume of additional storm water received on-site, over the 0.20 cubic feet per acre, generally must be stored and managed safely on-site, in an approved storm water detention and /or retention facility.

Clearfield City storm water pipelines range in size from 8” in diameter to 60” in diameter with over 80 miles of storm water piping.

As the City of Clearfield has grown in population adding homes and businesses; storm water pipes, detention / retention basins and storm water facilities have been installed to meet the current expanding needs of the City residents and businesses. Many of the older areas of the City have pipelines, detention basins and storm water facilities which were sufficient for the storm water needs at the time of installation, but can no longer meet the storm water needs of the City, today. It is the general opinion of the Public

Works Department that many of the older pipelines, detention basins and facilities should be replaced and/or upgraded due to present sizing needs and deterioration of facilities due to age and passage of time.

The Clearfield City Storm Water System consists of buried pipes ranging from 8-inch diameter to 60-inch diameter with over 80 miles of storm water piping.

The City Storm Water System is also comprised of the following important storm water components:

- Inlet catch basins,
- Curbs, gutters and waterways,
- Branch or sub-main pipelines,
- Main pipelines,
- Open Channels,
- Clean-out facilities,
- Manholes,
- Detention and Retention Basins,
- Wetland areas

3.2 Current Storm Water Facility Mapping - 2016

The current Storm Water Piping and Collection System for Clearfield City is shown on Map 3.1, on the following page.

3.2.1 Current Storm Water Basins

There are several types of storm water basin currently in use in Clearfield City. Some of the storm water basin types are:

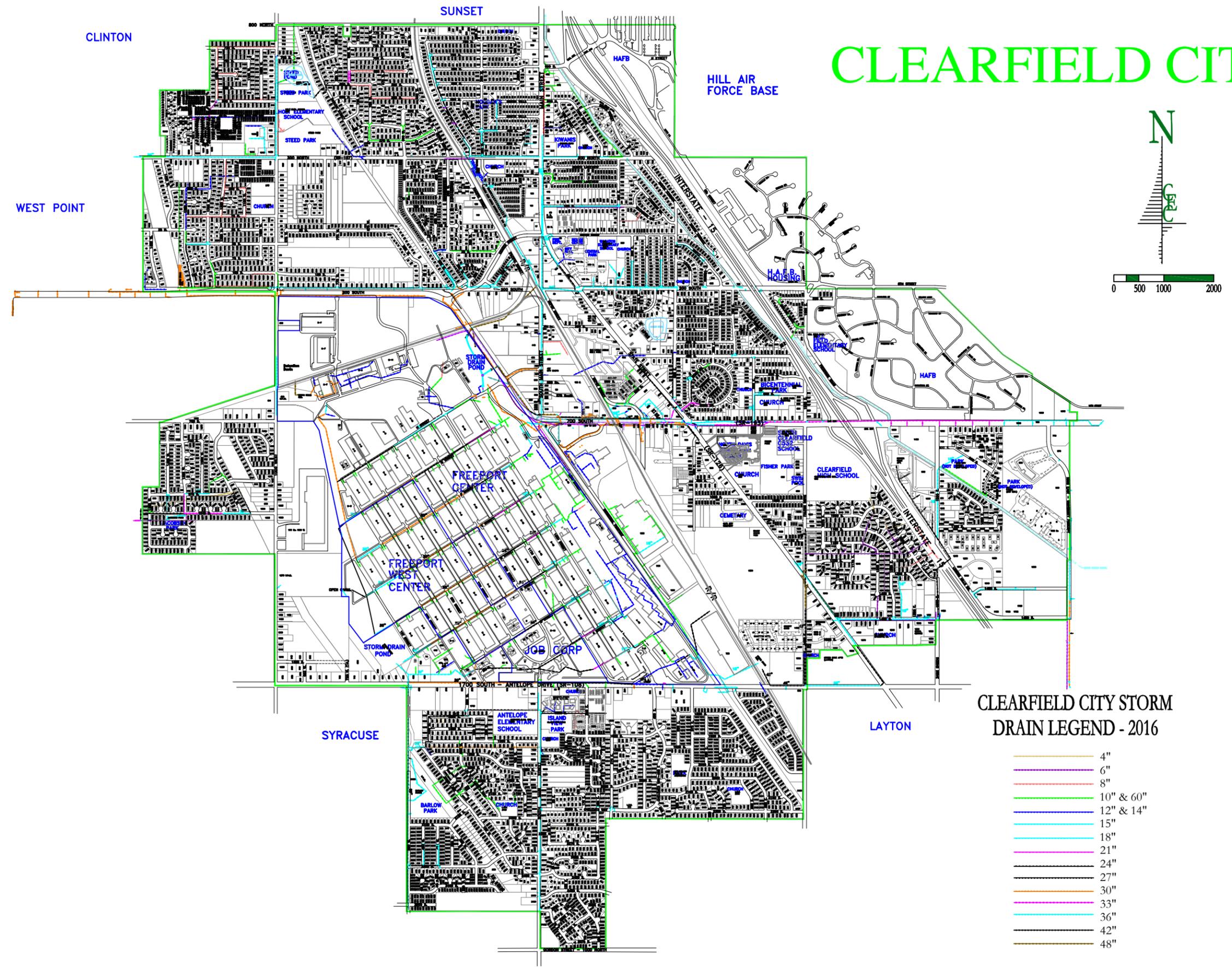
- Public Basins
- Private Basins
- Detention Basins
- Retention Basins
- Combination Park & Recreation Facilities and Storm Water Basins
- Ponds & small lakes

The current Storm Water Basins, which are presently being used and are a part of the overall storm water management plan, of Clearfield City, are shown on Map 3.2, on the page following the above noted piping and collection system (Map 3.1).



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CLEARFIELD CITY



CLEARFIELD CITY STORM
DRAIN LEGEND - 2016

- 4"
- 6"
- 8"
- 10" & 60"
- 12" & 14"
- 15"
- 18"
- 21"
- 24"
- 27"
- 30"
- 33"
- 36"
- 42"
- 48"

NO.	DATE	BY	REVISIONS

DATE: MARCH 2016
DRAWN: JLS
CHECKED:

PROJECT / LOCATION:
**CAPITAL FACILITY PLAN
CLEARFIELD CITY**

TITLE:
CURRENT STORM WATER SYSTEM

CLIENT:
CLEARFIELD CITY

PROJECT NUMBER:
CC.16001

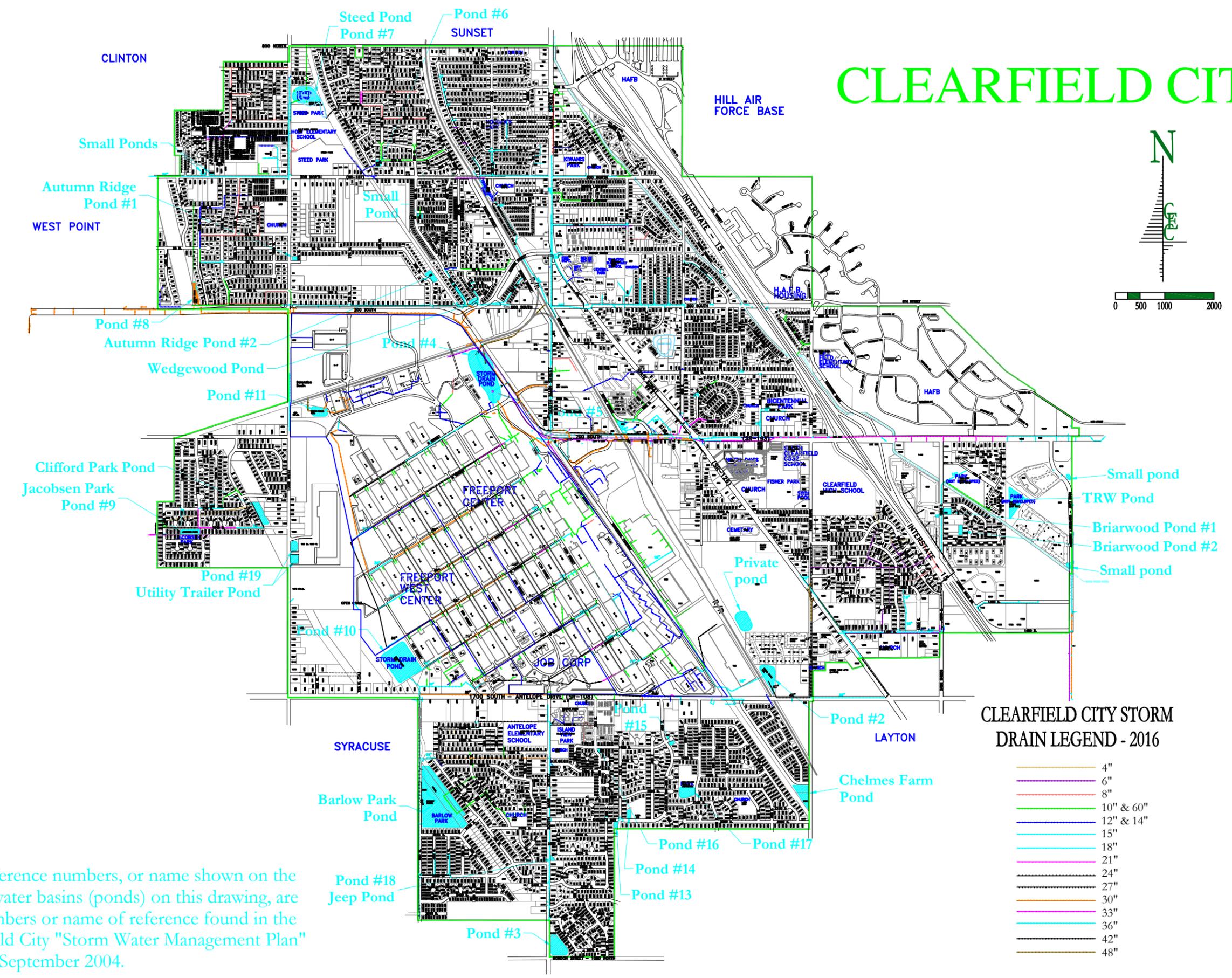
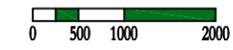
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Map 3.1



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CLEARFIELD CITY



CLEARFIELD CITY STORM
DRAIN LEGEND - 2016

- 4"
- 6"
- 8"
- 10" & 60"
- 12" & 14"
- 15"
- 18"
- 21"
- 24"
- 27"
- 30"
- 33"
- 36"
- 42"
- 48"

Note:
The reference numbers, or name shown on the storm water basins (ponds) on this drawing, are the numbers or name of reference found in the Clearfield City "Storm Water Management Plan" - dated September 2004.

NO.	DATE	BY	REVISIONS

DATE: MARCH 2016
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**CAPITAL FACILITY PLAN
CLEARFIELD CITY**

TITLE:
STORM WATER BASIN LOCATIONS

CLIENT:
CLEARFIELD CITY

PROJECT NUMBER:
CC.16001

FILE:
Clfd Base STORM.dwg

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Map 3.2

3.3 Storm Water Treatment and Pollution Prevention

The Clearfield City Storm Water Management Plan does not presently require treatment of collected storm water.

The Federal Government via the Environmental Protection Agency (EPA) has recently required all political jurisdictions, adopt and pattern storm water pollution prevention, per federal guidelines and sample documents.

The Clearfield City Storm Water Management Plan requires the implementation of the Federal Government – EPA’s “Best Management Practices”. All proposed Construction sites must develop and implement a “Storm Water Pollution and Prevention Plan”. Developers must utilize the Federal Governments (EPA) - Best Management Practices; and to try to prevent and minimize all contaminates from entering into the local Clearfield City storm water systems, channels, streams and eventually the Great Salt Lake, during all Construction phases.

3.4 Storm Water Piping Network – Discharge Piping

On the following table – Table 3.1 is the listed location addresses of the storm water piping connection into the Davis County Storm Water System or other neighboring Cities storm water systems.

Connection	Pipeline Connection Diameter	Discharge Location
#1	24” pipe	1000 West / 300 North
#2	Open Channel	1450 West / 200 South
#3	24” pipe	1480 West / 1045 South
#4	15” pipe	1000 West / 1700 South
#5	Open Channel	500 West / 2500 South
#6	24” pipe	400 East / 2200 South
#7	30” pipe	2000 East / 1450 South

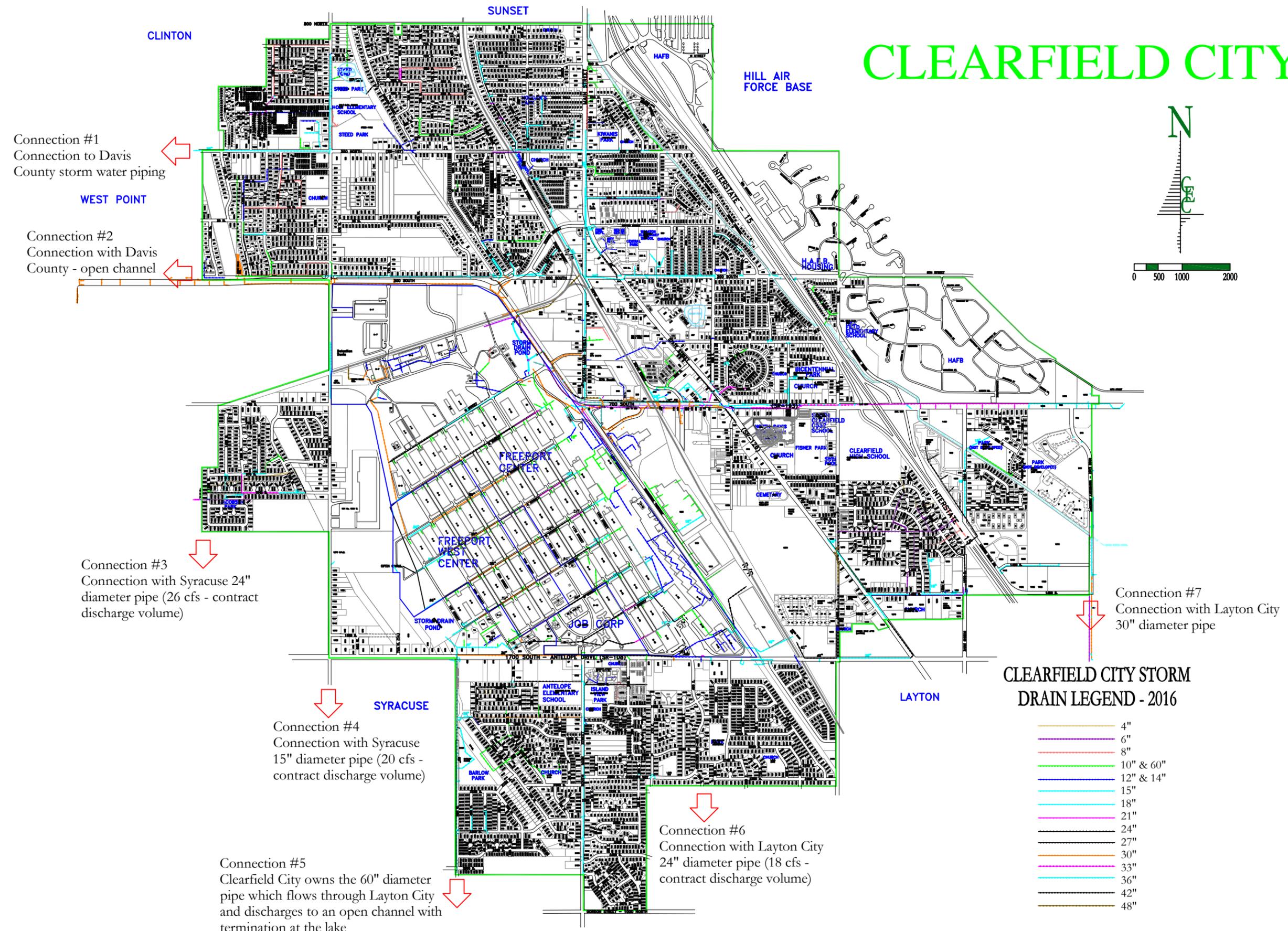
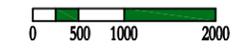
Table 3.1 Pipe Locations – Connection with the Davis County or other neighboring Cities.

Shown on the following Clearfield City Map – Map 3.3, are the various storm water discharge locations.



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CLEARFIELD CITY



Connection #1
Connection to Davis
County storm water piping

WEST POINT

Connection #2
Connection with Davis
County - open channel

Connection #3
Connection with Syracuse 24"
diameter pipe (26 cfs - contract
discharge volume)

SYRACUSE
Connection #4
Connection with Syracuse
15" diameter pipe (20 cfs -
contract discharge volume)

Connection #5
Clearfield City owns the 60" diameter
pipe which flows through Layton City
and discharges to an open channel with
termination at the lake

LAYTON
Connection #6
Connection with Layton City
24" diameter pipe (18 cfs -
contract discharge volume)

Connection #7
Connection with Layton City
30" diameter pipe

CLEARFIELD CITY STORM DRAIN LEGEND - 2016

- 4"
- 6"
- 8"
- 10" & 60"
- 12" & 14"
- 15"
- 18"
- 21"
- 24"
- 27"
- 30"
- 33"
- 36"
- 42"
- 48"

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PROJECT / LOCATION:
CAPITAL FACILITY PLAN
CLEARFIELD CITY

TITLE:
STORM WATER DISCHARGE LOCATIONS

CLIENT:
CLEARFIELD CITY
PROJECT NUMBER:
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FILE:
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SHEET:
Map 3.3

3.5 Current System Evaluations and Growth

The current Clearfield City storm water piping and collection system layout (pipelines, storage basins and facilities) should remain much the same as shown on Map 3.1.

The main exception to the current storm water system layout is that the storm water system deficiencies, the additional pipes, the older pipelines, the under-sized pipelines the detention basins and facilities that were sufficient for the storm water storage needs at the time of installation, must be modified, enlarged and upsized to today's storm water needs and requirements.

As growth within Clearfield City continues, those new growth areas and developments will be required to install their respective storm water piping collection system and facilities which will meet the needs of those new developments at the time of construction. These new local storm water collection systems must be connected to the existing City storm water facilities where available.

3.6 Clearfield City in year 2027 – Storm Water Collection System

The Storm Water Management Master Plan for Clearfield City shows substantial facility changes as residential and commercial growth continues toward build-out in the year 2027.

In the City of Clearfield, during the next 18 to 20 years many of the undeveloped pockets within the City limits will be developed with the need for additional pipelines and facilities to be constructed with connections made with the existing storm water system.

As funds are available the deficient, deteriorated and/or aged storm water system facilities within the City limits will need to be upgraded and/or replaced. Prior to any replacement and/or update of the storm water facilities, the capacity of replacement pipeline should be checked. Up-sizing of facilities may be warranted.

3.7 Recommended Storm Water Improvement Projects

The following list of storm water projects shown below on Table 3.2, are recommended to be constructed during the future time periods, as shown.

The list of construction projects was developed in conjunction with the Public Works Department Staff recommendations.

Project Table: Years 0 – 5 years

Project period	Project Number: Project Name:	Estimated cost of Project	Estimated Design life (years)
0 – 5 years	Project #1 Barlow Street (South) 550 North to 350 North	\$316,600	65 years
0 – 5 years	Project #2 H Street (Freeport Center) 3 rd Street to 5 th Street	\$264,100	65 years
0 – 5 years	Project #3 H Street (Freeport Center) 5 th Street to 9 th Street	\$394,800	65 years
0 – 5 years	Project #4 700 South Street 1000 West to 1450 West Street	\$358,400	65 years
0 – 5 years	Project #5 State Street 1100 South to 1000 West Street	\$202,900	65 years
0 – 5 years	Project #6 1450 South and State Street State Street to 1000 east Street	\$350,500	65 years
0 – 5 years	Project #7 City Public Works Facility 497 South Main Street	\$60,000	65 years
0 – 5 years	Project #8 500 East Street Center Street to 200 South Street	\$256,300	65 years
0 – 5 years	Project #9 350 South Street Depot Street to 350 South Street	\$173,900	65 years
0 – 5 years	Project #10 250 North Street North Main to 300 North Street	\$287,900	65 years
Total – Projects 0 – 5 years		\$2,665,400	

Table 3.2 Summary of recommended Storm Water Projects – 0 to 5 Year Construction Period.

Project Table: Years 6 – 10 years

Project period	Project Number: Project Name:	Estimated cost of Project	Estimated Design life (years)
6 – 10 years	Project #11 H Street (Freeport Center) 9 th Street to Detention Basin	\$409,600	65 years
6 – 10 years	Project #12 Mabey Pond (450 East / 350 South) 350 South, 400 South & 650 East St.	\$418,800	65 years
6 – 10 years	Project #13 Freeport Industrial Parkway Ind. Parkway to North of 1700 South	\$602,900	65 years
6 – 10 years	Project #14 1250 West and 525 North Streets - 725 North to 525 North & 525 North	\$409,800	65 years
6 – 10 years	Project #15 500 North to Sundown Street 450 North to 1300 West to 300 North	\$277,200	65 years
6 – 10 years	Project #16 1000 West Street 200 So. to Freeport Detention Basin	\$236,000	65 years
6 – 10 years	Project #17 1400 West, 25 North & 1450 West St. 200 North Street to 200 South Street	\$459,800	65 years
6 – 10 years	Project #18 100 North and Sycamore Streets 300 East Street to Lynnwood Drive	\$293,600	65 years
Total – Projects 6 - 10 years		\$3,107,700	

Table 3.3 Summary of recommended Storm Water Projects – 6 to 10 Year Construction Period.

Project Table: Years 11 – 15 years

Project period	Project Number: Project Name:	Estimated cost of Project	Estimated Design life (years)
11 – 15 years	Project #19 725 North to 550 North Streets 600 N., 650 N., 700 N., 725 N. Streets	\$527,900	65 years
11 – 15 years	Project #20 2500 South Street 400 West to 500 West Street	\$122,400	65 years
11 – 15 years	Project #21 2300 South Street 150 West Street to 350 West Street	\$231,600	65 years
11 – 15 years	Project #22 300 North Street 750 West to 1000 West Street	\$267,700	65 years
11 – 15 years	Project #23 500 West Street – 175 N. to 25 S. 300 W., 360 W., & 500 W. Streets	\$575,900	65 years
Total – Projects 11 - 15 years		\$1,725,500	

Table 3.3 Summary of recommended Storm Water Projects – 11 to 15 Year Construction Period.

Project Table: Years 16 – 20 years

Project period	Project Number: Project Name:	Estimated cost of Project	Estimated Design life (years)
16 – 20 years	Project #24 2225 South Street 500 West Street to 150 West Street	\$261,200	65 years
16 – 20 years	Project #25 State Street and 200 South Street 50 S. along State St to 200 S to Depot	\$327,700	65 years
16 – 20 years	Project #26 Depot Street 50 South to 200 South Street	\$164,500	65 years
16 – 20 years	Project #27 State Street 375 South to 450 South Street	\$116,200	65 years

16 – 20 years	Project #28 1100 South Street 1200 East to 1000 East Street	\$235,800	65 years
16 – 20 years	Project #29 1250 E., 1400 S., & 1200 E. Street 1300 South to 1450 South Street	\$472,400	65 years
16 – 20 years	Project # 30 1150 South & 1175 East Streets 1125E., to 1200 E., and to 1225 S.	\$214,100	65 years
16 – 20 years	Project # 31 G Street – Freeport Center Open canal to 5 th Street	\$307,700	65 years
16 – 20 years	Project # 32 G Street – Freeport Center 5 th Street to 9 th Street	\$395,400	65 years
16 – 20 years	Project # 33 G Street – Freeport Center 9 th Street to 13 th Street	\$420,100	65 years
16 – 20 years	Project # 34 25 South , 75 South and 150 South St. Piping to 1250 West Street	\$411,100	65 years
16 – 20 years	Project # 35 75 North Street 1300 West to 1100 West Street	\$250,400	65 years
Total – Projects 16 – 20 years		\$3,576,600	

Table 3.2 Summary of recommended Storm Water Projects – 16 to 20 Year Construction Period.

On the following table – table 4.5 the above listed project costs shown in table 4.4 are summarized and shown on a five-year basis for a 20-year construction period.

Summary of Project Costs – 20 Year Construction Period		
Projects	0 – 5 years	\$2,665,400
Projects	6 - 10 years	\$3,107,700
Projects	11 – 15 years	\$1,725,500
Projects	16 - 20 years	\$3,576,600
Total		\$11,075,200

Table 3.4 Summary of Project Costs – 20 Year Construction Period

SECTION 4 - FUNDING

Section 4 – Funding

4.1 Funding

The main purpose of this report is to assist Clearfield City in providing an efficient, safe and adequate life sustaining storm drainage utility for the City residents.

Funding all the recommended projects will place a heavy burden on the Mayor, Council and residents of Clearfield City. Listed below are typical sources of funding.

4.1.1 Bonds

- Non-voted General Obligation Bonds
- Voted General Obligated Bonds
- System Revenue Bonds
- Sales and Gasoline Tax Revenue Bonds
- Certificates of Participation
- General Improvement Districts
- Redevelopment Area Bonds

4.1.2 Governmental Agency Loans

- US Department of Agriculture Rural Utilities Service (USDA)
- Utah Water Quality Project Assistance Program (WQPAP)
- Revolving Construction Fund (RCF)
- Conservation and Development Fund (CDF)

4.1.3 Governmental Agency Grants

- Community Development Block Grant Program (Culinary water, sanitary sewer, streets, public buildings)
- US Army Corps of Engineers Section 595 Program
- USDA Matching Grants

SECTION 5 - REFERENCES

Section 5 – References

AQUA Engineering, Inc.,

June 2005 Grantsville City – Culinary water & Wastewater System Master Plan.

Water and Waste-Water Technology,

Mark J. Hammer, 1975

State of Utah, Governor’s Office of Planning and Budget,

2002 Baseline Projections

Mary Peach,

25 May 1993

SECTION 6 - APPENDICES

STORM WATER SYSTEM
COST ESTIMATES SUMMARY &
MASTER LOCATION MAP

Appendix A

Clearfield City

Capital Facilities Plan Summary of the Storm Drainage Projects

April 2016

Project Number (priority)	Project Name	Estimated Total for Improvements
1.	Barlow Street (South) - Piping and Collection Improvements.	\$316,600.00
2.	H Street - Piping and Collection Improvements	\$264,100.00
3.	H Street - Piping and Collection Improvements	\$394,800.00
4.	700 South Street - Piping and Collection Improvements	\$358,400.00
5.	State Street - Piping and Collection Improvements	\$202,900.00
6.	1450 South and State Street - Piping and Collection Improvements	\$350,500.00
7.	City Public Works Facility - Piping and Collection Improvements	\$60,000.00
8.	500 East Street - Piping and Collection Improvements	\$256,300.00
9.	350 South Street - Piping and Collection Improvements	\$173,900.00
10.	250 North Street - Piping and Collection Improvements	\$287,900.00
11.	H Street - Piping and Collection Improvements	\$409,600.00
12.	Maybey Pond (450 East / 350 South) - Piping and Collection Improvements	\$418,800.00
13.	Freeport Industrial Parkway - Piping and Collection Improvements	\$602,900.00
14.	1250 West and 525 North Streets - Piping and Collection Improvements	\$409,800.00
15.	500 North to Sundown Street - Piping and Collection Improvements	\$277,200.00
16.	1000 West Street - Piping and Collection Improvements	\$236,000.00
17.	1400 West, 25 North & 1450 West Streets - Piping and Collection Improvements	\$459,800.00
18.	100 North and Sycamore Streets - Piping and Collection Improvements	\$293,600.00
19.	725 North to 550 North Streets - Piping and Collection Improvements	\$527,900.00
20.	2500 West Street - Piping and Collection Improvements	\$122,400.00
21.	2300 West Street - Piping and Collection Improvements	\$231,600.00
22.	300 North Street - Piping and Collection Improvements	\$267,700.00
23.	500 West Street - 175 N. to 25 S. - Piping and Collection Improvements	\$575,900.00
24.	2225 South Street - Piping and Collection Improvements	\$261,200.00
25.	State Street and 200 South Street - Piping and Collection Improvements	\$327,700.00
26.	Depot Street - Piping and Collection Improvements	\$164,500.00
27.	State Street - Piping and Collection Improvements	\$116,200.00
28.	1100 South Street - Piping and Collection Improvements	\$235,800.00
29.	1250 East, 1400 South & 1200 East Streets - Piping and Collection Improvements	\$472,400.00
30.	1150 South and 1175 East Streets - Piping and Collection Improvements	\$214,100.00
31.	G Street - Freeport Center - Piping and Collection Improvements	\$307,700.00
32.	G Street - Freeport Center - Piping and Collection Improvements	\$395,400.00

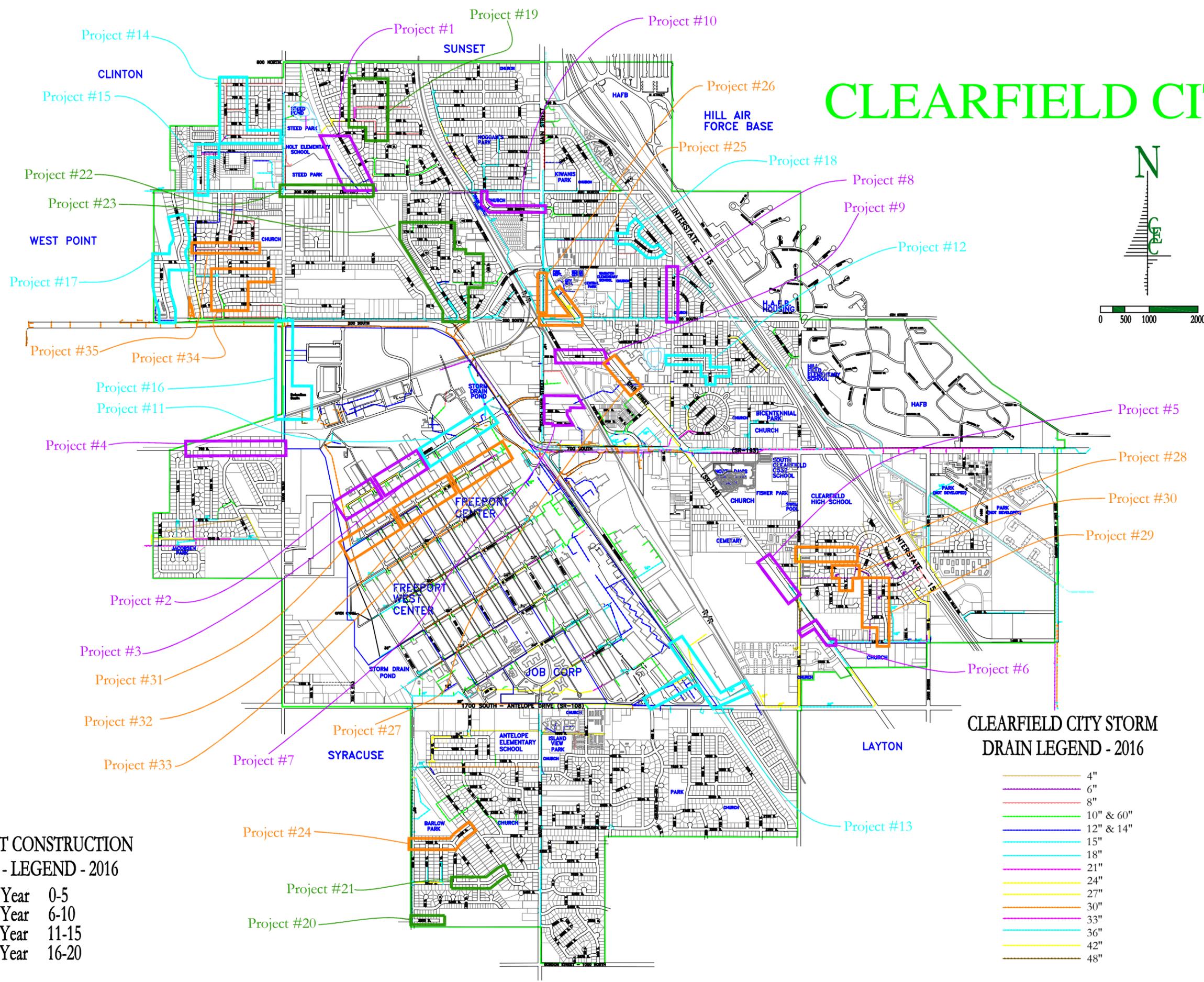
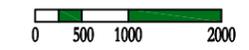
33.	G Street - Freeport Center - Piping and Collection Improvements	\$420,100.00
34.	25 South, 75 South and 150 South Streets - Piping and Collection Improvements	\$411,100.00
35.	75 North Street - Piping and Collection Improvements	<u>\$250,400.00</u>

Estimated Total for Improvements - All Projects \$11,075,200.00



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CLEARFIELD CITY



CLEARFIELD CITY STORM
DRAIN LEGEND - 2016

- 4"
- 6"
- 8"
- 10" & 60"
- 12" & 14"
- 15"
- 18"
- 21"
- 24"
- 27"
- 30"
- 33"
- 36"
- 42"
- 48"

PROJECT CONSTRUCTION
YEAR - LEGEND - 2016

- Year 0-5
- Year 6-10
- Year 11-15
- Year 16-20

REVISIONS

NO. DATE BY

DATE:
APRIL 2016

DRAWN:
JLS

CHECKED:

PROJECT / LOCATION:
CAPITAL FACILITY PLAN
CLEARFIELD CITY

TITLE:
PROJECT SUMMARY MAP

CLIENT:
CLEARFIELD CITY

PROJECT NUMBER:
CC.16001

FILE:
Clfd Base STORM.dwg

SHEET:
1 of 1

STORM WATER SYSTEM
PROJECT COST ESTIMATES &
LOCATION MAPS

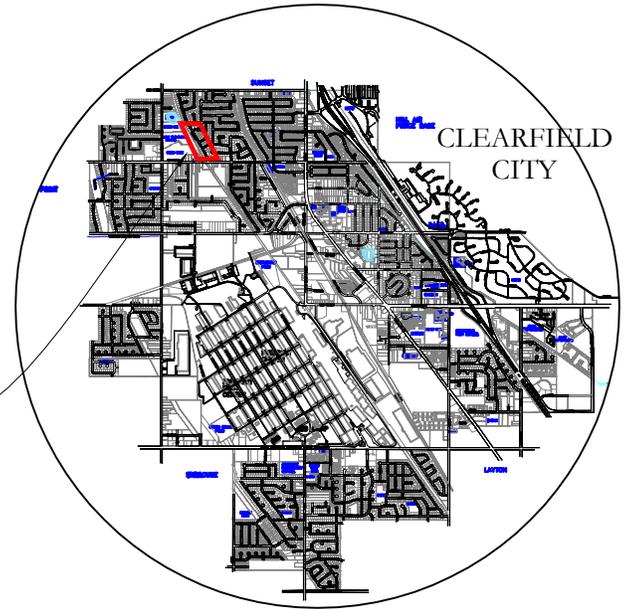
Appendix B

PROJECT #1

STORM WATER PROJECT

Barlow Street (South) - Piping and Collection Improvements
(550 North to 350 North on Barlow Street)

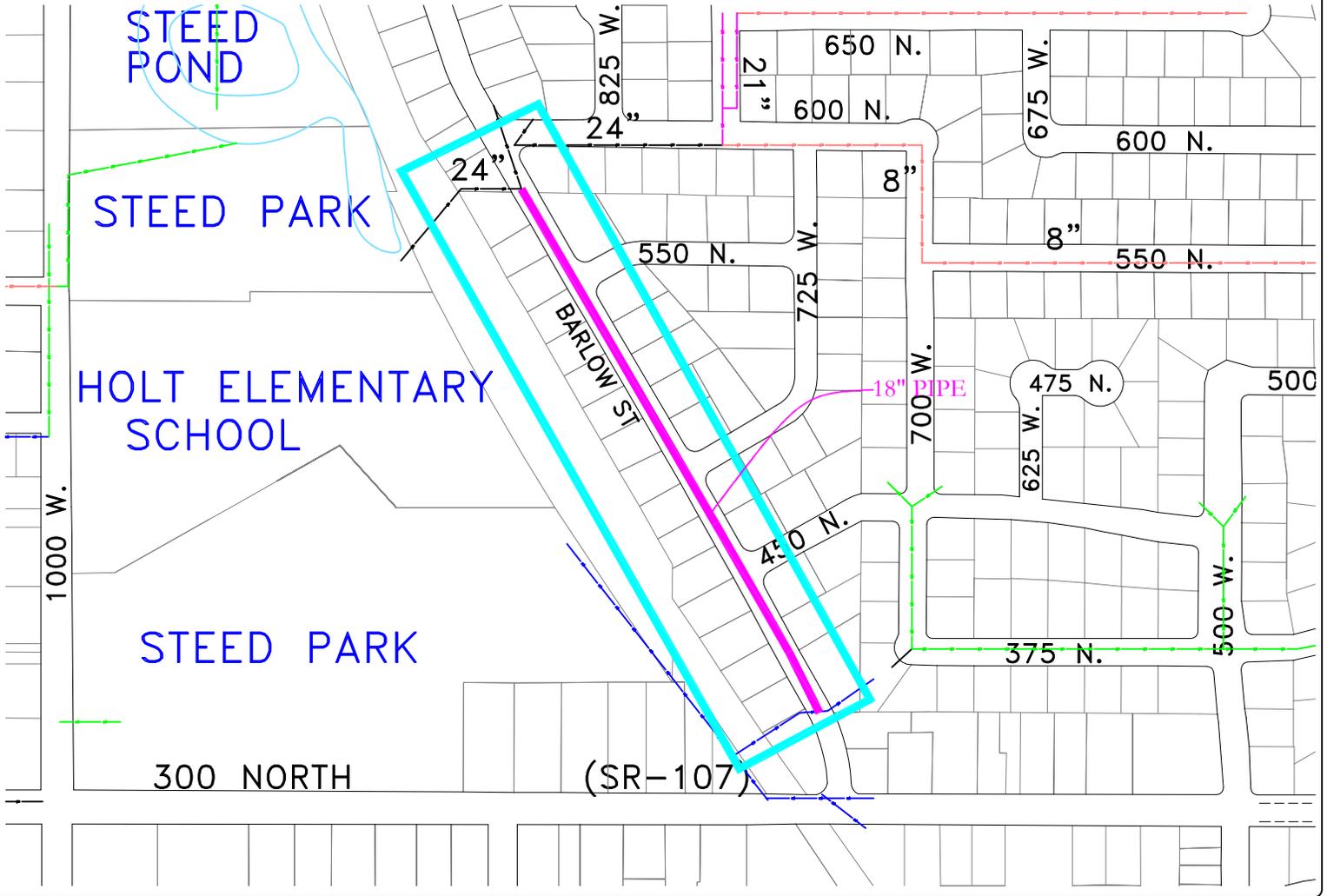
ESTIMATED COST: \$316,600.00



Project #1
Location



NOT TO SCALE



CLIENT:
CLEARFIELD CITY
PROJECT NUMBER:
CC.16001
FILE: Storm Drain Maps -
cost estimate.dwg
SHEET: 1 of 35

PROJECT / LOCATION:
**CAPITAL FACILITY PLAN
CLEARFIELD CITY, UTAH**
TITLE:
PROJECT #1

DATE:
APRIL 2016
DRAWN:
JLN
CHECKED:
RTF / NSN

NO.	DATE	BY	REVISIONS

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5141 SOUTH 1500 WEST
RIVERDALE, UT 84405
801.866.0550

CLEARFIELD CITY CAPITAL FACILITIES PLAN

STORM DRAINAGE

Engineer's Cost Estimate

April 2016

Project Name: **Barlow Street (South) - Piping and Collection Improvements**
Project Location: **550 North to 350 North on Barlow Street**
Project Number: **Project #1**

<i>Item</i>	<i>Description</i>	<i>Quantity</i>	<i>Units</i>	<i>Unit Price</i>	<i>Amount</i>
1.	Mobilization and insurance (3% of base bid).	1	ls.	\$7,750.00	\$7,750.00
2.	Remove existing storm drainage piping materials.	1	ls.	\$1,000.00	\$1,000.00
3.	Remove surface materials - asphalt & roadbase.	1,530	lf.	\$8.75	\$13,387.50
4.	Construct single grate inlet catch basin box.	14	ea.	\$2,925.00	\$40,950.00
5.	Construct 18" diameter rcp storm drain pipe.	1,350	lf.	\$58.00	\$78,300.00
6.	Construct 15" diameter rcp storm drain pipe	180	lf.	\$46.25	\$8,325.00
7.	Construct 5' diameter storm drain manhole.	5	ea.	\$3,350.00	\$16,750.00
8.	Removal and installation of curb and gutter.	200	lf.	\$19.00	\$3,800.00
9.	Removal and installation of handicap ramp.	8	ea.	\$2,500.00	\$20,000.00
10.	Furnish trench backfill materials.	750	tons	\$11.00	\$8,250.00
11.	Furnish bedding materials.	350	tons	\$17.50	\$6,125.00
12.	Roadway patching.	1,050	sy.	\$23.60	\$24,780.00
13.	Traffic control and flagging.	45	days	\$70.00	\$3,150.00
14.	Looping residential waterlines.	17	ea.	\$450.00	\$7,650.00
15.	Looping main waterlines.	2	ea.	\$4,700.00	\$9,400.00

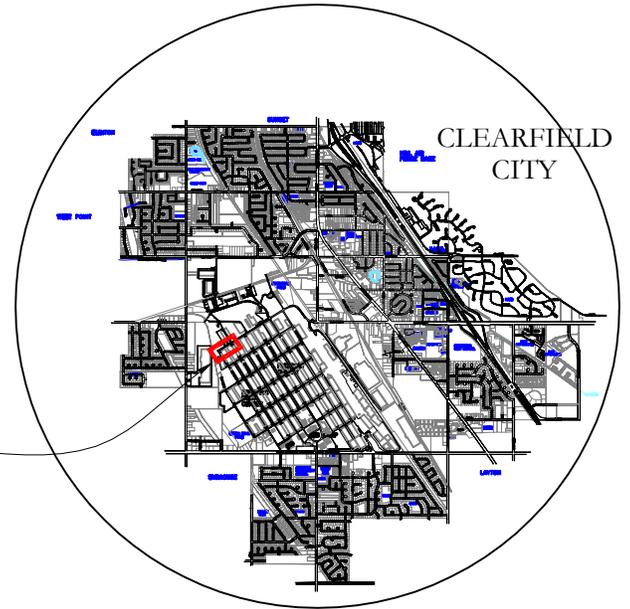
16. Looping fire hydrants.	2 ea.	\$2,850.00	\$5,700.00
17. Landscaping & surface restoration.	17 ea.	\$500.00	<u>\$8,500.00</u>
		Subtotal	\$263,818.00
		Engineering and Construction Contingencies (20%)	<u>\$52,800.00</u>
		Estimated Total for Improvements	\$316,600.00

PROJECT #2

STORM WATER PROJECT

H Street - Piping and Collection Improvements
(3rd Street to 5th Street on H Street)

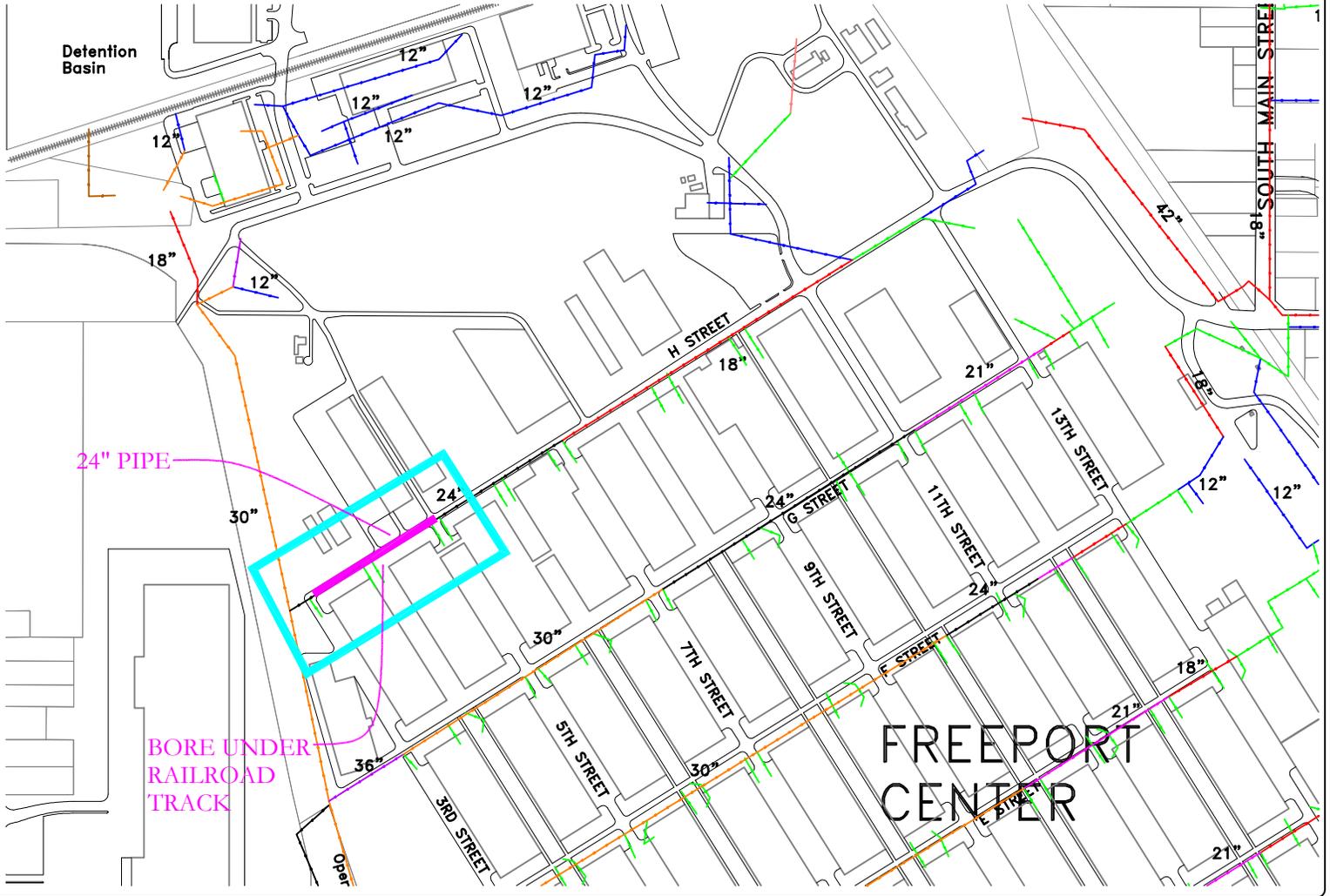
ESTIMATED COST: \$264,100.00



Project #2
Location



NOT TO SCALE



CLIENT:
CLEARFIELD CITY
PROJECT NUMBER:
CC.16001
FILE: Storm Drain Maps -
cost estimate.dwg
SHEET: 2 of 35

PROJECT / LOCATION:
CAPITAL FACILITY PLAN
CLEARFIELD CITY, UTAH
TITLE:
PROJECT #2

DATE:
APRIL 2016
DRAWN:
JLN
CHECKED:
RTF / NSN

NO.	DATE	BY	REVISIONS

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RIVERDALE, UT 84405
801.866.0550

CLEARFIELD CITY CAPITAL FACILITIES PLAN

STORM DRAINAGE

Engineer's Cost Estimate

April 2016

Project Name: **H Street - Piping and Collection Improvements**
Project Location: **3rd Street to 5th Street on H Street**
Project Number: **Project #2**

<i>Item</i>	<i>Description</i>	<i>Quantity</i>	<i>Units</i>	<i>Unit Price</i>	<i>Amount</i>
1.	Mobilization and insurance (3% of base bid).	1	ls.	\$6,500.00	\$6,500.00
2.	Remove existing storm drainage piping materials.	1	ls.	\$1,000.00	\$1,000.00
3.	Remove surface materials - asphalt & roadbase.	650	lf.	\$8.75	\$5,687.50
4.	Construct single grate inlet catch basin box.	10	ea.	\$2,925.00	\$29,250.00
5.	Construct 24" diameter rcp storm drain pipe.	650	lf.	\$62.50	\$40,625.00
6.	Construct 15" diameter rcp storm drain pipe	200	lf.	\$46.25	\$9,250.00
7.	Construct 5' diameter storm drain manhole.	8	ea.	\$3,350.00	\$26,800.00
8.	Removal and installation of curb and gutter.	100	lf.	\$19.00	\$1,900.00
9.	Furnish trench backfill materials.	400	tons	\$11.00	\$4,400.00
10.	Furnish bedding materials.	200	tons	\$17.50	\$3,500.00
11.	Roadway patching.	600	sy.	\$23.60	\$14,160.00
12.	Traffic control and flagging.	45	days	\$70.00	\$3,150.00
13.	Looping commercial waterlines.	2	ea.	\$450.00	\$900.00
14.	Looping main waterlines.	4	ea.	\$4,700.00	\$18,800.00
15.	Looping fire hydrants.	2	ea.	\$2,850.00	\$5,700.00

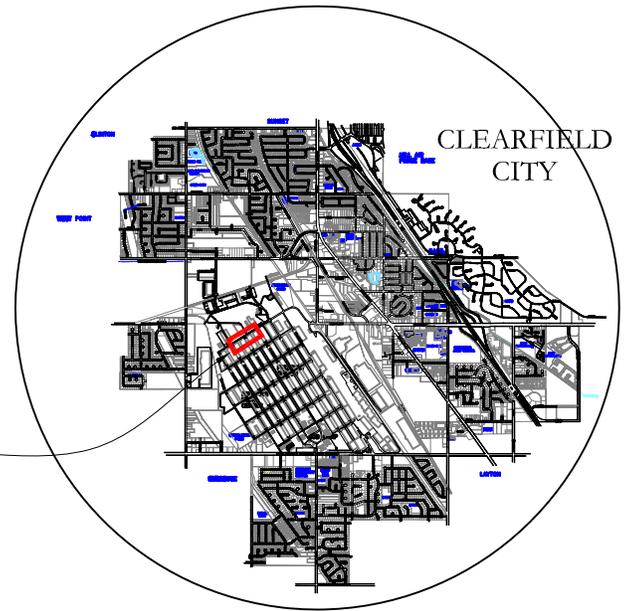
16. Pipe bore under railroad crossing.	1 ea.	\$47,000.00	\$47,000.00
17. Landscaping & surface restoration.	3 ea.	\$500.00	<u>\$1,500.00</u>
		Subtotal	\$220,123.00
		Engineering and Construction Contingencies (20%)	<u>\$44,000.00</u>
		Estimated Total for Improvements	\$264,100.00

PROJECT #3

STORM WATER PROJECT

H Street - Piping and Collection Improvements
(5th Street to 9th Street on H Street)

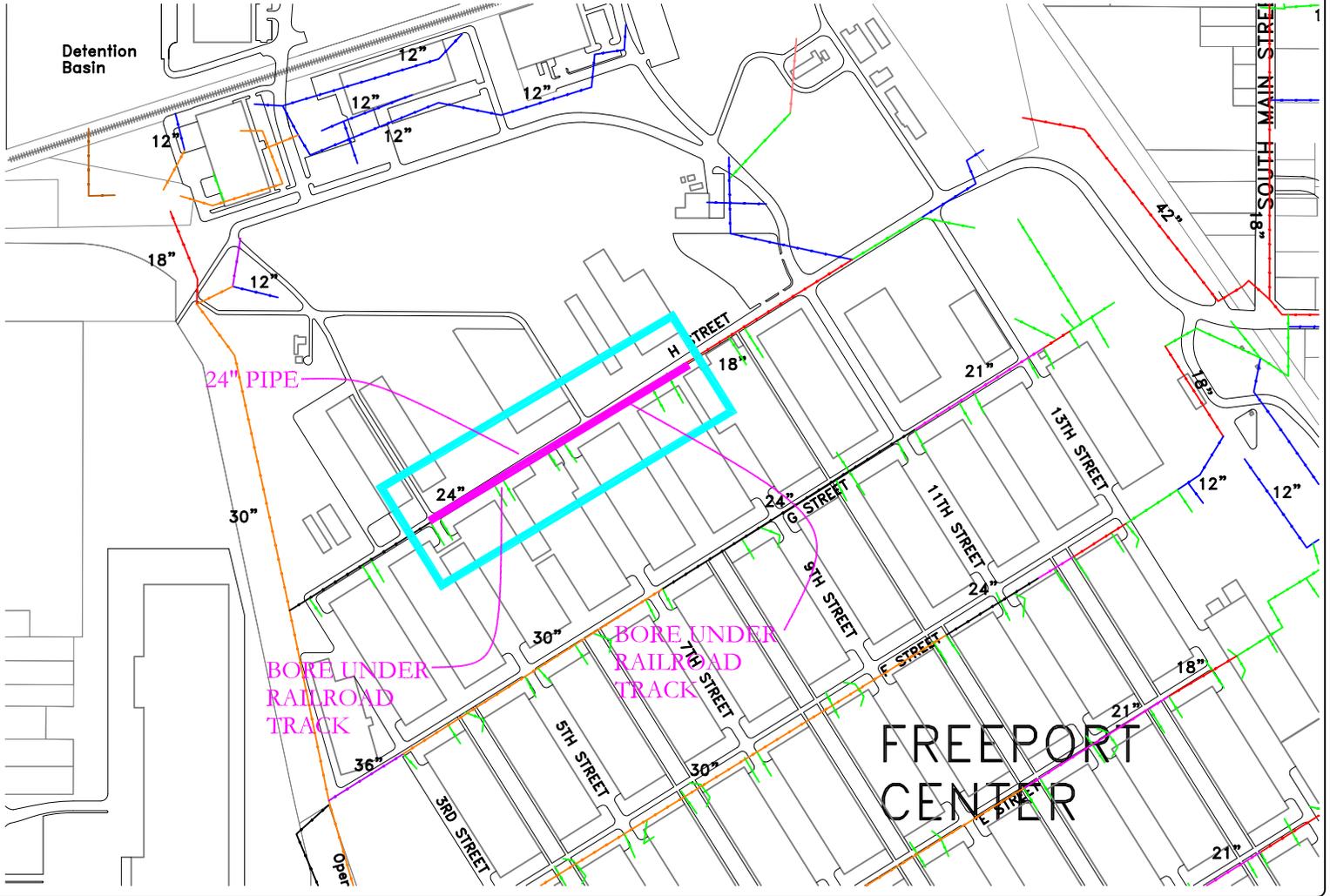
ESTIMATED COST: \$394,800.00



Project #3
Location



NOT TO SCALE



CLIENT:
CLEARFIELD CITY

PROJECT NUMBER:
CC.16001

FILE: Storm Drain Maps -
cost estimate.dwg

SHEET: 3 of 35

PROJECT / LOCATION:
CAPITAL FACILITY PLAN
CLEARFIELD CITY, UTAH

TITLE:
PROJECT #3

DATE:
APRIL 2016

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JLN

CHECKED:
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RIVERDALE, UT 84405
801.866.0550

CLEARFIELD CITY CAPITAL FACILITIES PLAN

STORM DRAINAGE

Engineer's Cost Estimate

April 2016

Project Name: **H Street - Piping and Collection Improvements**
Project Location: **5th Street to 9th Street on H Street**
Project Number: **Project #3**

<i>Item</i>	<i>Description</i>	<i>Quantity</i>	<i>Units</i>	<i>Unit Price</i>	<i>Amount</i>
1.	Mobilization and insurance (3% of base bid).	1	ls.	\$9,600.00	\$9,600.00
2.	Remove existing storm drainage piping materials.	1	ls.	\$1,000.00	\$1,000.00
3.	Remove surface materials - asphalt & roadbase.	1,250	lf.	\$8.75	\$10,937.50
4.	Construct single grate inlet catch basin box.	11	ea.	\$2,925.00	\$32,175.00
5.	Construct 24" diameter rcp storm drain pipe.	1,250	lf.	\$62.50	\$78,125.00
6.	Construct 15" diameter rcp storm drain pipe	350	lf.	\$46.25	\$16,187.50
7.	Construct 5' diameter storm drain manhole.	7	ea.	\$3,350.00	\$23,450.00
8.	Removal and installation of curb and gutter.	100	lf.	\$19.00	\$1,900.00
9.	Furnish trench backfill materials.	720	tons	\$11.00	\$7,920.00
10.	Furnish bedding materials.	370	tons	\$17.50	\$6,475.00
11.	Roadway patching.	850	sy.	\$23.60	\$20,060.00
12.	Traffic control and flagging.	45	days	\$70.00	\$3,150.00
13.	Looping commercial waterlines.	6	ea.	\$450.00	\$2,700.00
14.	Looping main waterlines.	3	ea.	\$4,700.00	\$14,100.00
15.	Looping fire hydrants.	2	ea.	\$2,850.00	\$5,700.00

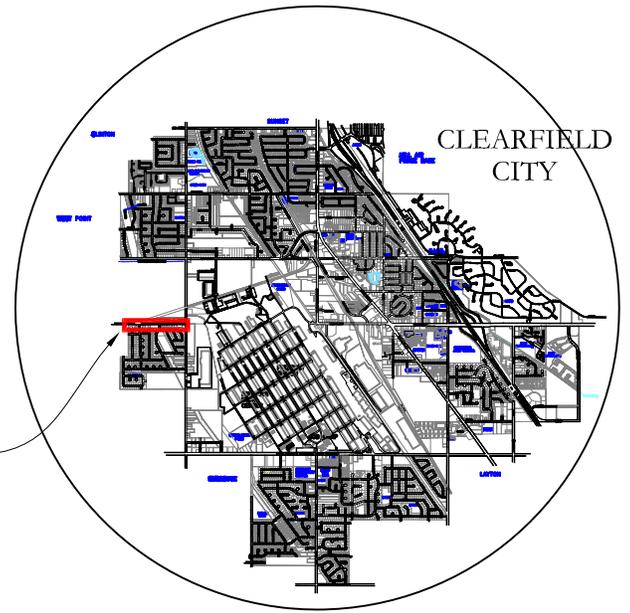
16. Pipe bore under railroad crossing.	2 ea.	\$47,000.00	\$94,000.00
17. Landscaping & surface restoration.	3 ea.	\$500.00	<u>\$1,500.00</u>
		Subtotal	\$328,980.00
		Engineering and Construction Contingencies (20%)	<u>\$65,800.00</u>
		Estimated Total for Improvements	\$394,800.00

PROJECT #4

STORM WATER PROJECT

700 South Street - Piping and Collection Improvements
(1000 West to 1450 West Street)

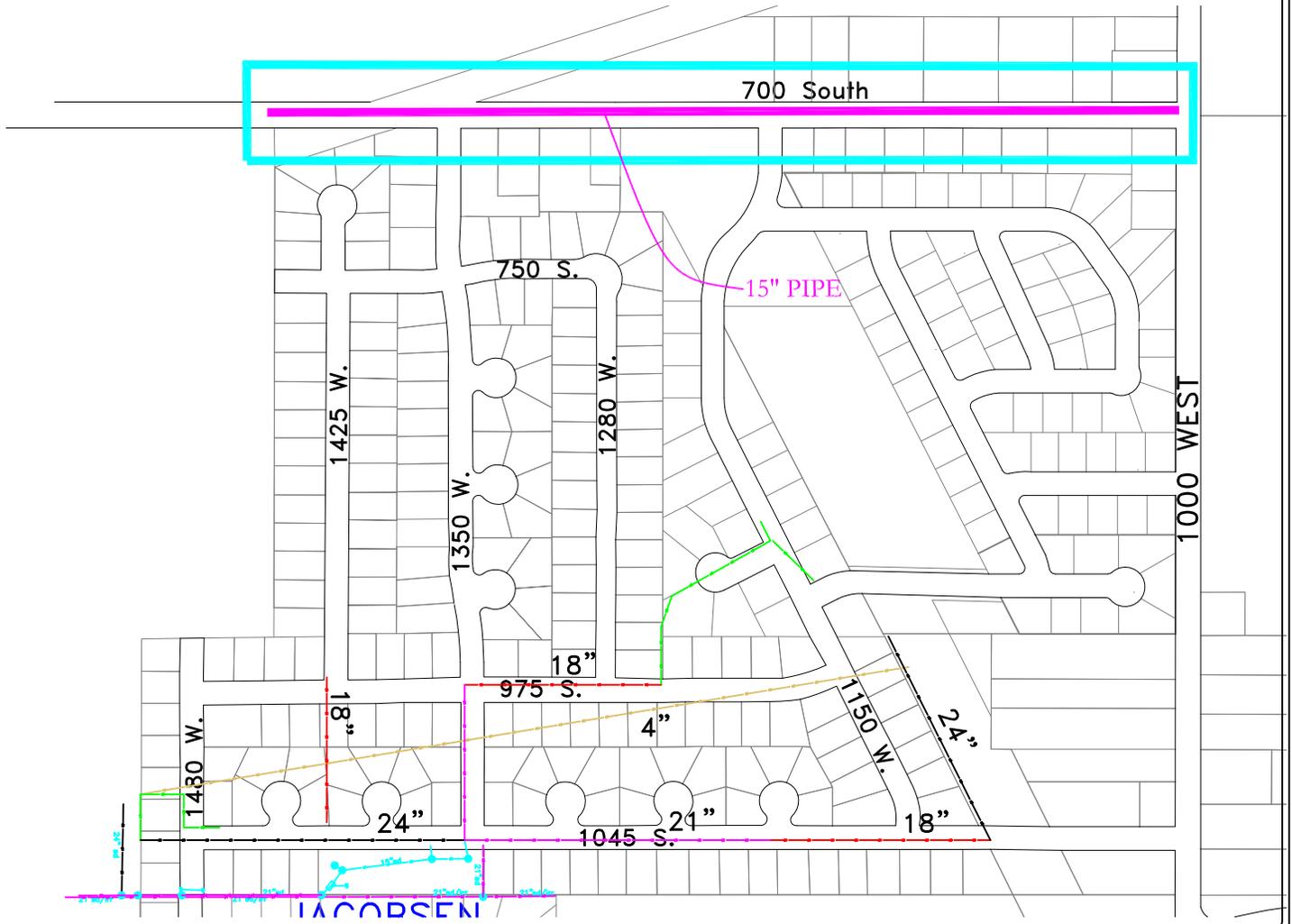
ESTIMATED COST: \$358,400.00



Project #4
Location



NOT TO SCALE



CLIENT:
CLEARFIELD CITY
PROJECT NUMBER:
CC.16001
FILE: Storm Drain Maps -
cost estimate.dwg
SHEET: 4 of 35

PROJECT / LOCATION:
CAPITAL FACILITY PLAN
CLEARFIELD CITY, UTAH
TITLE:
PROJECT #4

DATE:
APRIL 2016
DRAWN:
JLN
CHECKED:
RTF / NSN

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RIVERDALE, UT 84405
801.866.0550

CLEARFIELD CITY CAPITAL FACILITIES PLAN

STORM DRAINAGE

Engineer's Cost Estimate

April 2016

Project Name: **700 South Street - Piping and Collection Improvements**
Project Location: **1000 West Street to 1450 West Street**
Project Number: **Project #4**

<i>Item</i>	<i>Description</i>	<i>Quantity</i>	<i>Units</i>	<i>Unit Price</i>	<i>Amount</i>
1.	Mobilization and insurance (3% of base bid).	1	ls.	\$8,700.00	\$8,700.00
2.	Remove existing storm drainage piping materials.	1	ls.	\$1,000.00	\$1,000.00
3.	Remove surface materials - asphalt & roadbase.	2,460	lf.	\$8.75	\$21,525.00
4.	Construct single grate inlet catch basin box.	10	ea.	\$2,925.00	\$29,250.00
5.	Construct 15" diameter rcp storm drain pipe.	2,460	lf.	\$46.25	\$113,775.00
6.	Construct 5' diameter storm drain manhole.	5	ea.	\$3,350.00	\$16,750.00
7.	Removal and installation of curb and gutter.	1,100	lf.	\$19.00	\$20,900.00
8.	Furnish trench backfill materials.	720	tons	\$11.00	\$7,920.00
9.	Furnish bedding materials.	550	tons	\$17.50	\$9,625.00
10.	Roadway patching.	1,640	sy.	\$23.60	\$38,704.00
11.	Traffic control and flagging.	45	days	\$70.00	\$3,150.00
12.	Looping residential waterlines.	13	ea.	\$450.00	\$5,850.00
13.	Looping main waterlines.	2	ea.	\$4,700.00	\$9,400.00
14.	Looping fire hydrants.	2	ea.	\$2,850.00	\$5,700.00

15. Landscaping & surface restoration.	13 ea.	\$500.00	<u>\$6,500.00</u>
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		Subtotal	\$298,749.00
		Engineering and Construction Contingencies (20%)	<u>\$59,700.00</u>

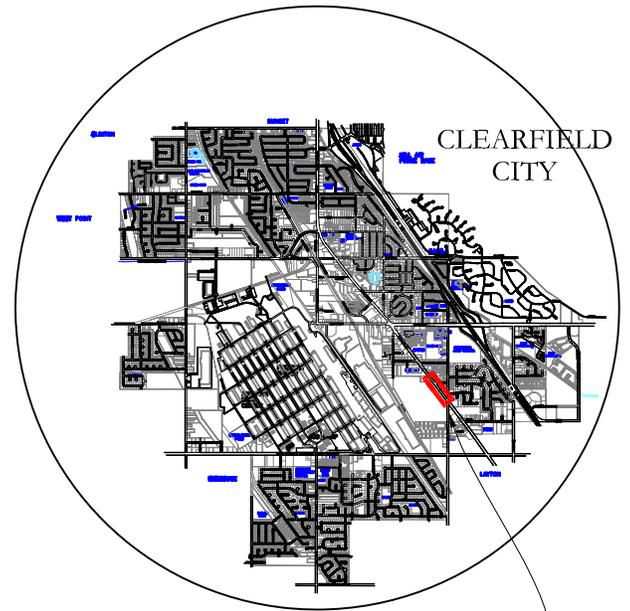
		Estimated Total for Improvements	\$358,400.00
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PROJECT #5

STORM WATER PROJECT

State Street - Piping and Collection Improvements
(1100 South to 1000 West Street)

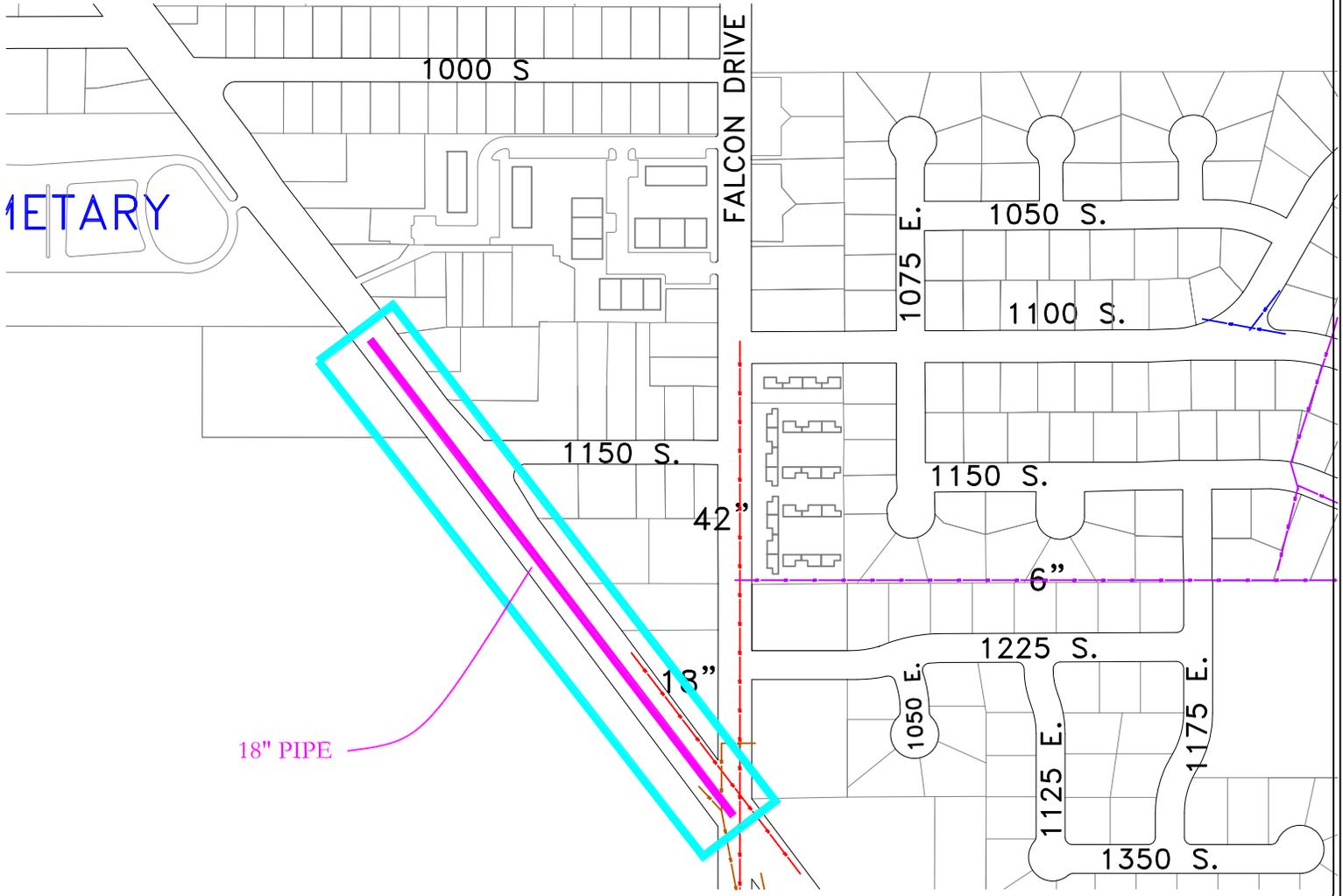
ESTIMATED COST: \$202,900.00



Project #5
Location



NOT TO SCALE



CLIENT:
CLEARFIELD CITY
PROJECT NUMBER:
CC.16001
FILE: Storm Drain Maps -
cost estimate.dwg
SHEET: 5 of 35

PROJECT / LOCATION:
CAPITAL FACILITY PLAN
CLEARFIELD CITY, UTAH
TITLE:
PROJECT #5

DATE:
APRIL 2016
DRAWN:
JLN
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NO.	DATE	BY	REVISIONS

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801.866.0550

CLEARFIELD CITY CAPITAL FACILITIES PLAN

STORM DRAINAGE

Engineer's Cost Estimate

April 2016

Project Name: **State Street - Piping and Collection Improvements**
Project Location: **1100 South to 1000 West Street**
Project Number: **Project #5**

<i>Item</i>	<i>Description</i>	<i>Quantity</i>	<i>Units</i>	<i>Unit Price</i>	<i>Amount</i>
1.	Mobilization and insurance (3% of base bid).	1	ls.	\$5,000.00	\$5,000.00
2.	Remove existing storm drainage piping materials.	1	ls.	\$1,000.00	\$1,000.00
3.	Remove surface materials - asphalt & roadbase.	1,250	lf.	\$8.75	\$10,937.50
4.	Construct single grate inlet catch basin box.	4	ea.	\$2,925.00	\$11,700.00
5.	Construct 18" diameter rcp storm drain pipe.	1,250	lf.	\$58.00	\$72,500.00
6.	Construct 5' diameter storm drain manhole.	4	ea.	\$3,350.00	\$13,400.00
7.	Removal and installation of curb and gutter.	80	lf.	\$19.00	\$1,520.00
8.	Furnish trench backfill materials.	600	tons	\$11.00	\$6,600.00
9.	Furnish bedding materials.	300	tons	\$17.50	\$5,250.00
10.	Roadway patching.	900	sy.	\$23.60	\$21,240.00
11.	Traffic control and flagging.	30	days	\$70.00	\$2,100.00
12.	Looping residential waterlines.	4	ea.	\$450.00	\$1,800.00
13.	Looping main waterlines.	2	ea.	\$4,700.00	\$9,400.00
14.	Looping fire hydrants.	2	ea.	\$2,850.00	\$5,700.00

15. Landscaping & surface restoration.	2 ea.	\$500.00	<u>\$1,000.00</u>
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		Subtotal	\$169,148.00
		Engineering and Construction Contingencies (20%)	<u>\$33,800.00</u>

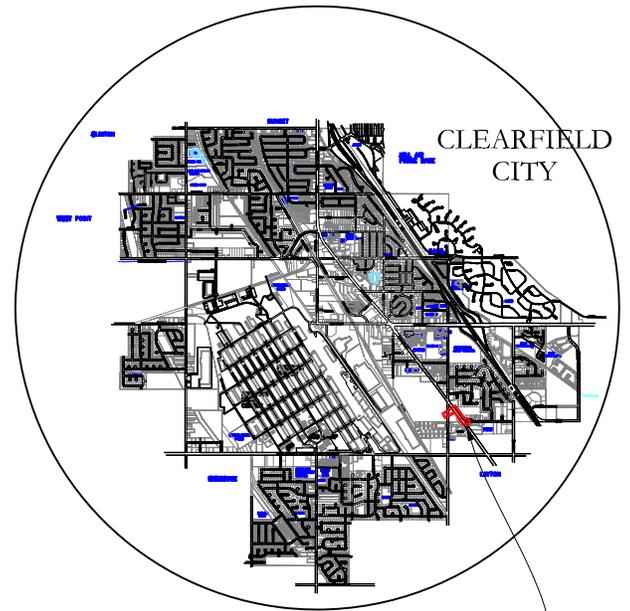
		Estimated Total for Improvements	\$202,900.00
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PROJECT #6

STORM WATER PROJECT

1450 South and State Street - Piping and Collection Improvements
(State Street to 1000 East Street)

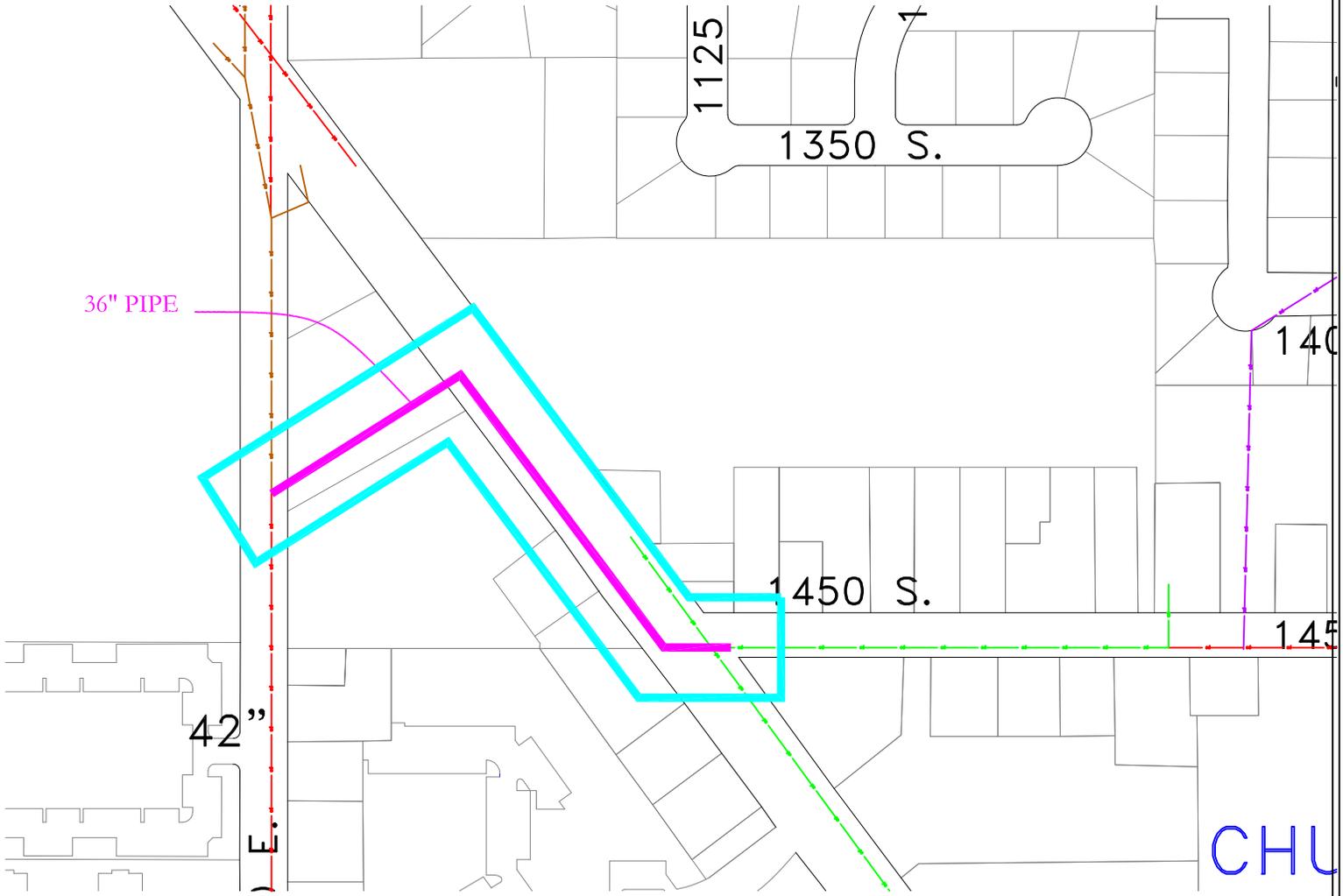
ESTIMATED COST: \$350,500.00



Project #6
Location



NOT TO SCALE



CLIENT:
CLEARFIELD CITY
PROJECT NUMBER:
CC.16001
FILE: Storm Drain Maps -
cost estimate.dwg
SHEET: 6 of 35

PROJECT / LOCATION:
CAPITAL FACILITY PLAN
CLEARFIELD CITY, UTAH
TITLE:
PROJECT #6

DATE:
APRIL 2016
DRAWN:
JLN
CHECKED:
RTF / NSN

NO.	DATE	BY	REVISIONS

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CONSULTANTS, PLLC.
5141 SOUTH 1500 WEST
RIVERDALE, UT 84405
801.866.0550

CLEARFIELD CITY CAPITAL FACILITIES PLAN

STORM DRAINAGE

Engineer's Cost Estimate

April 2016

Project Name: **1450 South and State Street - Piping and Collection Improvements**
Project Location: **State Street to 1000 East Street**
Project Number: **Project #6**

<i>Item</i>	<i>Description</i>	<i>Quantity</i>	<i>Units</i>	<i>Unit Price</i>	<i>Amount</i>
1.	Mobilization and insurance (3% of base bid).	1	ls.	\$8,300.00	\$8,300.00
2.	Remove existing storm drainage piping materials.	1	ls.	\$1,000.00	\$1,000.00
3.	Remove surface materials - asphalt & roadbase.	1,100	lf.	\$8.75	\$9,625.00
4.	Construct single grate inlet catch basin box.	6	ea.	\$2,925.00	\$17,550.00
5.	Construct 15" diameter rcp storm drain pipe.	325	lf.	\$46.25	\$15,031.25
6.	Construct 36" diameter rcp storm drain pipe.	1,100	lf.	\$122.00	\$134,200.00
7.	Construct 6' diameter storm drain manhole.	6	ea.	\$4,350.00	\$26,100.00
8.	Removal and installation of curb and gutter.	200	lf.	\$19.00	\$3,800.00
9.	Furnish trench backfill materials.	1,400	tons	\$11.00	\$15,400.00
10.	Furnish bedding materials.	390	tons	\$17.50	\$6,825.00
11.	Roadway patching.	990	sy.	\$33.60	\$33,264.00
12.	Traffic control and flagging.	30	days	\$200.00	\$6,000.00
13.	Looping residential waterlines.	4	ea.	\$450.00	\$1,800.00
14.	Looping main waterlines.	2	ea.	\$4,700.00	\$9,400.00
15.	Looping fire hydrants.	1	ea.	\$2,850.00	\$2,850.00

16. Landscaping & surface restoration.	2 ea.	\$500.00	<u>\$1,000.00</u>
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		Subtotal	\$292,145.00
		Engineering and Construction Contingencies (20%)	<u>\$58,400.00</u>

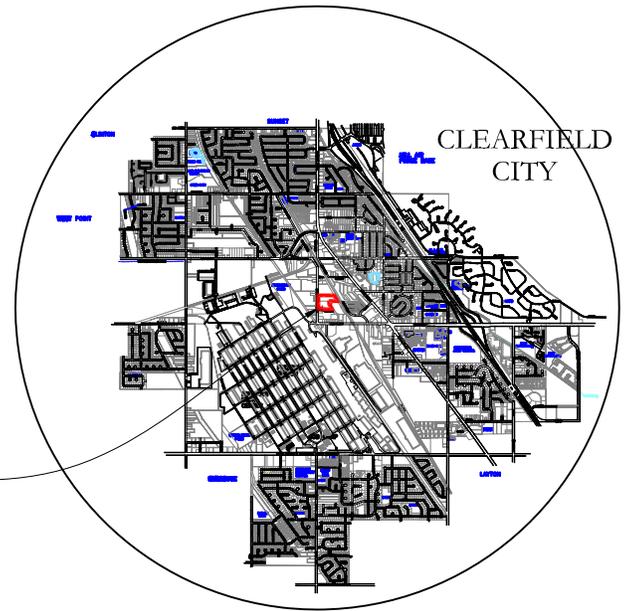
		Estimated Total for Improvements	\$350,500.00
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PROJECT #7

STORM WATER PROJECT

City Public Works Facility - Piping and Collection Improvements
(497 South Main Street)

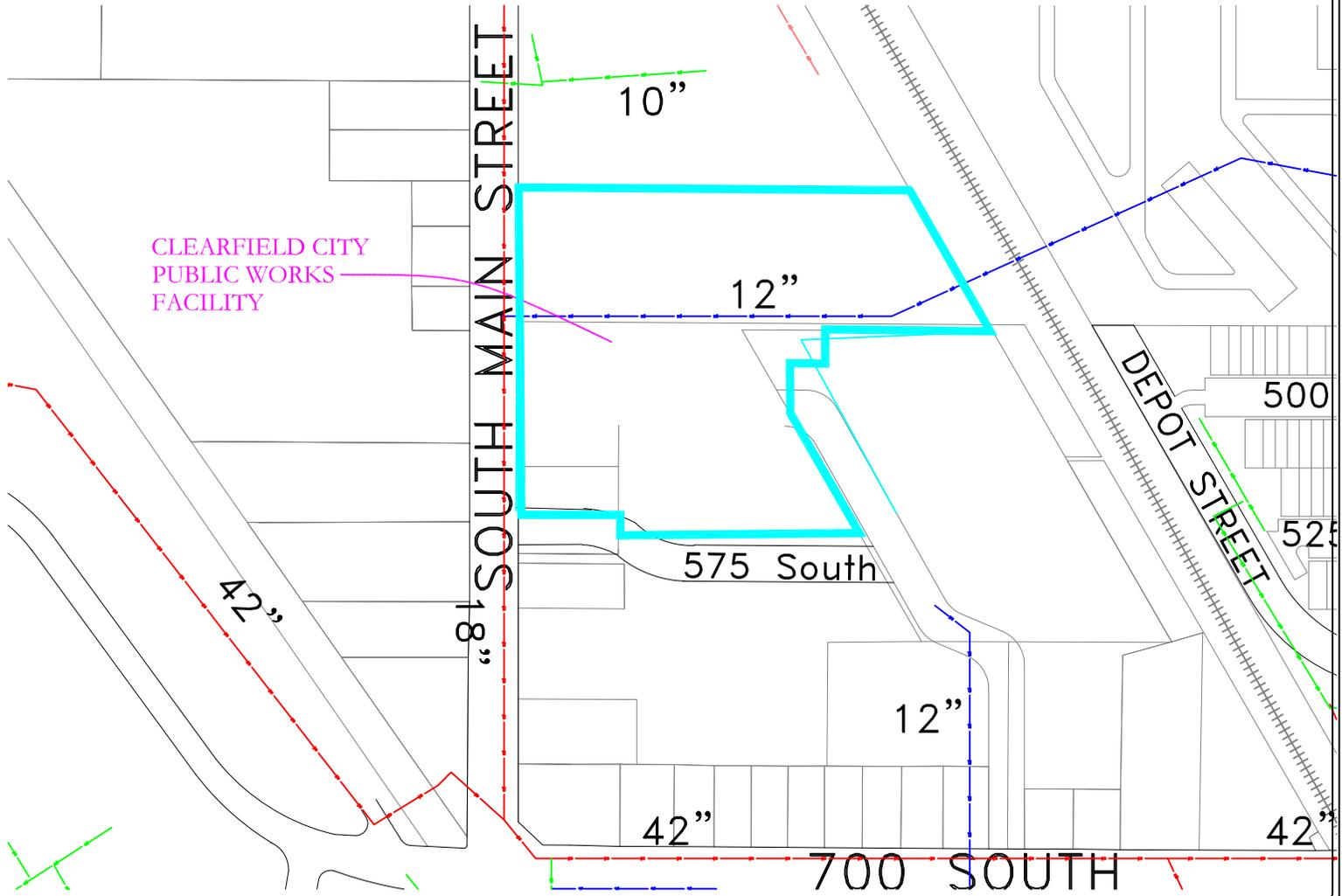
ESTIMATED COST: \$60,000.00



Project #7
Location



NOT TO SCALE



CLIENT:
CLEARFIELD CITY
PROJECT NUMBER:
CC.16001
FILE: Storm Drain Maps -
cost estimate.dwg
SHEET: 7 of 35

PROJECT / LOCATION:
CAPITAL FACILITY PLAN
CLEARFIELD CITY, UTAH
TITLE:
PROJECT #7

DATE:
APRIL 2016
DRAWN:
JLN
CHECKED:
RTF / NSN

NO.	DATE	BY	REVISIONS

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CONSULTANTS, PLLC.
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RIVERDALE, UT 84405
801.866.0550

CLEARFIELD CITY CAPITAL FACILITIES PLAN

STORM DRAINAGE

Engineer's Cost Estimate

April 2016

Project Name: **City Public Works Facility - Piping and Collection Improvements**
Project Location: **497 South Main Street**
Project Number: **Project #7**

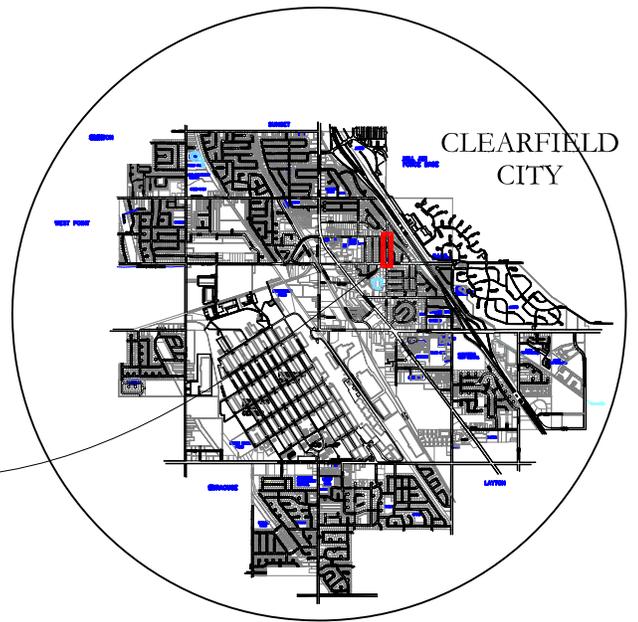
<i>Item</i>	<i>Description</i>	<i>Quantity</i>	<i>Units</i>	<i>Unit Price</i>	<i>Amount</i>
1.	Mobilization and insurance (3% of base bid).	1	ls.	\$1,500.00	\$1,500.00
2.	Storm water improvements - miscellaneous on-site.	1	ls.	\$48,500.00	<u>\$48,500.00</u>
				Subtotal	\$50,000.00
				Engineering and Construction Contingencies (20%)	<u>\$10,000.00</u>
				Estimated Total for Improvements	\$60,000.00

PROJECT #8

STORM WATER PROJECT

500 East Street - Piping and Collection Improvements
 (Center Street to 200 South Street on 500 East Street)

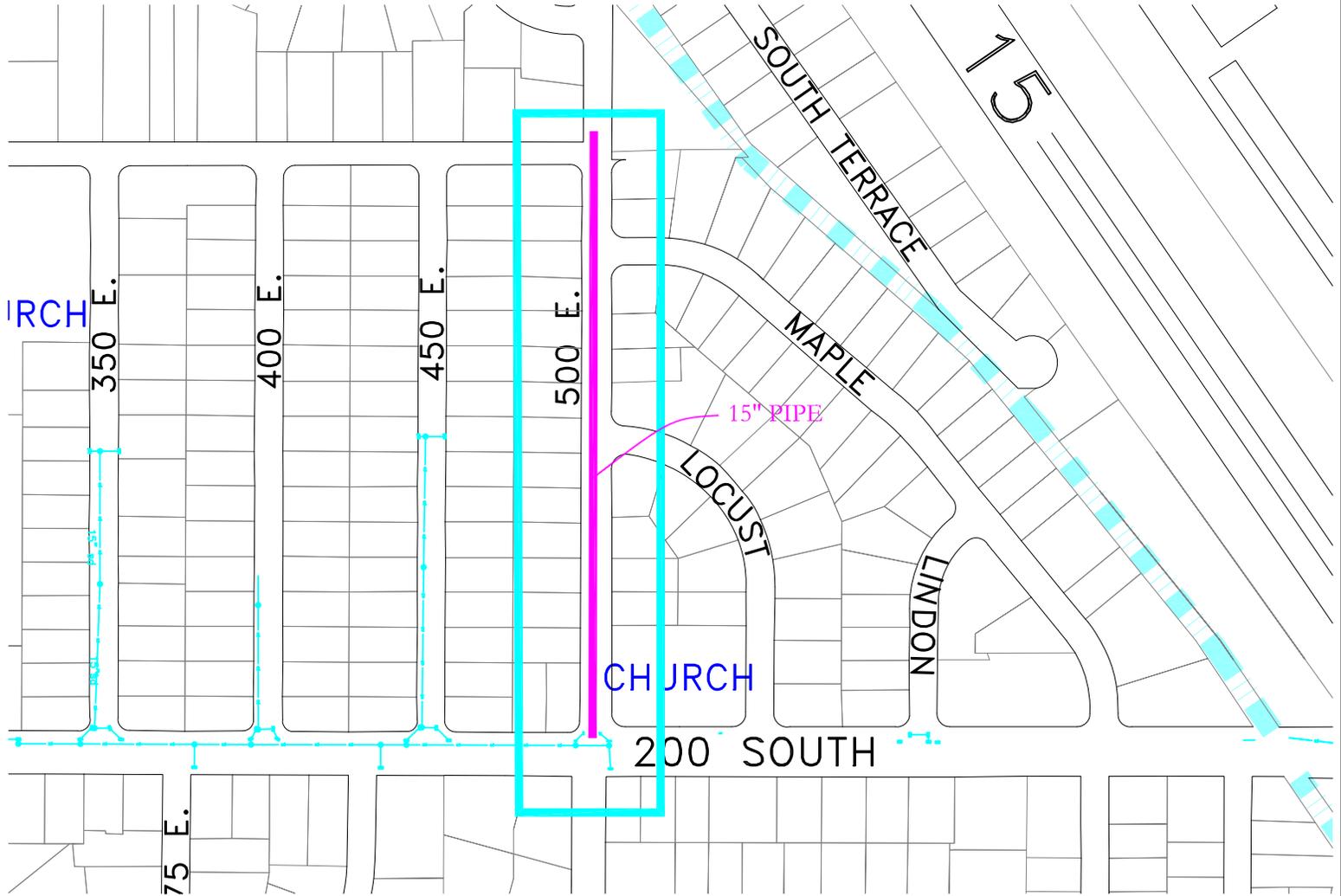
ESTIMATED COST: \$256,300.00



Project #8
 Location



NOT TO SCALE



CLIENT:
 CLEARFIELD CITY
 PROJECT NUMBER:
 CC.16001
 FILE: Storm Drain Maps -
 cost estimate.dwg
 SHEET:
 8 of 35

PROJECT / LOCATION:
 CAPITAL FACILITY PLAN
 CLEARFIELD CITY, UTAH
 TITLE:
 PROJECT #8

DATE:
 APRIL 2016
 DRAWN:
 JLN
 CHECKED:
 RTF / NSN

NO.	DATE	BY	REVISIONS

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 RIVERDALE, UT 84405
 801.866.0550

CLEARFIELD CITY CAPITAL FACILITIES PLAN

STORM DRAINAGE

Engineer's Cost Estimate

April 2016

Project Name: **500 East Street - Piping and Collection Improvements**
Project Location: **Center Street to 200 South Street on 500 East Street**
Project Number: **Project #8**

<i>Item</i>	<i>Description</i>	<i>Quantity</i>	<i>Units</i>	<i>Unit Price</i>	<i>Amount</i>
1.	Mobilization and insurance (3% of base bid).	1	ls.	\$6,200.00	\$6,200.00
2.	Remove surface materials - asphalt & roadbase.	1,330	lf.	\$8.75	\$11,637.50
3.	Construct single grate inlet catch basin box.	10	ea.	\$2,925.00	\$29,250.00
4.	Construct 15" diameter rcp storm drain pipe.	1,330	lf.	\$46.25	\$61,512.50
5.	Construct 5' diameter storm drain manhole.	5	ea.	\$3,350.00	\$16,750.00
6.	Removal and installation of curb and gutter.	200	lf.	\$19.00	\$3,800.00
7.	Removal and installation of handicap ramp.	8	ea.	\$2,500.00	\$20,000.00
8.	Furnish trench backfill materials.	600	tons	\$11.00	\$6,600.00
9.	Furnish bedding materials.	310	tons	\$17.50	\$5,425.00
10.	Roadway patching.	910	sy.	\$23.60	\$21,476.00
11.	Traffic control and flagging.	21	days	\$70.00	\$1,470.00
12.	Looping residential waterlines.	23	ea.	\$450.00	\$10,350.00
13.	Looping main waterlines.	2	ea.	\$4,700.00	\$9,400.00
14.	Looping fire hydrants.	2	ea.	\$2,850.00	\$5,700.00

15. Landscaping & surface restoration.	8 ls.	\$500.00	<u>\$4,000.00</u>
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		Subtotal	\$213,571.00
		Engineering and Construction Contingencies (20%)	<u>\$42,700.00</u>

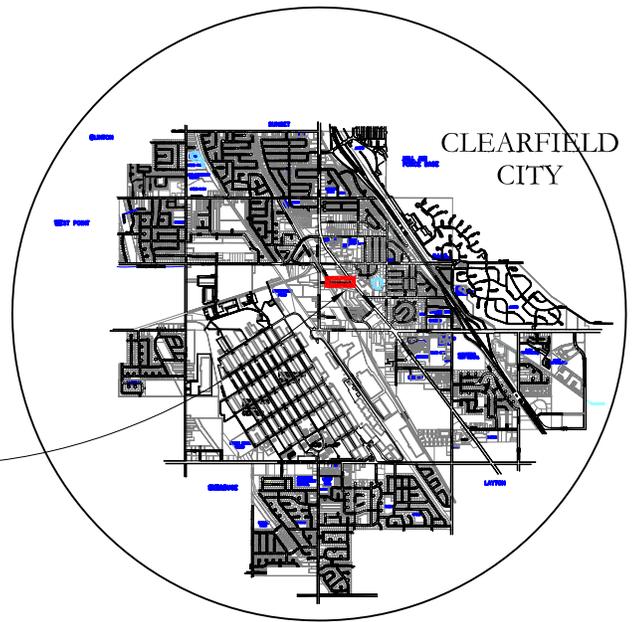
		Estimated Total for Improvements	\$256,300.00
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PROJECT #9

STORM WATER PROJECT

350 South Street - Piping and Collection Improvements
(Depot Street to State Street)

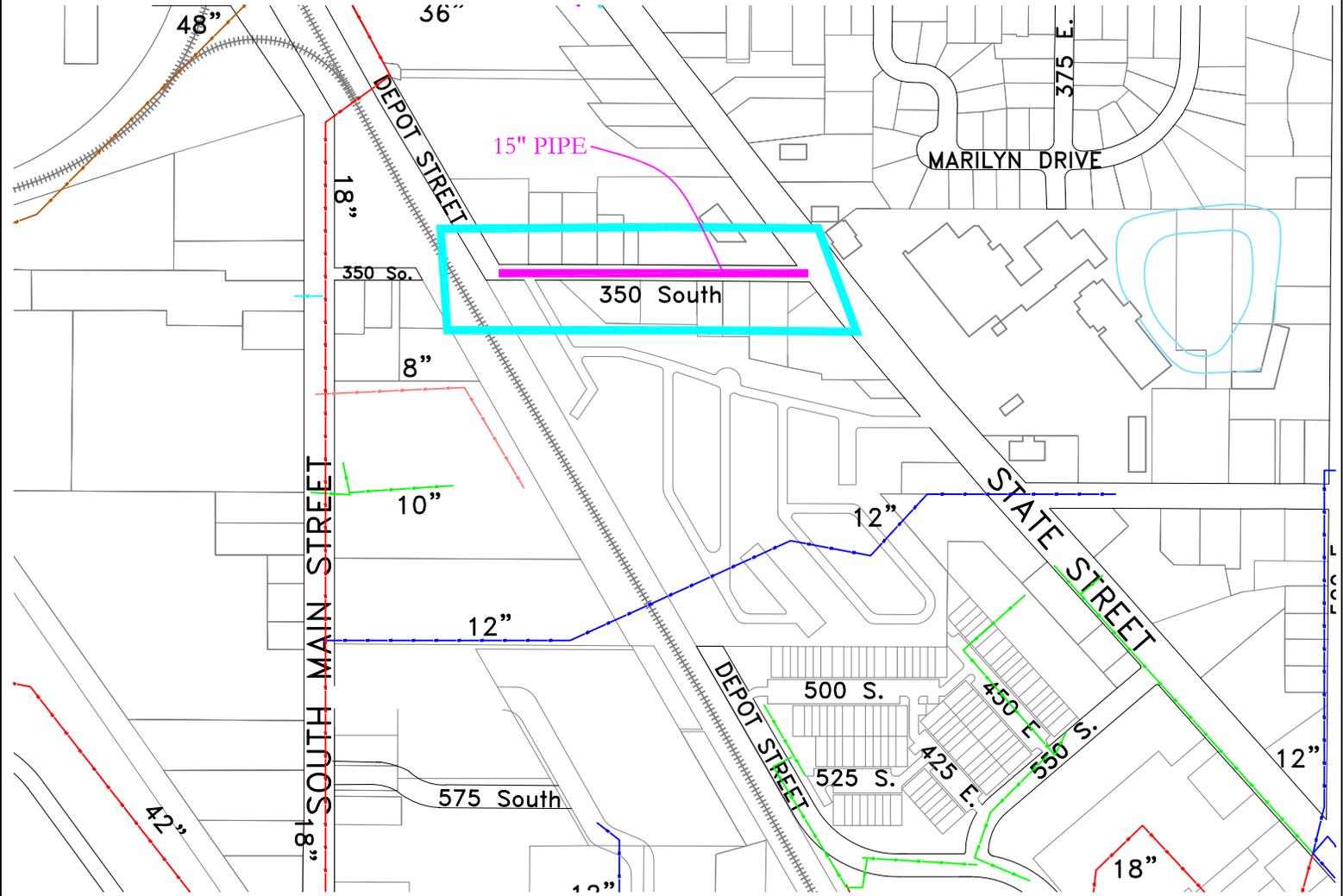
ESTIMATED COST: \$173,900.00



Project #9
Location



NOT TO SCALE



CLIENT:
CLEARFIELD CITY
PROJECT NUMBER:
CC.16001
FILE: Storm Drain Maps -
cost estimate.dwg
SHEET: 9 of 35

PROJECT / LOCATION:
CAPITAL FACILITY PLAN
CLEARFIELD CITY, UTAH
TITLE:
PROJECT #9

DATE:
APRIL 2016
DRAWN:
JLN
CHECKED:
RTF / NSN

NO.	DATE	BY	REVISIONS

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RIVERDALE, UT 84405
801.866.0550

CLEARFIELD CITY CAPITAL FACILITIES PLAN

STORM DRAINAGE

Engineer's Cost Estimate

April 2016

Project Name: **350 South Street - Piping and Collection Improvements**
Project Location: **Depot Street to State Street**
Project Number: **Project #9**

<i>Item</i>	<i>Description</i>	<i>Quantity</i>	<i>Units</i>	<i>Unit Price</i>	<i>Amount</i>
1.	Mobilization and insurance (3% of base bid).	1	ls.	\$4,200.00	\$4,200.00
2.	Remove surface materials - asphalt & roadbase.	850	lf.	\$8.75	\$7,437.50
3.	Construct single grate inlet catch basin box.	6	ea.	\$2,925.00	\$17,550.00
4.	Construct 15" diameter rcp storm drain pipe.	850	lf.	\$46.25	\$39,312.50
5.	Construct 5' diameter storm drain manhole.	6	ea	\$3,350.00	\$20,100.00
6.	Removal and installation of curb and gutter.	120	lf.	\$19.00	\$2,280.00
7.	Removal and installation of handicap ramp.	2	ea.	\$2,500.00	\$5,000.00
8.	Furnish trench backfill materials.	400	tons	\$11.00	\$4,400.00
9.	Furnish bedding materials.	200	tons	\$17.50	\$3,500.00
10.	Roadway patching.	580	sy.	\$23.60	\$13,688.00
11.	Traffic control and flagging.	30	days	\$70.00	\$2,100.00
12.	Looping residential waterlines.	13	ea.	\$450.00	\$5,850.00
13.	Looping main waterlines.	2	ea.	\$4,700.00	\$9,400.00
14.	Looping fire hydrants.	3	ea.	\$2,850.00	\$8,550.00

15. Landscaping & surface restoration.	1 ls.	\$1,500.00	<u>\$1,500.00</u>
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		Subtotal	\$144,868.00
		Engineering and Construction Contingencies (20%)	<u>\$29,000.00</u>

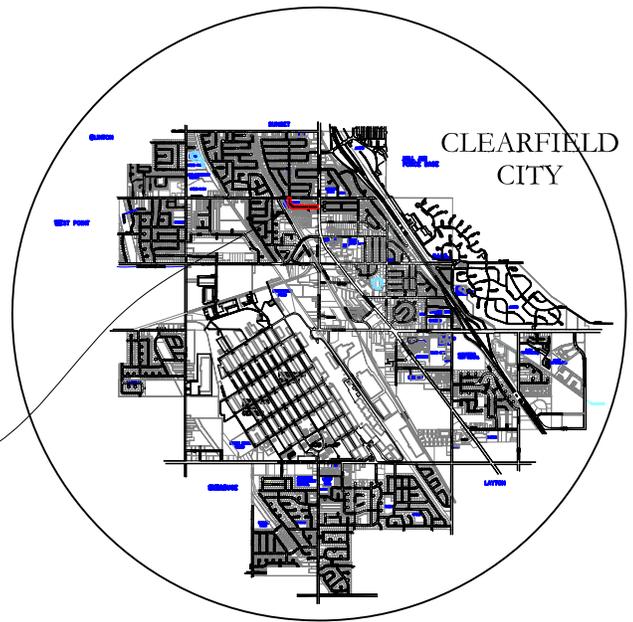
		Estimated Total for Improvements	\$173,900.00
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PROJECT #10

STORM WATER PROJECT

250 North Street - Piping and Collection Improvements
(North Main to 300 North Street)

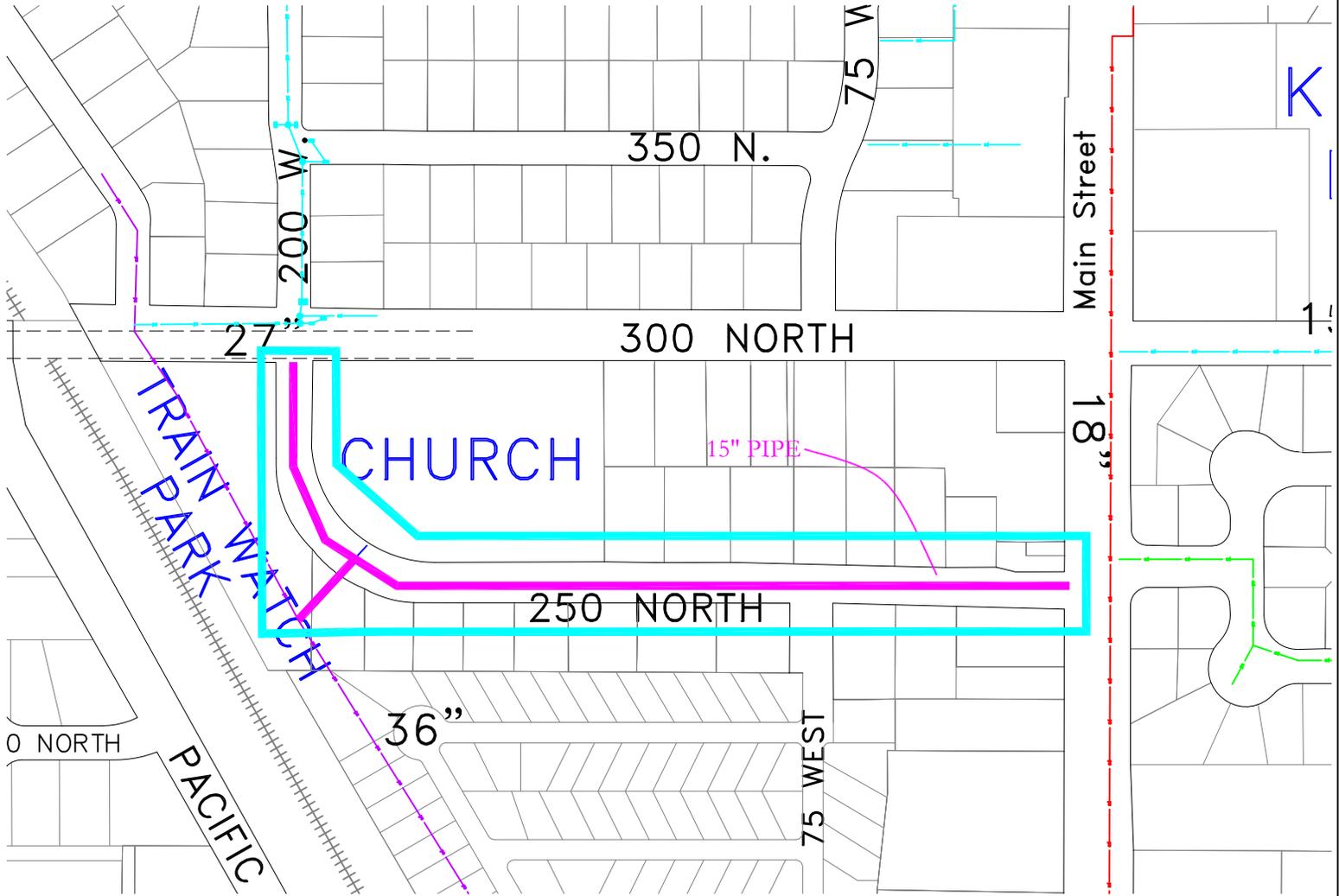
ESTIMATED COST: \$287,900.00



Project #10
Location



NOT TO SCALE



CLIENT:
CLEARFIELD CITY
PROJECT NUMBER:
CC.16001
FILE: Storm Drain Maps -
cost estimate.dwg
SHEET: 10 of 35

PROJECT / LOCATION:
CAPITAL FACILITY PLAN
CLEARFIELD CITY, UTAH
TITLE:
PROJECT #10

DATE:
APRIL 2016
DRAWN:
JLN
CHECKED:
RTF / NSN

NO.	DATE	BY	REVISIONS



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RIVERDALE, UT 84405
801.866.0550

CLEARFIELD CITY CAPITAL FACILITIES PLAN

STORM DRAINAGE

Engineer's Cost Estimate

April 2016

Project Name: **250 North Street - Piping and Collection Improvements**
Project Location: **North Main to 300 North Street**
Project Number: **Project #10**

<i>Item</i>	<i>Description</i>	<i>Quantity</i>	<i>Units</i>	<i>Unit Price</i>	<i>Amount</i>
1.	Mobilization and insurance (3% of base bid).	1	ls.	\$7,000.00	\$7,000.00
2.	Remove surface materials - asphalt & roadbase.	1,450	lf.	\$8.75	\$12,687.50
3.	Construct single grate inlet catch basin box.	8	ea.	\$2,925.00	\$23,400.00
4.	Construct 15" diameter rcp storm drain pipe.	1,680	lf.	\$46.25	\$77,700.00
5.	Construct 5' diameter storm drain manhole.	8	ea	\$3,350.00	\$26,800.00
6.	Removal and installation of curb and gutter.	120	lf.	\$19.00	\$2,280.00
7.	Removal and installation of handicap ramp.	6	ea.	\$2,500.00	\$15,000.00
8.	Furnish trench backfill materials.	675	tons	\$11.00	\$7,425.00
9.	Furnish bedding materials.	370	tons	\$17.50	\$6,475.00
10.	Roadway patching.	980	sy.	\$23.60	\$23,128.00
11.	Traffic control and flagging.	30	days	\$70.00	\$2,100.00
12.	Looping residential waterlines.	16	ea.	\$450.00	\$7,200.00
13.	Looping main waterlines.	2	ea.	\$4,700.00	\$9,400.00
14.	Looping fire hydrants.	3	ea.	\$2,850.00	\$8,550.00

15. Landscaping & surface restoration.	16 ls.	\$675.00	<u>\$10,800.00</u>
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		Subtotal	\$239,946.00
		Engineering and Construction Contingencies (20%)	<u>\$48,000.00</u>

		Estimated Total for Improvements	\$287,900.00
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CLEARFIELD CITY CAPITAL FACILITIES PLAN

STORM DRAINAGE

Engineer's Cost Estimate

April 2016

Project Name: **H Street - Piping and Collection Improvements**
Project Location: **9th Street to detention basin on H Street**
Project Number: **Project #11**

<i>Item</i>	<i>Description</i>	<i>Quantity</i>	<i>Units</i>	<i>Unit Price</i>	<i>Amount</i>
1.	Mobilization and insurance (3% of base bid).	1	ls.	\$10,000.00	\$10,000.00
2.	Remove existing storm drainage piping materials.	1	ls.	\$1,000.00	\$1,000.00
3.	Remove surface materials - asphalt & roadbase.	1,650	lf.	\$8.75	\$14,437.50
4.	Construct single grate inlet catch basin box.	9	ea.	\$2,925.00	\$26,325.00
5.	Construct 24" diameter rcp storm drain pipe.	1,650	lf.	\$62.50	\$103,125.00
6.	Construct 15" diameter rcp storm drain pipe	150	lf.	\$46.25	\$6,937.50
7.	Construct 5' diameter storm drain manhole.	6	ea.	\$3,350.00	\$20,100.00
8.	Removal and installation of curb and gutter.	200	lf.	\$19.00	\$3,800.00
9.	Furnish trench backfill materials.	750	tons	\$11.00	\$8,250.00
10.	Furnish bedding materials.	390	tons	\$17.50	\$6,825.00
11.	Roadway patching.	1,100	sy.	\$23.60	\$25,960.00
12.	Traffic control and flagging.	30	days	\$70.00	\$2,100.00
13.	Looping commercial waterlines.	4	ea.	\$450.00	\$1,800.00
14.	Looping main waterlines.	2	ea.	\$4,700.00	\$9,400.00
15.	Looping fire hydrants.	2	ea.	\$2,850.00	\$5,700.00

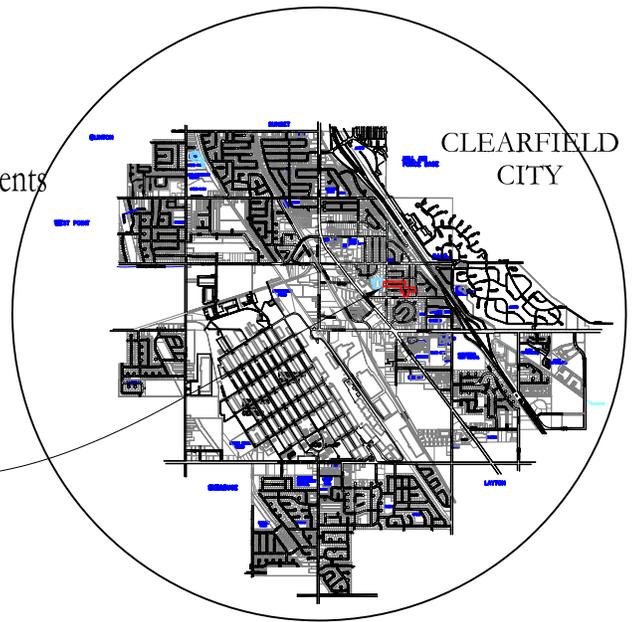
16. Pipe bore under the rail road crossing.	2 ea.	\$47,000.00	\$94,000.00
17. Landscaping & surface restoration.	3 ea.	\$500.00	<u>\$1,500.00</u>
		Subtotal	\$341,260.00
		Engineering and Construction Contingencies (20%)	<u>\$68,300.00</u>
		Estimated Total for Improvements	\$409,600.00

PROJECT #12

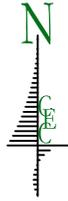
STORM WATER PROJECT

Mabey Pond (450 East / 350 South) - Piping and Collection Improvements
 (350 South, 400 South and 650 East Streets)

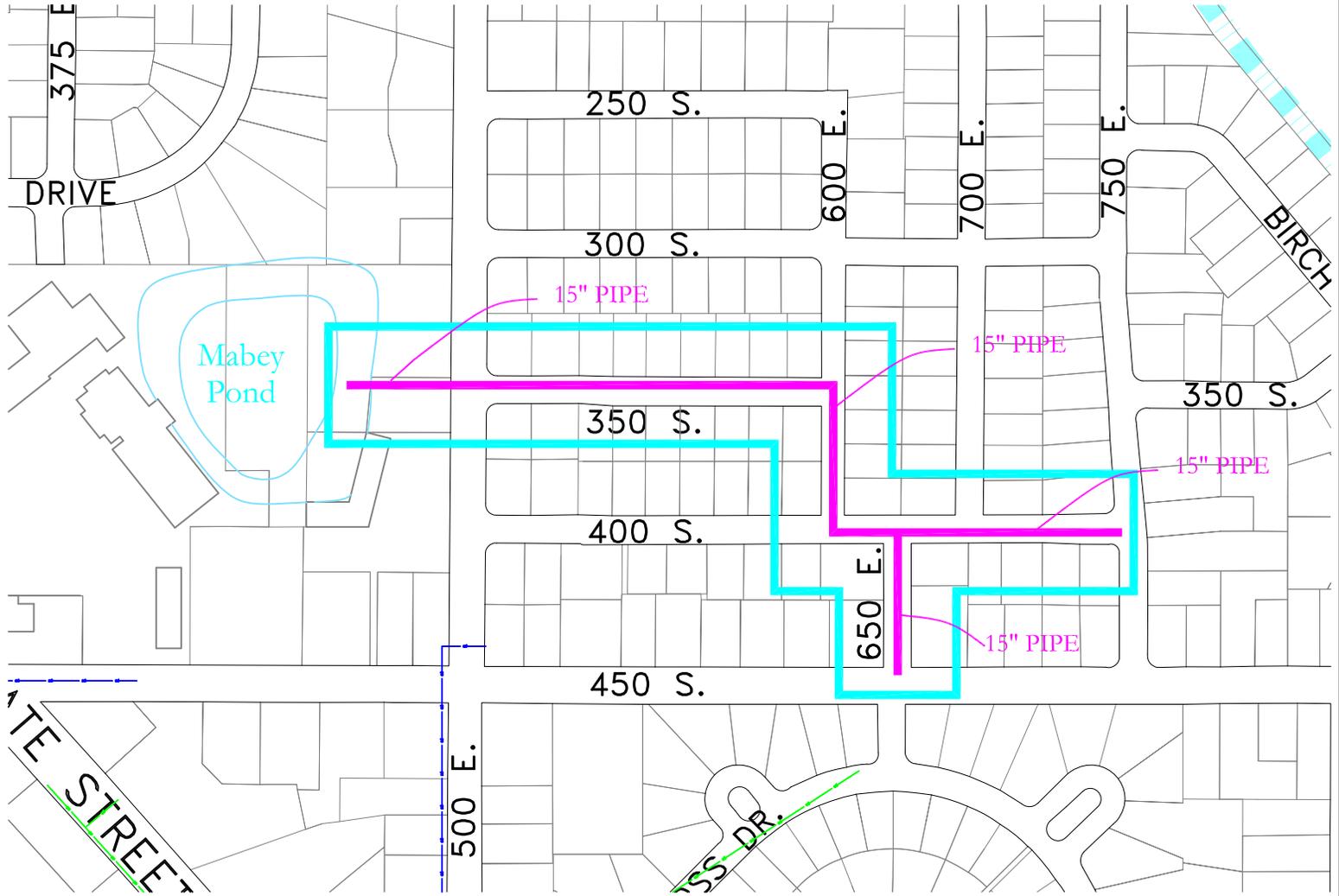
ESTIMATED COST: \$418,800.00



Project #12
 Location



NOT TO SCALE



CLIENT:
 CLEARFIELD CITY
 PROJECT NUMBER:
 CC.16001
 FILE: Storm Drain Maps -
 cost estimate.dwg
 SHEET:
 12 of 35

PROJECT / LOCATION:
 CAPITAL FACILITY PLAN
 CLEARFIELD CITY, UTAH
 TITLE:
 PROJECT #12

DATE:
 APRIL 2016
 DRAWN:
 JLN
 CHECKED:
 RTF / NSN

NO.	DATE	BY	REVISIONS

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 5141 SOUTH 1500 WEST
 RIVERDALE, UT 84405
 801.866.0550

CLEARFIELD CITY CAPITAL FACILITIES PLAN

STORM DRAINAGE

Engineer's Cost Estimate

April 2016

Project Name: **Maybey Pond (450 East / 350 South) - Piping and Collection Improvements**
Project Location: **350 South, 400 South and 650 East Streets**
Project Number: **Project #12**

<i>Item</i>	<i>Description</i>	<i>Quantity</i>	<i>Units</i>	<i>Unit Price</i>	<i>Amount</i>
1.	Mobilization and insurance (3% of base bid).	1	ls.	\$10,100.00	\$10,100.00
2.	Remove surface materials - asphalt & roadbase.	1,960	lf.	\$8.75	\$17,150.00
3.	Construct single grate inlet catch basin box.	14	ea.	\$2,925.00	\$40,950.00
4.	Construct 15" diameter rcp storm drain pipe.	1,960	lf.	\$46.25	\$90,650.00
5.	Construct 5' diameter storm drain manhole.	12	ea.	\$3,350.00	\$40,200.00
6.	Removal and installation of curb and gutter.	240	lf.	\$19.00	\$4,560.00
7.	Removal and installation of handicap ramp.	14	ea.	\$2,500.00	\$35,000.00
8.	Furnish trench backfill materials.	900	tons	\$11.00	\$9,900.00
9.	Furnish bedding materials.	475	tons	\$17.50	\$8,312.50
10.	Roadway patching.	1,320	sy.	\$23.60	\$31,152.00
11.	Traffic control and flagging.	45	days	\$70.00	\$3,150.00
12.	Looping residential waterlines.	22	ea.	\$450.00	\$9,900.00
13.	Looping main waterlines.	6	ea.	\$4,700.00	\$28,200.00
14.	Looping fire hydrants.	5	ea.	\$2,850.00	\$14,250.00

15. Landscaping & surface restoration.	11 ls.	\$500.00	<u>\$5,500.00</u>
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		Subtotal	\$348,975.00
		Engineering and Construction Contingencies (20%)	<u>\$69,800.00</u>

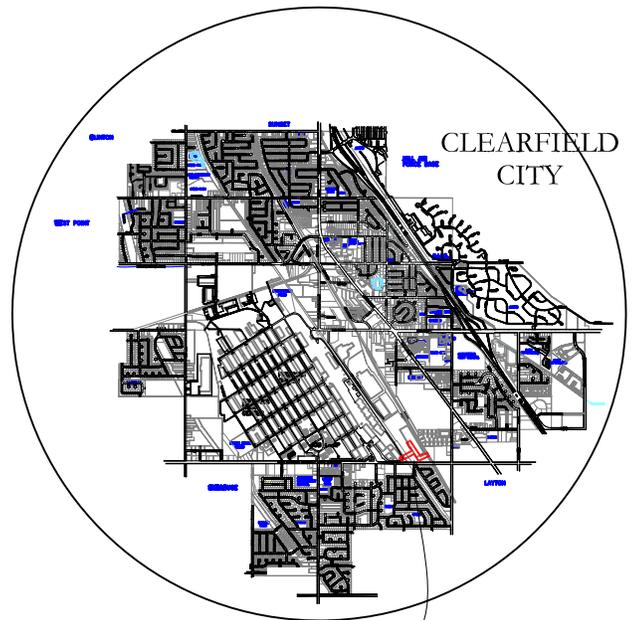
		Estimated Total for Improvements	\$418,800.00
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PROJECT #13

STORM WATER PROJECT

Freeport Industrial Parkway - Piping and Collection Improvements
(Freeport Industrial Parkway to just North of 1700 South Street)

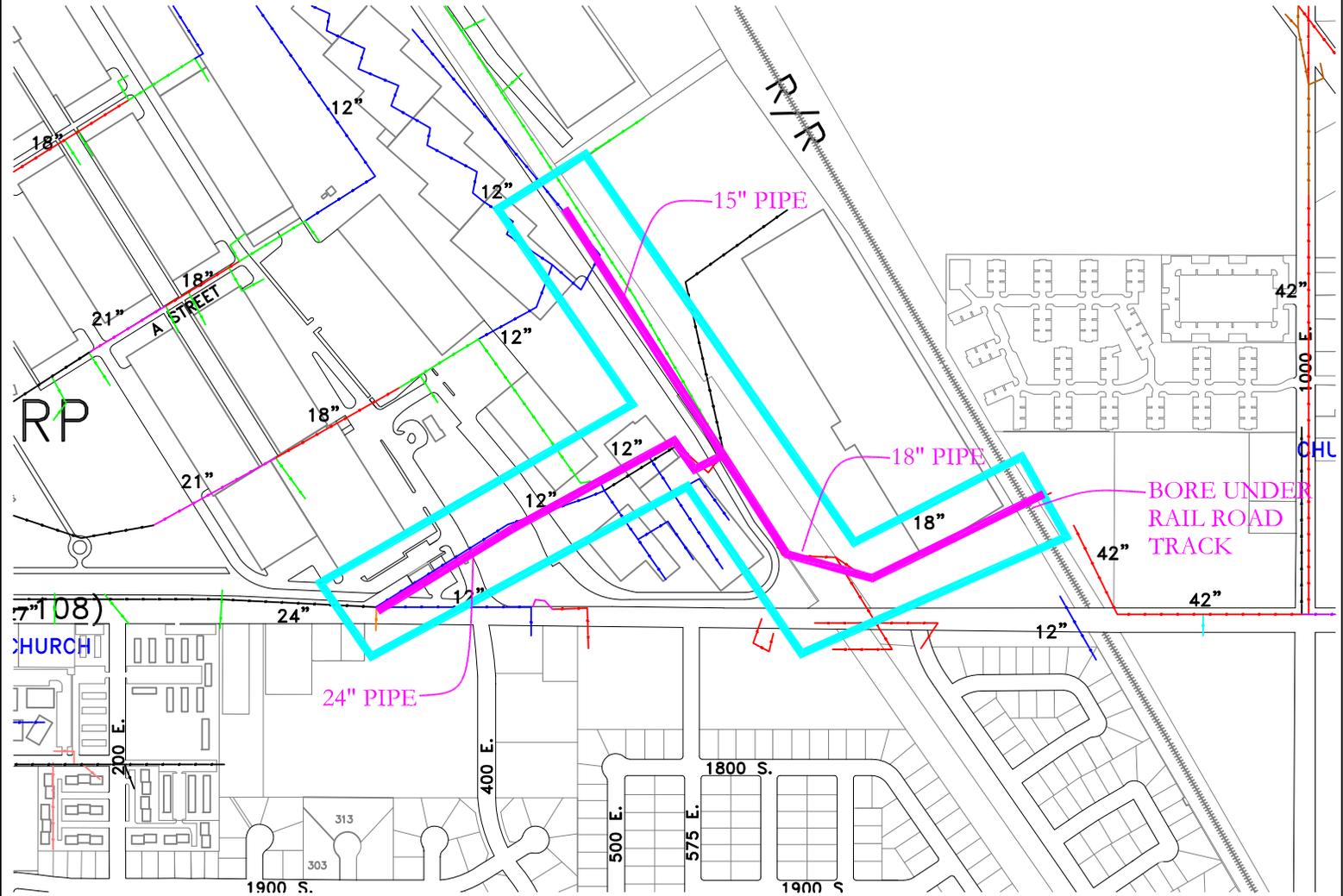
ESTIMATED COST: \$602,900.00



Project #13
Location



NOT TO SCALE



CLIENT:
CLEARFIELD CITY
PROJECT NUMBER:
CC.16001
FILE: Storm Drain Maps -
cost estimate.dwg
SHEET:
13 of 35

PROJECT / LOCATION:
CAPITAL FACILITY PLAN
CLEARFIELD CITY, UTAH
TITLE:
PROJECT #13

DATE:
APRIL 2016
DRAWN:
JLN
CHECKED:
RTF / NSN

NO.	DATE	BY	REVISIONS

 CIVIL ENGINEERING
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5141 SOUTH 1500 WEST
RIVERDALE, UT 84405
801.866.0550

CLEARFIELD CITY CAPITAL FACILITIES PLAN

STORM DRAINAGE

Engineer's Cost Estimate

April 2016

Project Name: **Freeport Industrial Parkway - Piping and Collection Improvements**
Project Location: **Freeport Industrial Parkway to just North of 1700 South Street**
Project Number: **Project #13**

<i>Item</i>	<i>Description</i>	<i>Quantity</i>	<i>Units</i>	<i>Unit Price</i>	<i>Amount</i>
1.	Mobilization and insurance (3% of base bid).	1	ls.	\$14,700.00	\$14,700.00
2.	Remove existing storm drainage piping (average cost).	1	ls.	\$1,000.00	\$1,000.00
3.	Remove surface materials - asphalt & roadbase.	4,100	lf.	\$8.75	\$35,875.00
4.	Construct 24" diameter rcp storm drain pipe.	1,500	lf.	\$62.50	\$93,750.00
5.	Construct 18" diameter rcp storm drain pipe.	1,480	lf.	\$58.00	\$85,840.00
6.	Construct 15" diameter rcp storm drain pipe.	1,120	lf.	\$46.25	\$51,800.00
7.	Construct 5' diameter storm drain manhole.	14	ea.	\$3,350.00	\$46,900.00
8.	Removal and installation of curb and gutter.	100	lf.	\$19.00	\$1,900.00
9.	Furnish trench backfill materials.	1,800	tons	\$11.00	\$19,800.00
10.	Furnish bedding materials.	900	tons	\$17.50	\$15,750.00
11.	Roadway patching.	2,750	sy.	\$23.60	\$64,900.00
12.	Traffic control and flagging.	60	days	\$70.00	\$4,200.00
13.	Looping commercial waterlines.	3	ea.	\$450.00	\$1,350.00
14.	Looping fire hydrants.	2	ea.	\$2,850.00	\$5,700.00
15.	Looping main waterlines.	2	ea.	\$4,700.00	\$9,400.00

16. Pipe bore under the railroad crossing.	1 ea.	\$47,000.00	\$47,000.00
17. Landscaping & surface restoration.	1 ls.	\$2,500.00	<u>\$2,500.00</u>
		Subtotal	\$502,365.00
		Engineering and Construction Contingencies (20%)	<u>\$100,500.00</u>
		Estimated Total for Improvements	\$602,900.00

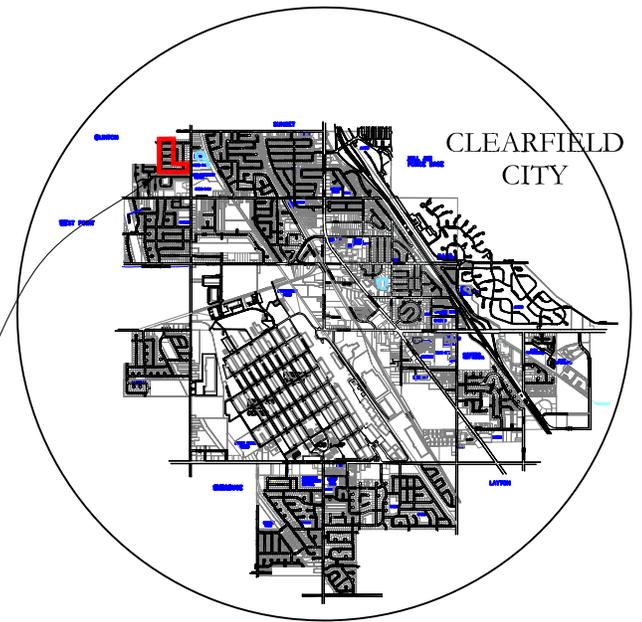
PROJECT #14

STORM WATER PROJECT

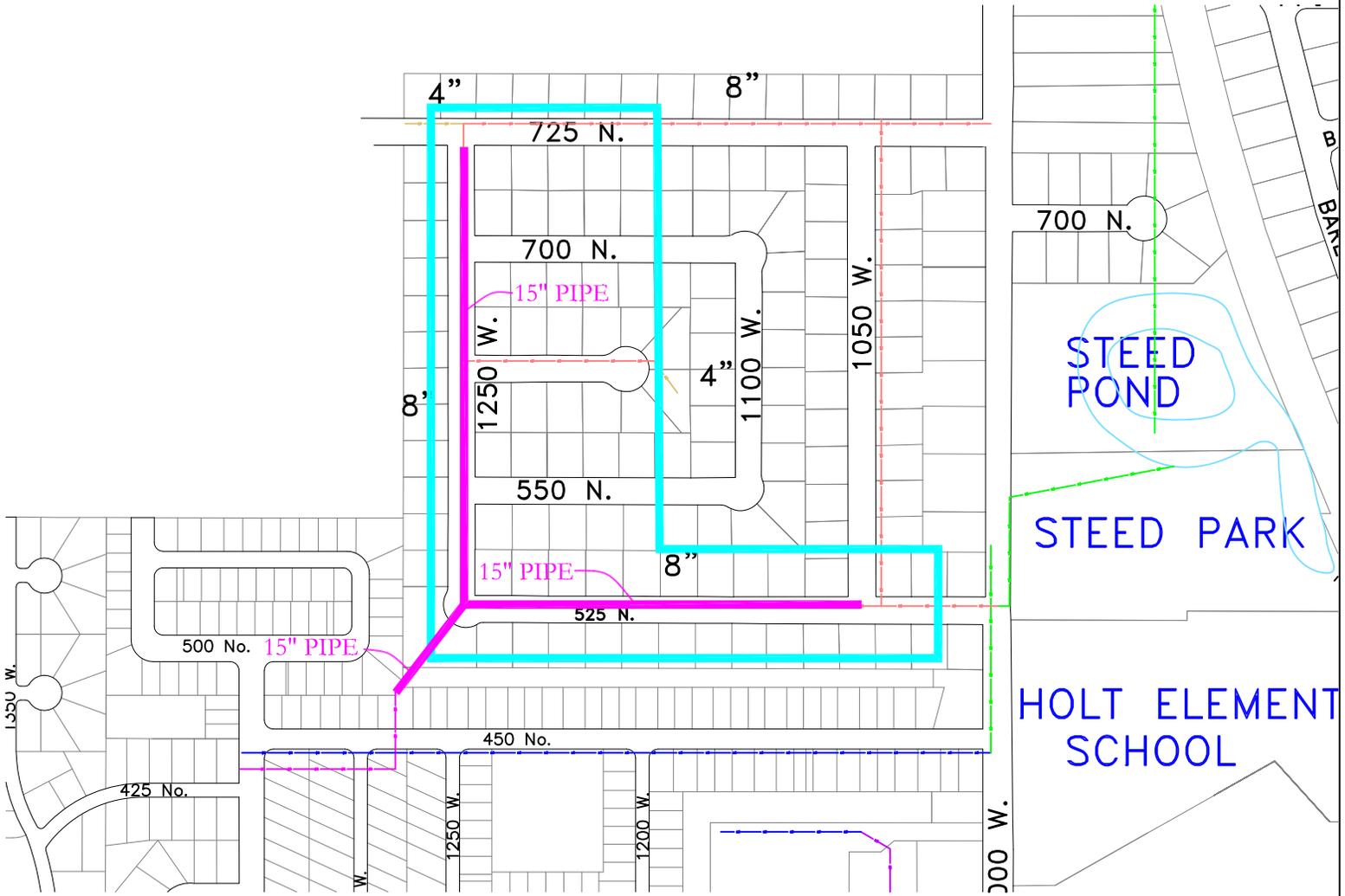
1250 West and 525 North Streets - Pipe and Collection Improvements
 (725 North to 525 North on 1250 West Street
 1050 West to 1250 West on 525 North Street
 525 North 1250 West Intersection, 200' South West)

ESTIMATED COST: \$409,800.00

Project #14
 Location



NOT TO SCALE



CLIENT:
 CLEARFIELD CITY
 PROJECT NUMBER:
 CC.16001
 FILE: Storm Drain Maps -
 cost estimate.dwg
 SHEET:
 14 of 35

PROJECT / LOCATION:
 CAPITAL FACILITY PLAN
 CLEARFIELD CITY, UTAH
 TITLE:
 PROJECT #14

DATE:
 APRIL 2016
 DRAWN:
 JLN
 CHECKED:
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NO.	DATE	BY	REVISIONS

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 RIVERDALE, UT 84405
 801.866.0550

CLEARFIELD CITY CAPITAL FACILITIES PLAN

STORM DRAINAGE

Engineer's Cost Estimate

April 2016

Project Name: **1250 West and 525 North Streets - Piping and Collection Improvements**
Project Location: **725 North to 525 North on 1250 West Street**
1050 West to 1250 West on 525 North Street
525 North 1250 West Intersection (200' South West)
Project Number: **Project #14**

<i>Item</i>	<i>Description</i>	<i>Quantity</i>	<i>Units</i>	<i>Unit Price</i>	<i>Amount</i>
1.	Mobilization and insurance (3% of base bid).	1	ls.	\$10,000.00	\$10,000.00
2.	Remove existing storm drainage piping (average cost).	1	ls.	\$1,000.00	\$1,000.00
3.	Remove surface materials - asphalt & roadbase.	2,200	lf.	\$8.75	\$19,250.00
4.	Construct single grate inlet catch basin box.	14	ea.	\$2,925.00	\$40,950.00
5.	Construct 15" diameter rcp storm drain pipe.	2,200	lf.	\$46.25	\$101,750.00
6.	Construct 4' diameter storm drain manhole.	4	ea.	\$2,750.00	\$11,000.00
7.	Construct 5' diameter storm drain manhole.	4	ea.	\$3,350.00	\$13,400.00
8.	Removal and installation of curb and gutter.	150	lf.	\$19.00	\$2,850.00
9.	Removal and installation of handicap ramp.	10	ea.	\$2,500.00	\$25,000.00
10.	Furnish trench backfill materials.	970	tons	\$11.00	\$10,670.00
11.	Furnish bedding materials.	480	tons	\$17.50	\$8,400.00
12.	Roadway patching.	1,500	sy.	\$23.60	\$35,400.00
13.	Traffic control and flagging.	45	days	\$70.00	\$3,150.00
14.	Looping residential waterlines.	25	ea.	\$450.00	\$11,250.00

15. Looping main waterlines.	5 ea.	\$4,700.00	\$23,500.00
16. Looping main fire hydrant.	4 ea.	\$2,850.00	\$11,400.00
17. Landscaping & surface restoration.	25 ls.	\$500.00	<u>\$12,500.00</u>
		Subtotal	\$341,470.00
		Engineering and Construction Contingencies (20%)	<u>\$68,300.00</u>
		Estimated Total for Improvements	\$409,800.00

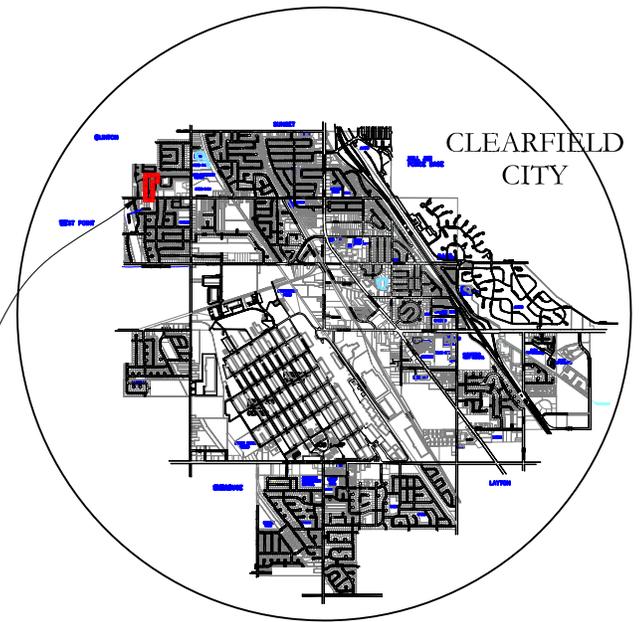
PROJECT #15

STORM WATER PROJECT

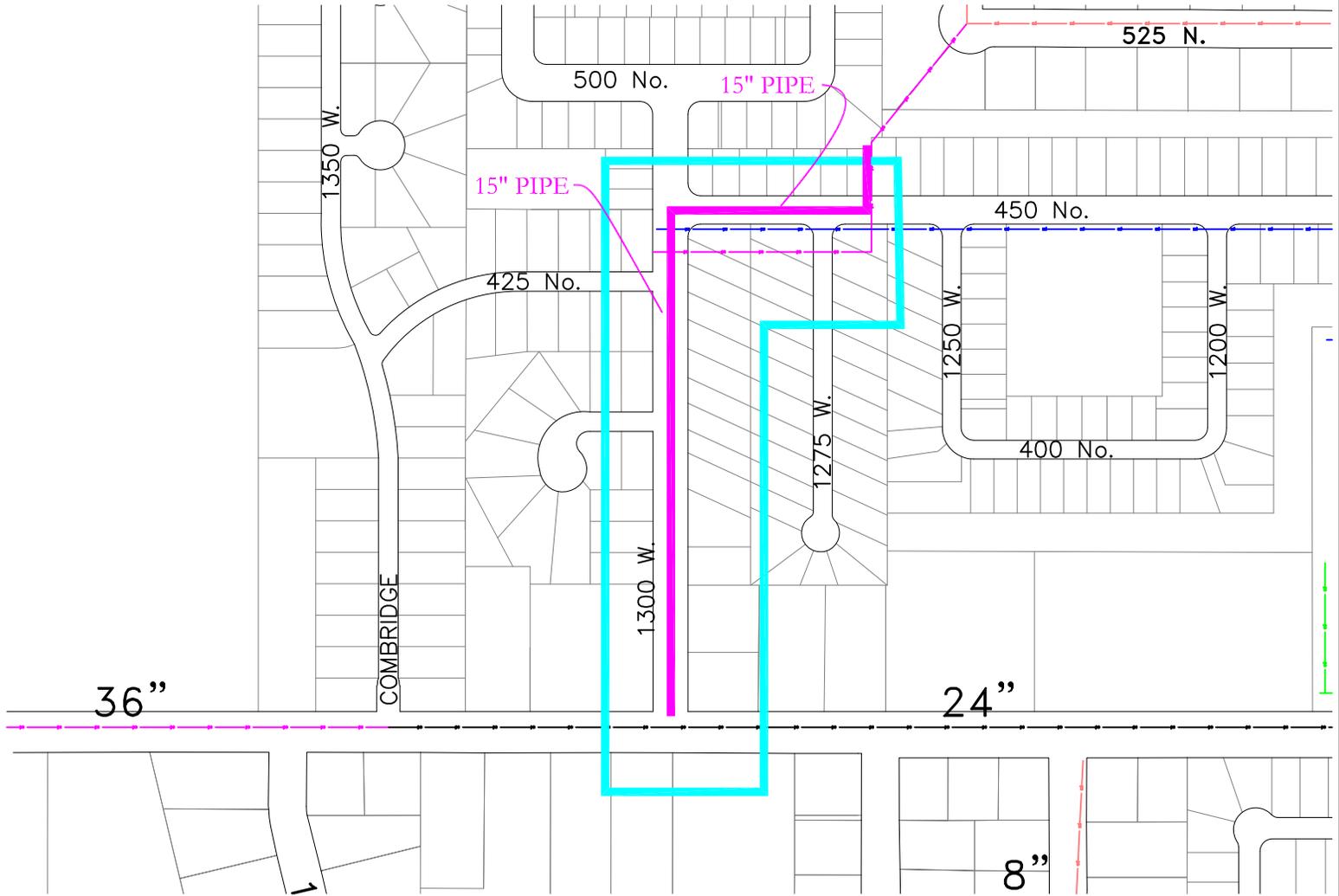
500 North to Sundown Street - Pipe and Collection Improvements
 Between homes @ 1250 West (150' to 450 North Street)
 1260 West to Sundown on 450 North Street
 450 North to 300 North on Sundown Street (1300 West).

ESTIMATED COST: \$277,200.00

Project #15
 Location



NOT TO SCALE



CLIENT:
 CLEARFIELD CITY
 PROJECT NUMBER:
 CC.16001
 FILE: Storm Drain Maps -
 cost estimate.dwg
 SHEET: 15 of 35

PROJECT / LOCATION:
 CAPITAL FACILITY PLAN
 CLEARFIELD CITY, UTAH
 TITLE:
 PROJECT #15

DATE:
 APRIL 2016
 DRAWN:
 JLN
 CHECKED:
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 RIVERDALE, UT 84405
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CLEARFIELD CITY CAPITAL FACILITIES PLAN

STORM DRAINAGE

Engineer's Cost Estimate

April 2016

Project Name: **500 North to Sundown Street - Piping and Collection Improvements**
Project Location: **Between homes @ 1260 West (150' to 450 North Street)
1260 West to Sundown on 450 North Street
450 North to 300 North on Sundown Street (1300 West).**
Project Number: **Project #15**

<i>Item</i>	<i>Description</i>	<i>Quantity</i>	<i>Units</i>	<i>Unit Price</i>	<i>Amount</i>
1.	Mobilization and insurance (3% of base bid).	1	ls.	\$6,700.00	\$6,700.00
2.	Remove existing storm drainage piping (average cost).	1	ls.	\$1,000.00	\$1,000.00
3.	Remove surface materials - asphalt & roadbase.	1,260	lf.	\$8.75	\$11,025.00
4.	Construct single grate inlet catch basin box.	12	ea.	\$2,925.00	\$35,100.00
5.	Construct 15" diameter rcp storm drain pipe.	1,260	lf.	\$46.25	\$58,275.00
6.	Construct 4' diameter storm drain manhole.	5	ea.	\$2,750.00	\$13,750.00
7.	Construct 5' diameter storm drain manhole.	2	ea.	\$3,350.00	\$6,700.00
8.	Removal and installation of curb and gutter.	240	lf.	\$19.00	\$4,560.00
9.	Removal and installation of handicap ramp.	10	ea.	\$2,500.00	\$25,000.00
10.	Furnish trench backfill materials.	560	tons	\$11.00	\$6,160.00
11.	Furnish bedding materials.	300	tons	\$17.50	\$5,250.00
12.	Roadway patching.	860	sy.	\$23.60	\$20,296.00
13.	Traffic control and flagging.	30	days	\$70.00	\$2,100.00
14.	Looping residential waterlines.	21	ea.	\$450.00	\$9,450.00

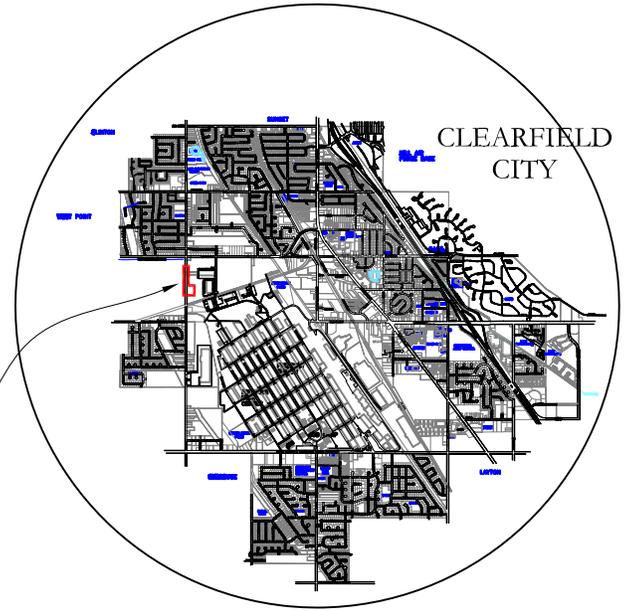
15. Looping main waterlines.	2 ea.	\$4,700.00	\$9,400.00
16. Looping fire hydrants.	2 ea.	\$2,850.00	\$5,700.00
17. Landscaping & surface restoration.	21 ls.	\$500.00	<u>\$10,500.00</u>
		Subtotal	\$230,966.00
		Engineering and Construction Contingencies (20%)	<u>\$46,200.00</u>
		Estimated Total for Improvements	\$277,200.00

PROJECT #16

STORM WATER PROJECT

1000 West Street - Piping and Collection Improvements
(200 South to Freeport Detention Basin)

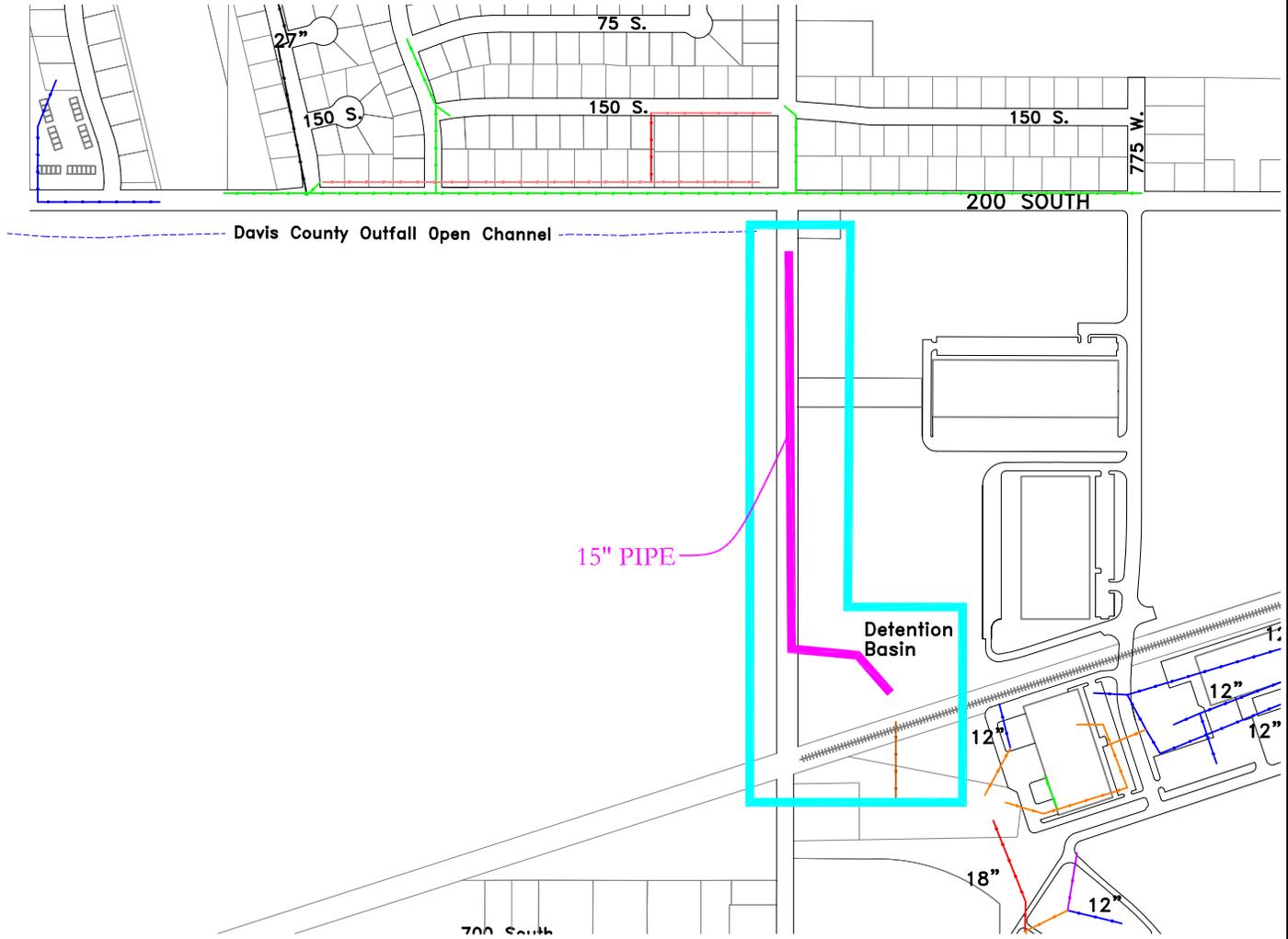
ESTIMATED COST: \$236,000.00



Project #16
Location



NOT TO SCALE



CLIENT:
CLEARFIELD CITY
PROJECT NUMBER:
CC.16001
FILE: Storm Drain Maps -
cost estimate.dwg
SHEET: 16 of 35

PROJECT / LOCATION:
**CAPITAL FACILITY PLAN
CLEARFIELD CITY, UTAH**
TITLE:
PROJECT #16

DATE:
APRIL 2016
DRAWN:
JLN
CHECKED:
RTF / NSN

NO.	DATE	BY	REVISIONS

Civil Engineering
CONSULTANTS, PLLC.
5141 SOUTH 1500 WEST
RIVERDALE, UT 84405
801.866.0550

CLEARFIELD CITY CAPITAL FACILITIES PLAN

STORM DRAINAGE

Engineer's Cost Estimate

April 2016

Project Name: **1000 West Street - Piping and Collection Improvements**
Project Location: **200 South to Freeport Detention Basin**
Project Number: **Project #16**

<i>Item</i>	<i>Description</i>	<i>Quantity</i>	<i>Units</i>	<i>Unit Price</i>	<i>Amount</i>
1.	Mobilization and insurance (3% of base bid).	1	ls.	\$5,700.00	\$5,700.00
2.	Remove existing storm drainage piping (average cost).	1	ls.	\$1,000.00	\$1,000.00
3.	Remove surface materials - asphalt & roadbase.	1,600	lf.	\$8.75	\$14,000.00
4.	Construct single grate inlet catch basin box.	6	ea.	\$2,925.00	\$17,550.00
5.	Construct 15" diameter rcp storm drain pipe.	1,800	lf.	\$46.25	\$83,250.00
6.	Construct detention basin structure.	1	ea.	\$5,500.00	\$5,500.00
7.	Construct 5' diameter storm drain manhole.	5	ea.	\$3,350.00	\$16,750.00
8.	Removal and installation of curb and gutter.	60	lf.	\$19.00	\$1,140.00
9.	Furnish trench backfill materials.	800	tons	\$11.00	\$8,800.00
10.	Furnish bedding materials.	400	tons	\$17.50	\$7,000.00
11.	Roadway patching.	1,100	sy.	\$23.60	\$25,960.00
12.	Traffic control and flagging.	21	days	\$70.00	\$1,470.00
13.	Looping main waterlines.	1	ea.	\$4,700.00	\$4,700.00
14.	Looping fire hydrants.	1	ea.	\$2,850.00	\$2,850.00

15. Landscaping & surface restoration.	1 ls.	\$1,000.00	<u>\$1,000.00</u>
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		Subtotal	\$196,670.00
		Engineering and Construction Contingencies (20%)	<u>\$39,300.00</u>

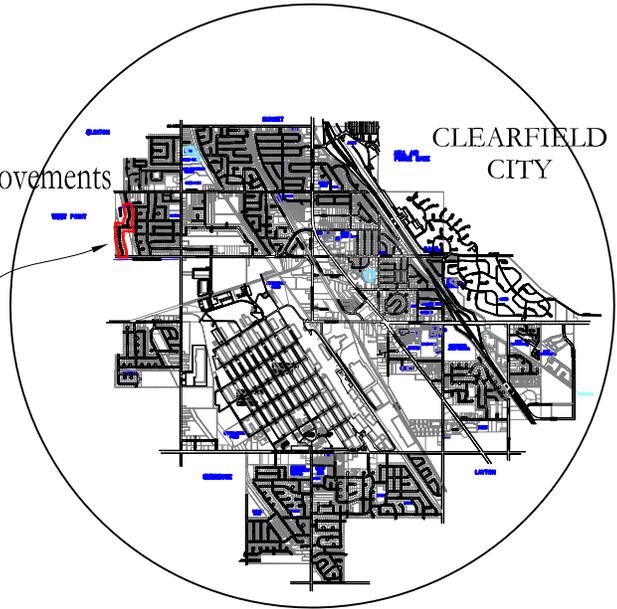
		Estimated Total for Improvements	\$236,000.00
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PROJECT #17

STORM WATER PROJECT

1400 West, 25 North & 1450 West Streets - Piping and Collection Improvements
(200 North Street to 200 South Street)

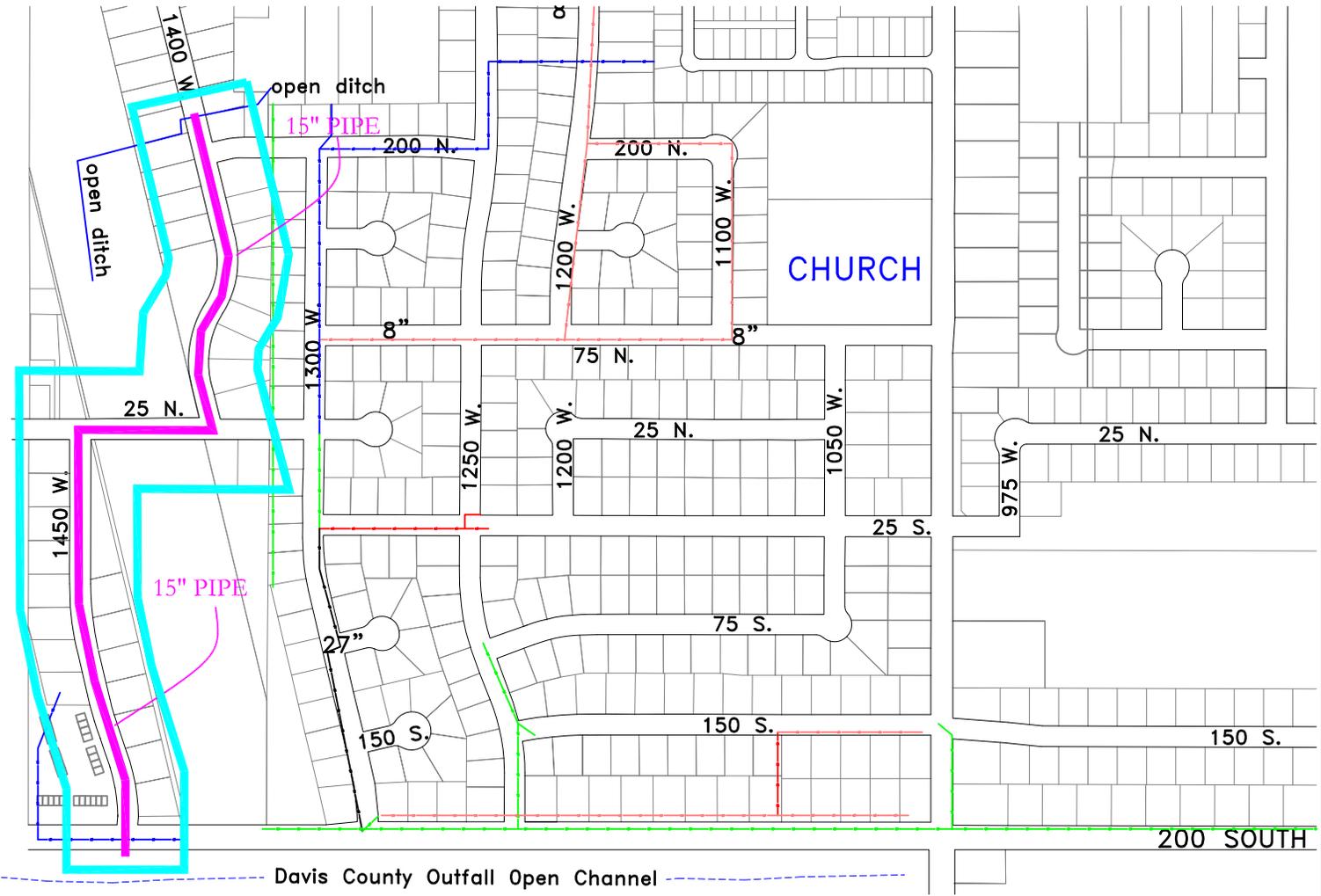
ESTIMATED COST: \$459,800.00



Project #17
Location



NOT TO SCALE



CLIENT:
CLEARFIELD CITY
PROJECT NUMBER:
CC.16001
FILE: Storm Drain Maps -
cost estimate.dwg
SHEET: 17 of 35

PROJECT / LOCATION:
CAPITAL FACILITY PLAN
CLEARFIELD CITY, UTAH
TITLE:
PROJECT #17

DATE:
APRIL 2016
DRAWN:
JLN
CHECKED:
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NO.	DATE	BY	REVISIONS

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CLEARFIELD CITY CAPITAL FACILITIES PLAN

STORM DRAINAGE

Engineer's Cost Estimate

April 2016

Project Name: **1400 West, 25 North & 1450 West Streets - Piping and Collection Improvements**
Project Location: **200 North Street to 200 South Street**
Project Number: **Project #17**

<i>Item</i>	<i>Description</i>	<i>Quantity</i>	<i>Units</i>	<i>Unit Price</i>	<i>Amount</i>
1.	Mobilization and insurance (3% of base bid).	1	ls.	\$11,100.00	\$11,100.00
2.	Remove existing storm drainage piping (average cost).	1	ls.	\$1,000.00	\$1,000.00
3.	Remove surface materials - asphalt & roadbase.	2,700	lf.	\$8.75	\$23,625.00
4.	Construct single grate inlet catch basin box.	13	ea.	\$2,925.00	\$38,025.00
5.	Construct 15" diameter rcp storm drain pipe.	2,700	lf.	\$46.25	\$124,875.00
6.	Construct outlet structure.	1	ea.	\$4,500.00	\$4,500.00
7.	Construct 5' diameter storm drain manhole.	12	ea.	\$3,350.00	\$40,200.00
8.	Removal and installation of curb and gutter.	300	lf.	\$19.00	\$5,700.00
9.	Removal and installation of handicap ramp.	8	ea.	\$2,500.00	\$20,000.00
10.	Furnish trench backfill materials.	1,200	tons	\$11.00	\$13,200.00
11.	Furnish bedding materials.	620	tons	\$17.50	\$10,850.00
12.	Roadway patching.	1,800	sy.	\$23.60	\$42,480.00
13.	Traffic control and flagging.	45	days	\$70.00	\$3,150.00
14.	Looping main waterlines.	3	ea.	\$4,700.00	\$14,100.00
15.	Looping fire hydrants.	4	ea.	\$2,850.00	\$11,400.00

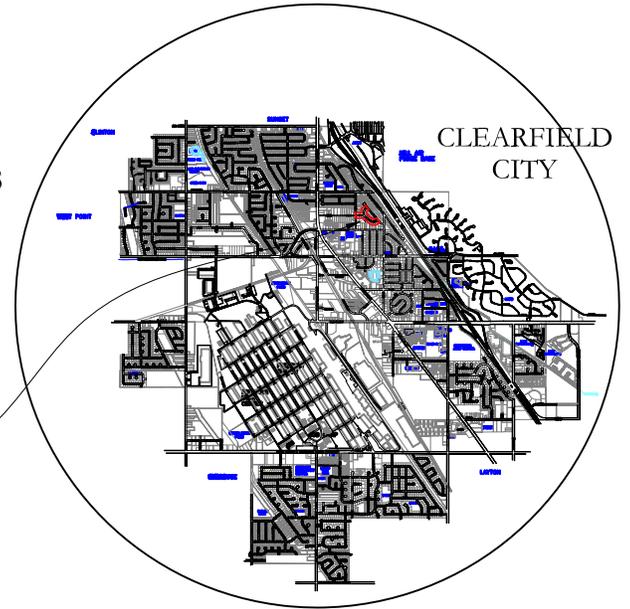
16. Looping residential waterlines.	20 ea.	\$450.00	\$9,000.00
17. Landscaping & surface restoration.	20 ea.	\$500.00	<u>\$10,000.00</u>
		Subtotal	\$383,205.00
		Engineering and Construction Contingencies (20%)	<u>\$76,600.00</u>
		Estimated Total for Improvements	\$459,800.00

PROJECT #18

STORM WATER PROJECT

100 North and Sycamore Streets - Piping and Collection Improvements
(300 East Street to Lynnwood Drive)

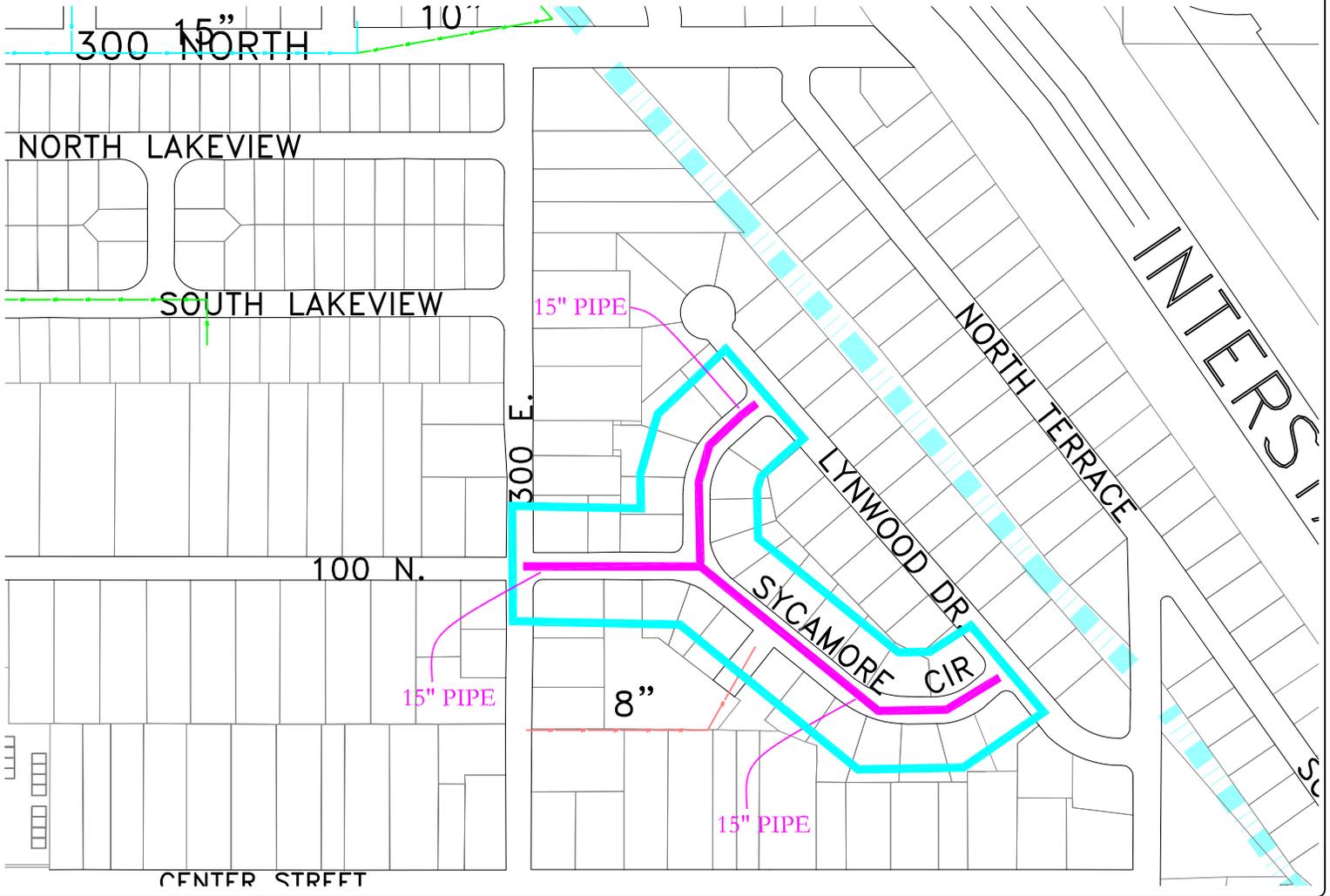
ESTIMATED COST: \$293,600.00



Project #18
Location



NOT TO SCALE



CLIENT:
CLEARFIELD CITY
PROJECT NUMBER:
CC.16001
FILE: Storm Drain Maps -
cost estimate.dwg
SHEET: 18 of 35

PROJECT / LOCATION:
CAPITAL FACILITY PLAN
CLEARFIELD CITY, UTAH
TITLE:
PROJECT #18

DATE:
APRIL 2016
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NO.	DATE	BY	REVISIONS



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CLEARFIELD CITY CAPITAL FACILITIES PLAN

STORM DRAINAGE

Engineer's Cost Estimate

April 2016

Project Name: **100 North and Sycamore Streets - Piping and Collection Improvements**
Project Location: **300 East Street to Lynnwood Drive**
Project Number: **Project #18**

<i>Item</i>	<i>Description</i>	<i>Quantity</i>	<i>Units</i>	<i>Unit Price</i>	<i>Amount</i>
1.	Mobilization and insurance (3% of base bid).	1	ls.	\$7,100.00	\$7,100.00
2.	Remove existing storm drainage piping (average cost).	1	ls.	\$1,000.00	\$1,000.00
3.	Remove surface materials - asphalt & roadbase.	1,350	lf.	\$8.75	\$11,812.50
4.	Construct single grate inlet catch basin box.	10	ea.	\$2,925.00	\$29,250.00
5.	Construct 15" diameter rcp storm drain pipe.	1,350	lf.	\$46.25	\$62,437.50
6.	Construct 5' diameter storm drain manhole.	9	ea.	\$3,350.00	\$30,150.00
7.	Removal and installation of curb and gutter.	200	lf.	\$19.00	\$3,800.00
8.	Removal and installation of handicap ramp.	9	ea.	\$2,500.00	\$22,500.00
9.	Furnish trench backfill materials.	600	tons	\$11.00	\$6,600.00
10.	Furnish bedding materials.	310	tons	\$17.50	\$5,425.00
11.	Roadway patching.	920	sy.	\$23.60	\$21,712.00
12.	Traffic control and flagging.	45	days	\$70.00	\$3,150.00
13.	Looping main waterlines.	3	ea.	\$4,700.00	\$14,100.00
14.	Looping fire hydrants.	3	ea.	\$2,850.00	\$8,550.00

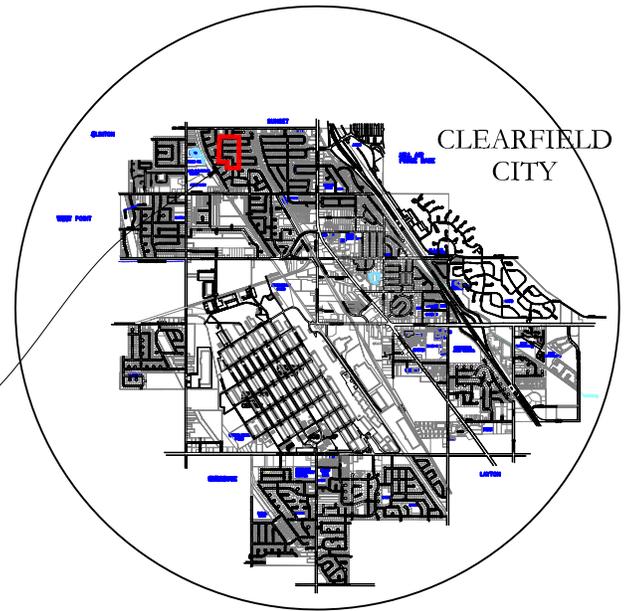
15. Looping residential waterlines.	18 ea.	\$450.00	\$8,100.00
16. Landscaping & surface restoration.	18 ea.	\$500.00	<u>\$9,000.00</u>
		Subtotal	\$244,687.00
		Engineering and Construction Contingencies (20%)	<u>\$48,900.00</u>
		Estimated Total for Improvements	\$293,600.00

PROJECT #19

STORM WATER PROJECT

725 North to 550 North Streets - Piping and Collection Improvements
 (700 West to 800 West on 725 North Street
 675 West to 800 West on 700 North Street
 700 West to 800 West on 650 North Street
 700 West to 800 West on 600 North Street
 550 North to 600 North on 700 West Street)

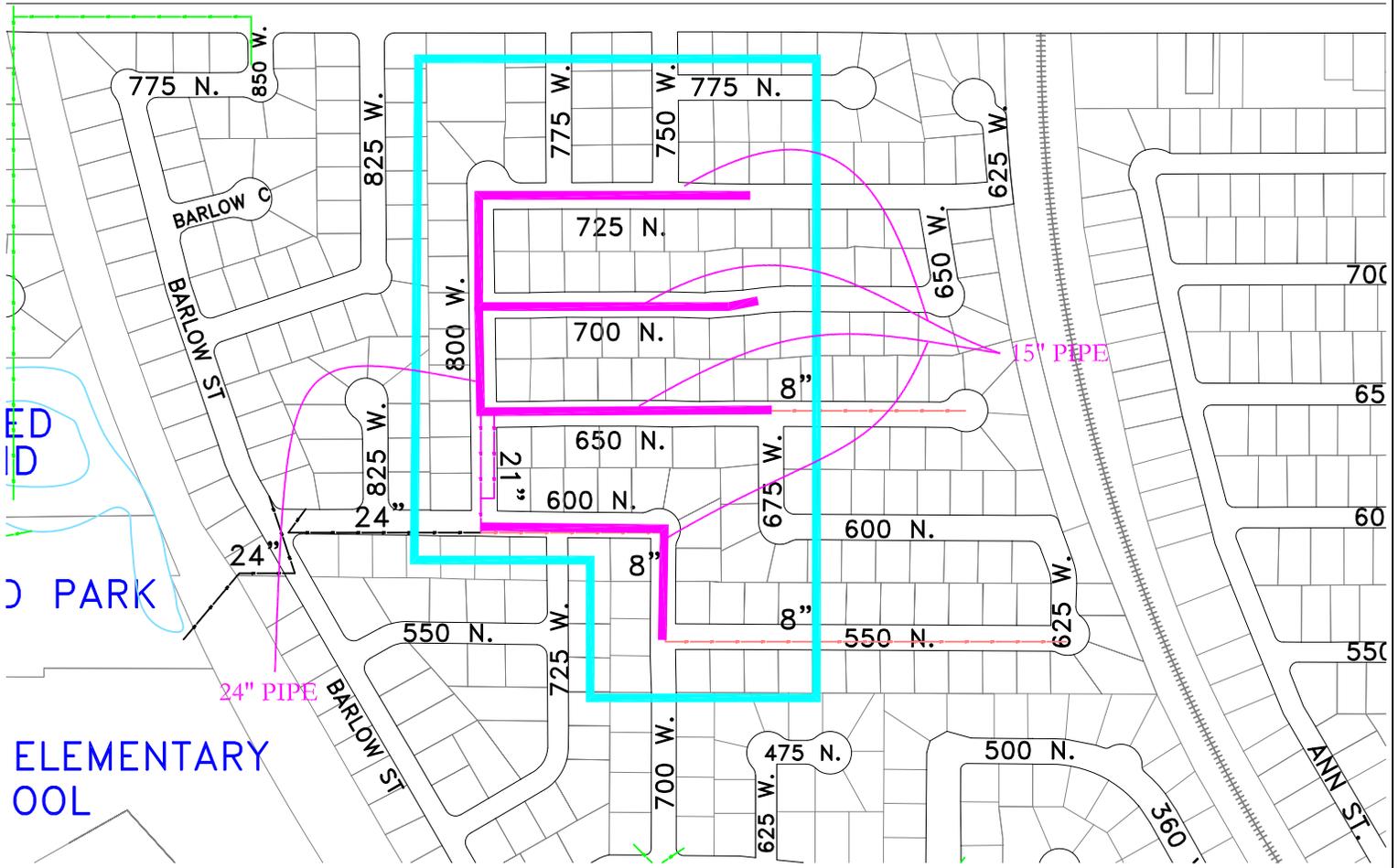
ESTIMATED COST: \$527,900.00



Project #19
Location



NOT TO SCALE



CLIENT:
CLEARFIELD CITY
PROJECT NUMBER:
CC.16001
FILE: Storm Drain Maps -
cost estimate.dwg
SHEET: 19 of 35

PROJECT / LOCATION:
CAPITAL FACILITY PLAN
CLEARFIELD CITY, UTAH
TITLE:
PROJECT #19

DATE:
APRIL 2016
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CLEARFIELD CITY CAPITAL FACILITIES PLAN

STORM DRAINAGE

Engineer's Cost Estimate

April 2016

Project Name: **725 North to 550 North Streets - Piping and Collection Improvements**

Project Location: **700 West to 800 West on 725 North Street
675 West to 800 West on 700 North Street
700 West to 800 West on 650 North Street
700 West to 800 West on 600 North Street
550 North to 600 North on 700 West Street**

Project Number: **Project #19**

<i>Item</i>	<i>Description</i>	<i>Quantity</i>	<i>Units</i>	<i>Unit Price</i>	<i>Amount</i>
1.	Mobilization and insurance (3% of base bid).	1	ls.	\$13,000.00	\$13,000.00
2.	Remove existing storm drainage piping (average cost).	1	ls.	\$1,000.00	\$1,000.00
3.	Remove surface materials - asphalt & roadbase.	3,120	lf.	\$8.75	\$27,300.00
4.	Construct single grate inlet catch basin box.	14	ea.	\$2,925.00	\$40,950.00
5.	Construct 15" diameter rcp storm drain pipe.	2,590	lf.	\$46.25	\$119,787.50
6.	Construct 24" diameter rcp storm drain pipe.	530	lf.	\$62.50	\$33,125.00
7.	Construct 4' diameter storm drain manhole.	6	ea.	\$2,750.00	\$16,500.00
8.	Construct 5' diameter storm drain manhole.	4	ea.	\$3,350.00	\$13,400.00
9.	Removal and installation of curb and gutter.	250	lf.	\$19.00	\$4,750.00
10.	Removal and installation of handicap ramp.	14	ea.	\$2,500.00	\$35,000.00
11.	Furnish trench backfill materials.	1,375	tons	\$11.00	\$15,125.00
12.	Furnish bedding materials.	700	tons	\$17.50	\$12,250.00
13.	Roadway patching.	2,100	sy.	\$23.60	\$49,560.00

14. Traffic control and flagging.	60 days	\$70.00	\$4,200.00
15. Looping residential waterlines.	27 ea.	\$450.00	\$12,150.00
16. Looping main waterlines.	3 ea.	\$4,700.00	\$14,100.00
17. Looping fire hydrants.	5 ea.	\$2,850.00	\$14,250.00
18. Landscaping & surface restoration.	27 ea.	\$500.00	<u>\$13,500.00</u>

		Subtotal	\$439,948.00
		Engineering and Construction Contingencies (20%)	<u>\$88,000.00</u>

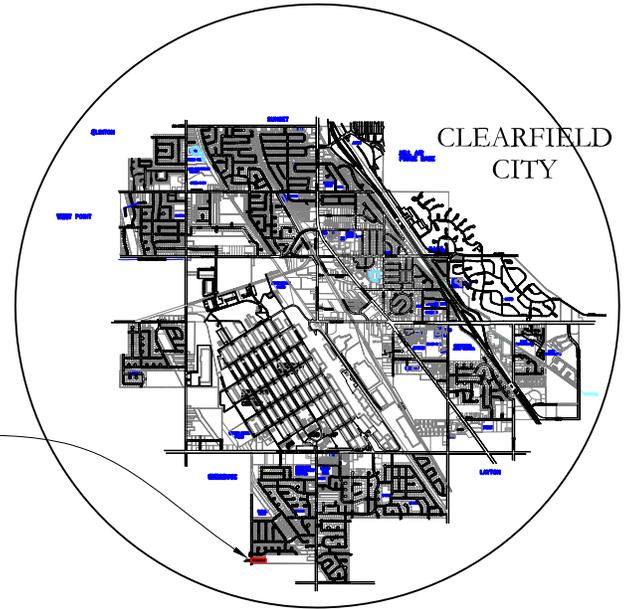
Estimated Total for Improvements \$527,900.00

PROJECT #20

STORM WATER PROJECT

2500 South Street - Piping and Collection Improvements
(400 West to 500 West Street)

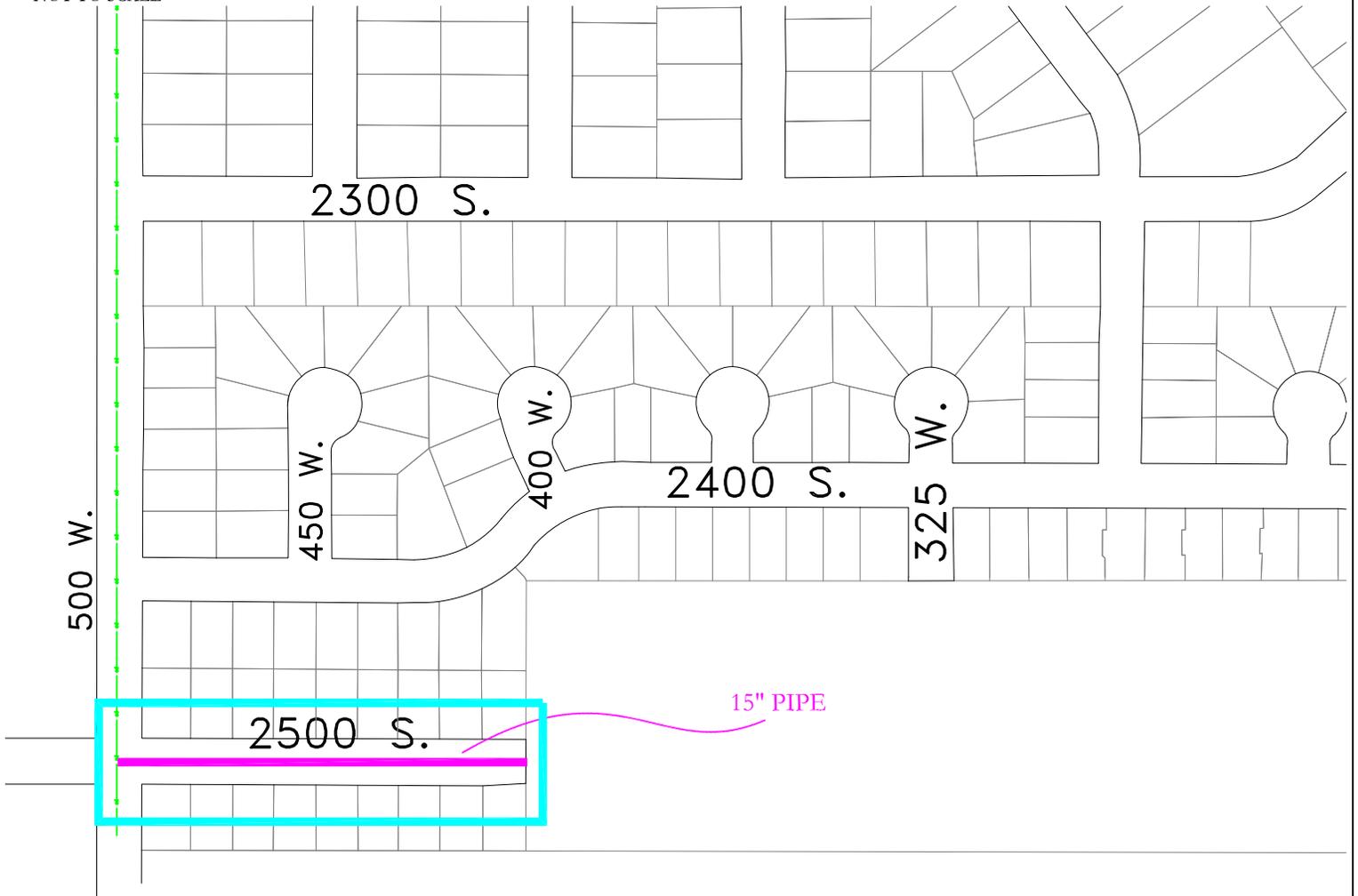
ESTIMATED COST: \$122,400.00



Project #20
Location



NOT TO SCALE



CLIENT:
CLEARFIELD CITY
PROJECT NUMBER:
CC.16001
FILE: Storm Drain Maps -
cost estimate.dwg
SHEET: 20 of 35

PROJECT / LOCATION:
CAPITAL FACILITY PLAN
CLEARFIELD CITY, UTAH
TITLE:
PROJECT #20

DATE:
APRIL 2016
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CLEARFIELD CITY CAPITAL FACILITIES PLAN

STORM DRAINAGE

Engineer's Cost Estimate

April 2016

Project Name: **2500 West Street - Piping and Collection Improvements**
Project Location: **400 West to 500 West Street**
Project Number: **Project #20**

<i>Item</i>	<i>Description</i>	<i>Quantity</i>	<i>Units</i>	<i>Unit Price</i>	<i>Amount</i>
1.	Mobilization and insurance (3% of base bid).	1	ls.	\$3,000.00	\$3,000.00
2.	Remove existing storm drainage piping (average cost).	1	ls.	\$1,000.00	\$1,000.00
3.	Remove surface materials - asphalt & roadbase.	560	lf.	\$8.75	\$4,900.00
4.	Construct single grate inlet catch basin box.	3	ea.	\$2,925.00	\$8,775.00
5.	Construct 15" diameter rcp storm drain pipe.	560	lf.	\$46.25	\$25,900.00
6.	Construct 4' diameter storm drain manhole.	3	ea.	\$2,750.00	\$8,250.00
7.	Removal and installation of curb and gutter.	50	lf.	\$19.00	\$950.00
8.	Removal and installation of handicap ramp.	2	ea.	\$2,500.00	\$5,000.00
9.	Furnish trench backfill materials.	280	tons	\$11.00	\$3,080.00
10.	Furnish bedding materials.	150	tons	\$17.50	\$2,625.00
11.	Roadway patching.	860	sy.	\$23.60	\$20,296.00
12.	Traffic control and flagging.	30	days	\$70.00	\$2,100.00
13.	Looping residential waterlines.	9	ea.	\$450.00	\$4,050.00
14.	Looping main waterlines.	1	ea.	\$4,700.00	\$4,700.00
15.	Looping fire hydrants.	1	ea.	\$2,850.00	\$2,850.00

16. Landscaping & surface restoration.	9 ea.	\$500.00	<u>\$4,500.00</u>
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		Subtotal	\$101,976.00
		Engineering and Construction Contingencies (20%)	<u>\$20,400.00</u>

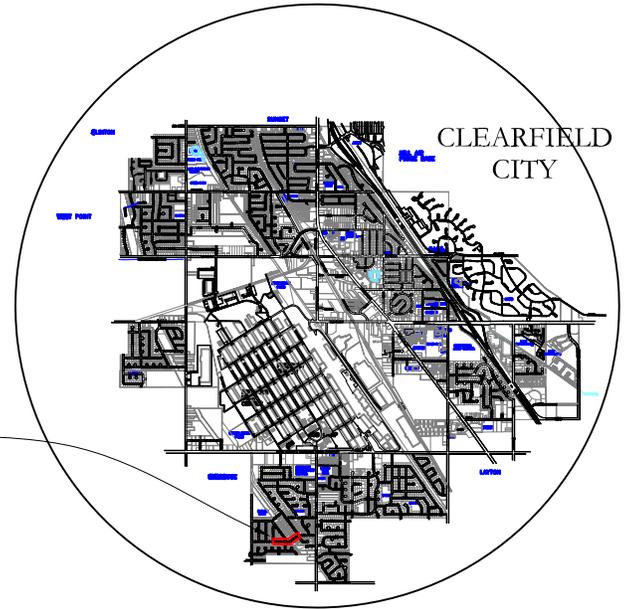
		Estimated Total for Improvements	\$122,400.00
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PROJECT #21

STORM WATER PROJECT

2300 South Street - Piping and Collection Improvements
(150 West Street to 350 West Street)

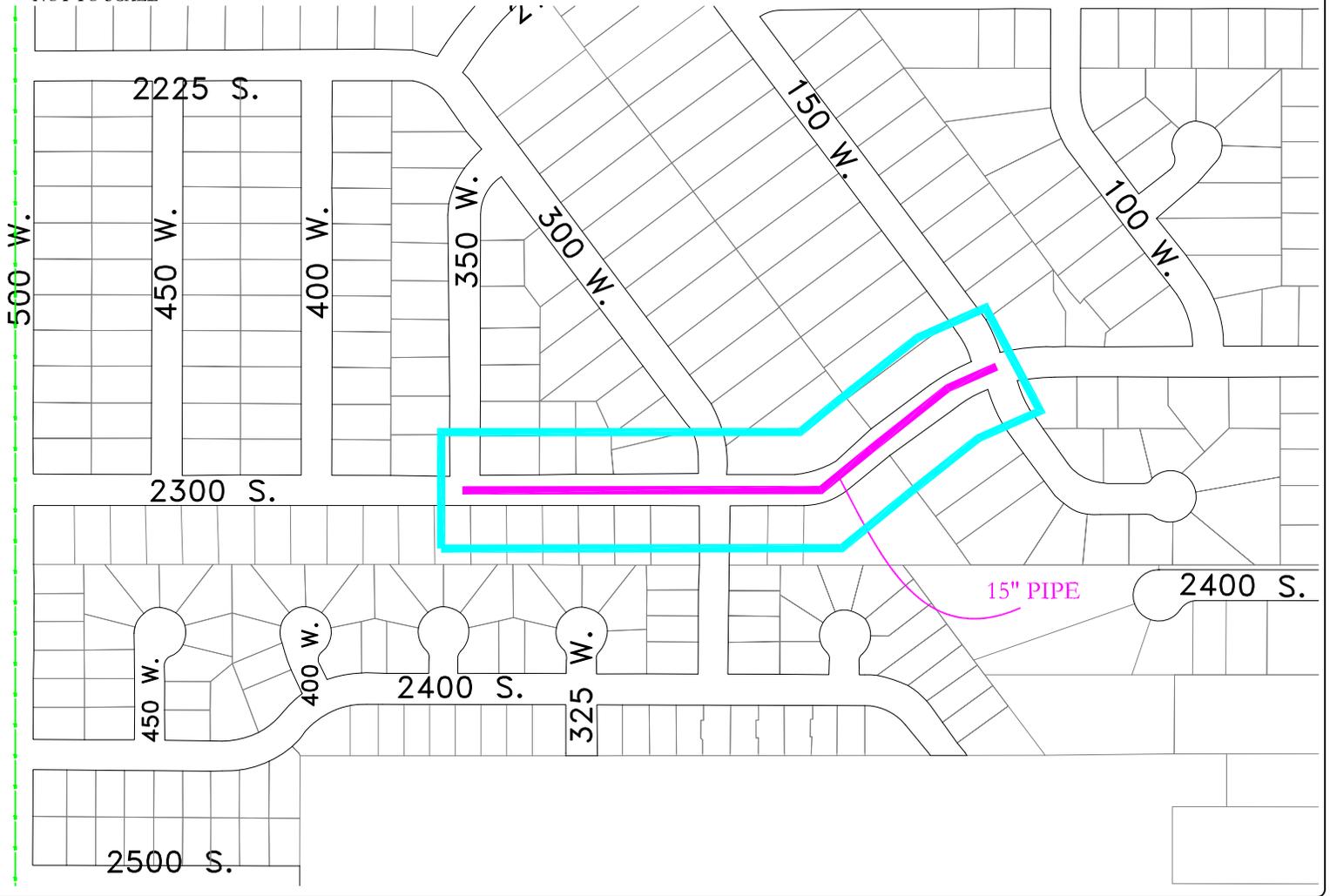
ESTIMATED COST: \$231,600.00



Project #21
Location



NOT TO SCALE



CLIENT:
CLEARFIELD CITY
PROJECT NUMBER:
CC.16001
FILE: Storm Drain Maps -
cost estimate.dwg
SHEET: 21 of 35

PROJECT / LOCATION:
CAPITAL FACILITY PLAN
CLEARFIELD CITY, UTAH
TITLE:
PROJECT #21

DATE:
APRIL 2016
DRAWN:
JLN
CHECKED:
RTF / NSN

NO.	DATE	BY	REVISIONS

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CONSULTANTS, PLLC.
5141 SOUTH 1500 WEST
RIVERDALE, UT 84405
801.866.0550

CLEARFIELD CITY CAPITAL FACILITIES PLAN

STORM DRAINAGE

Engineer's Cost Estimate

April 2016

Project Name: **2300 West Street - Piping and Collection Improvements**
Project Location: **150 West Street to 350 West Street**
Project Number: **Project #21**

<i>Item</i>	<i>Description</i>	<i>Quantity</i>	<i>Units</i>	<i>Unit Price</i>	<i>Amount</i>
1.	Mobilization and insurance (3% of base bid).	1	ls.	\$5,600.00	\$5,600.00
2.	Remove existing storm drainage piping (average cost).	1	ls.	\$1,000.00	\$1,000.00
3.	Remove surface materials - asphalt & roadbase.	1,140	lf.	\$8.75	\$9,975.00
4.	Construct single grate inlet catch basin box.	10	ea.	\$2,925.00	\$29,250.00
5.	Construct 15" diameter rcp storm drain pipe.	1,140	lf.	\$46.25	\$52,725.00
6.	Construct 4' diameter storm drain manhole.	7	ea.	\$2,750.00	\$19,250.00
7.	Removal and installation of curb and gutter.	200	lf.	\$19.00	\$3,800.00
8.	Removal and installation of handicap ramp.	10	ea.	\$2,500.00	\$25,000.00
9.	Furnish trench backfill materials.	500	tons	\$11.00	\$5,500.00
10.	Furnish bedding materials.	260	tons	\$17.50	\$4,550.00
11.	Roadway patching.	770	sy.	\$23.60	\$18,172.00
12.	Traffic control and flagging.	30	days	\$70.00	\$2,100.00
13.	Looping residential waterlines.	9	ea.	\$450.00	\$4,050.00
14.	Looping main waterlines.	1	ea.	\$4,700.00	\$4,700.00
15.	Looping fire hydrants.	1	ea.	\$2,850.00	\$2,850.00

16. Landscaping & surface restoration.	9 ea.	\$500.00	<u>\$4,500.00</u>
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		Subtotal	\$193,022.00
		Engineering and Construction Contingencies (20%)	<u>\$38,600.00</u>

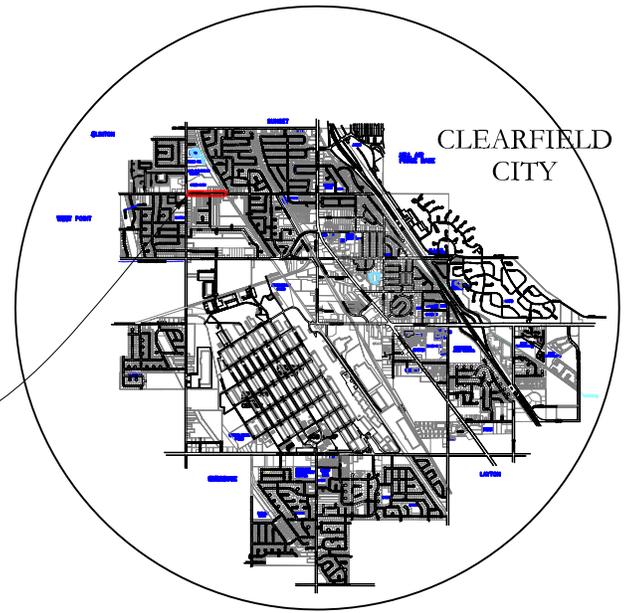
		Estimated Total for Improvements	\$231,600.00
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PROJECT #22

STORM WATER PROJECT

300 North Street - Piping and Collection Improvements
(750 West to 1000 West Street)

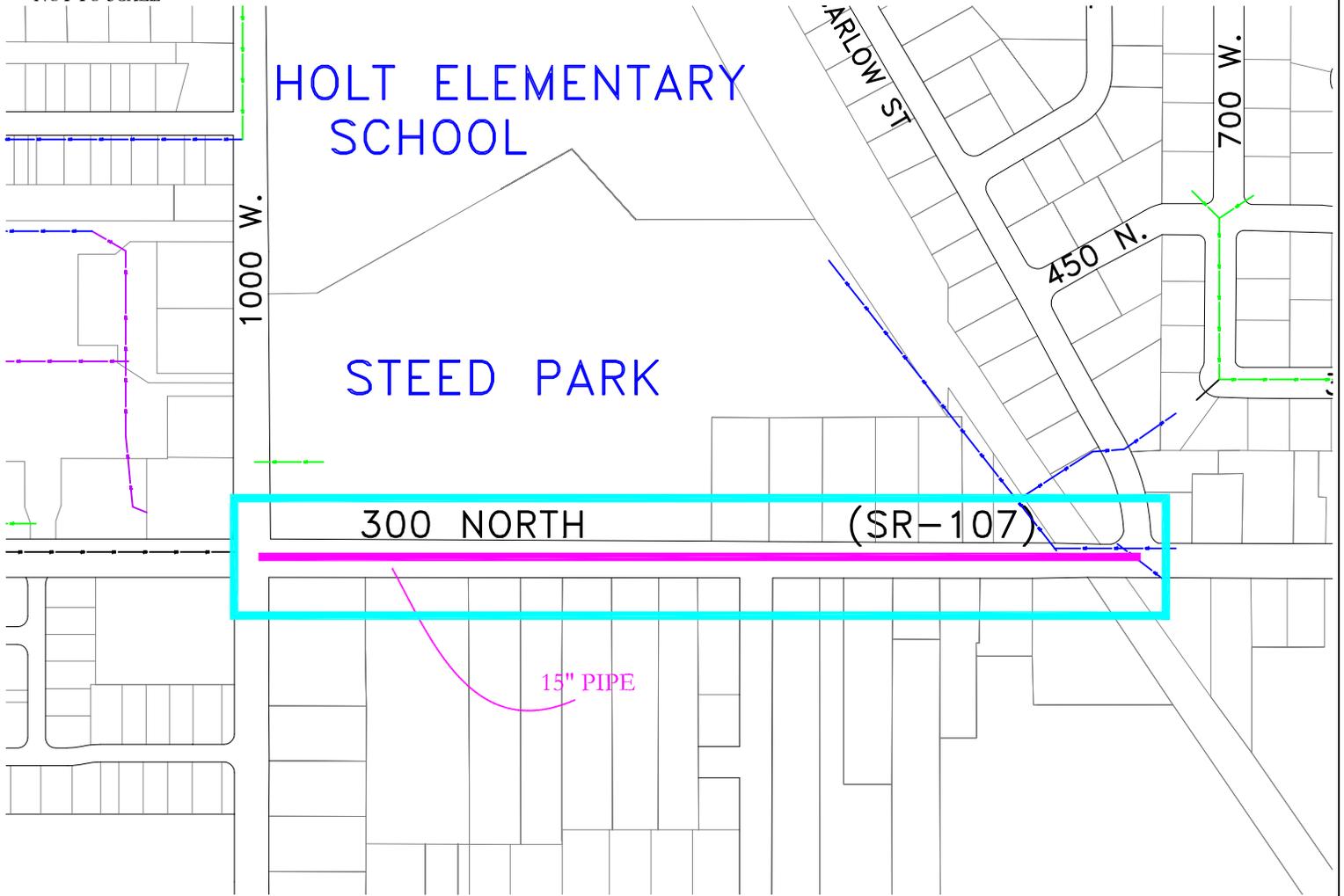
ESTIMATED COST: \$267,700.00



Project #22
Location



NOT TO SCALE



CLIENT:
CLEARFIELD CITY
PROJECT NUMBER:
CC.16001
FILE: Storm Drain Maps -
cost estimate.dwg
SHEET: 22 of 35

PROJECT / LOCATION:
CAPITAL FACILITY PLAN
CLEARFIELD CITY, UTAH
TITLE:
PROJECT #22

DATE:
APRIL 2016
DRAWN:
JLN
CHECKED:
RTF / NSN

NO.	DATE	BY	REVISIONS

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RIVERDALE, UT 84405
801.866.0550

CLEARFIELD CITY CAPITAL FACILITIES PLAN

STORM DRAINAGE

Engineer's Cost Estimate

April 2016

Project Name: **300 North Street - Piping and Collection Improvements**
Project Location: **750 West to 1000 West Street**
Project Number: **Project #22**

<i>Item</i>	<i>Description</i>	<i>Quantity</i>	<i>Units</i>	<i>Unit Price</i>	<i>Amount</i>
1.	Mobilization and insurance (3% of base bid).	1	ls.	\$6,500.00	\$6,500.00
2.	Remove existing storm drainage piping (average cost).	1	ls.	\$1,000.00	\$1,000.00
3.	Remove surface materials - asphalt & roadbase.	1,720	lf.	\$8.75	\$15,050.00
4.	Construct single grate inlet catch basin box.	9	ea.	\$2,925.00	\$26,325.00
5.	Construct 15" diameter rcp storm drain pipe.	1,720	lf.	\$46.25	\$79,550.00
6.	Construct 4' diameter storm drain manhole.	6	ea.	\$2,750.00	\$16,500.00
7.	Removal and installation of curb and gutter.	120	lf.	\$19.00	\$2,280.00
8.	Removal and installation of handicap ramp.	6	ea.	\$2,500.00	\$15,000.00
9.	Furnish trench backfill materials.	775	tons	\$11.00	\$8,525.00
10.	Furnish bedding materials.	400	tons	\$17.50	\$7,000.00
11.	Roadway patching.	1,150	sy.	\$23.60	\$27,140.00
12.	Traffic control and flagging.	30	days	\$70.00	\$2,100.00
13.	Looping residential waterlines.	6	ea.	\$450.00	\$2,700.00
14.	Looping main waterlines.	1	ea.	\$4,700.00	\$4,700.00
15.	Looping fire hydrants.	2	ea.	\$2,850.00	\$5,700.00

16. Landscaping & surface restoration.	6 ea.	\$500.00	<u>\$3,000.00</u>
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		Subtotal	\$223,070.00
		Engineering and Construction Contingencies (20%)	<u>\$44,600.00</u>

		Estimated Total for Improvements	\$267,700.00
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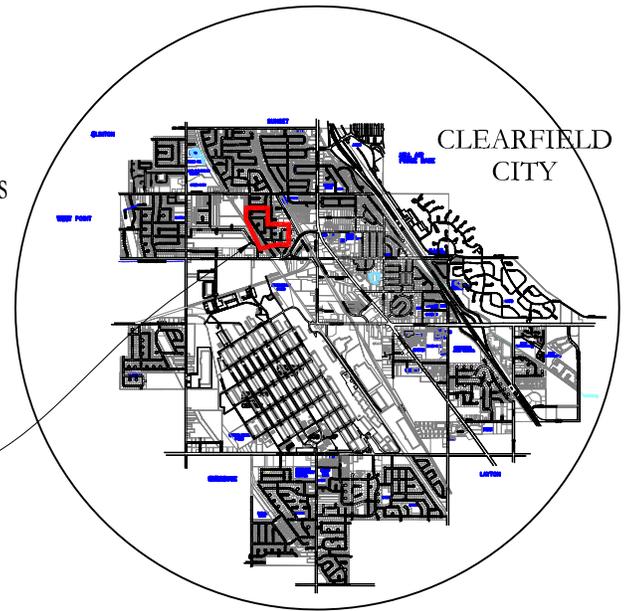
PROJECT #23

STORM WATER PROJECT

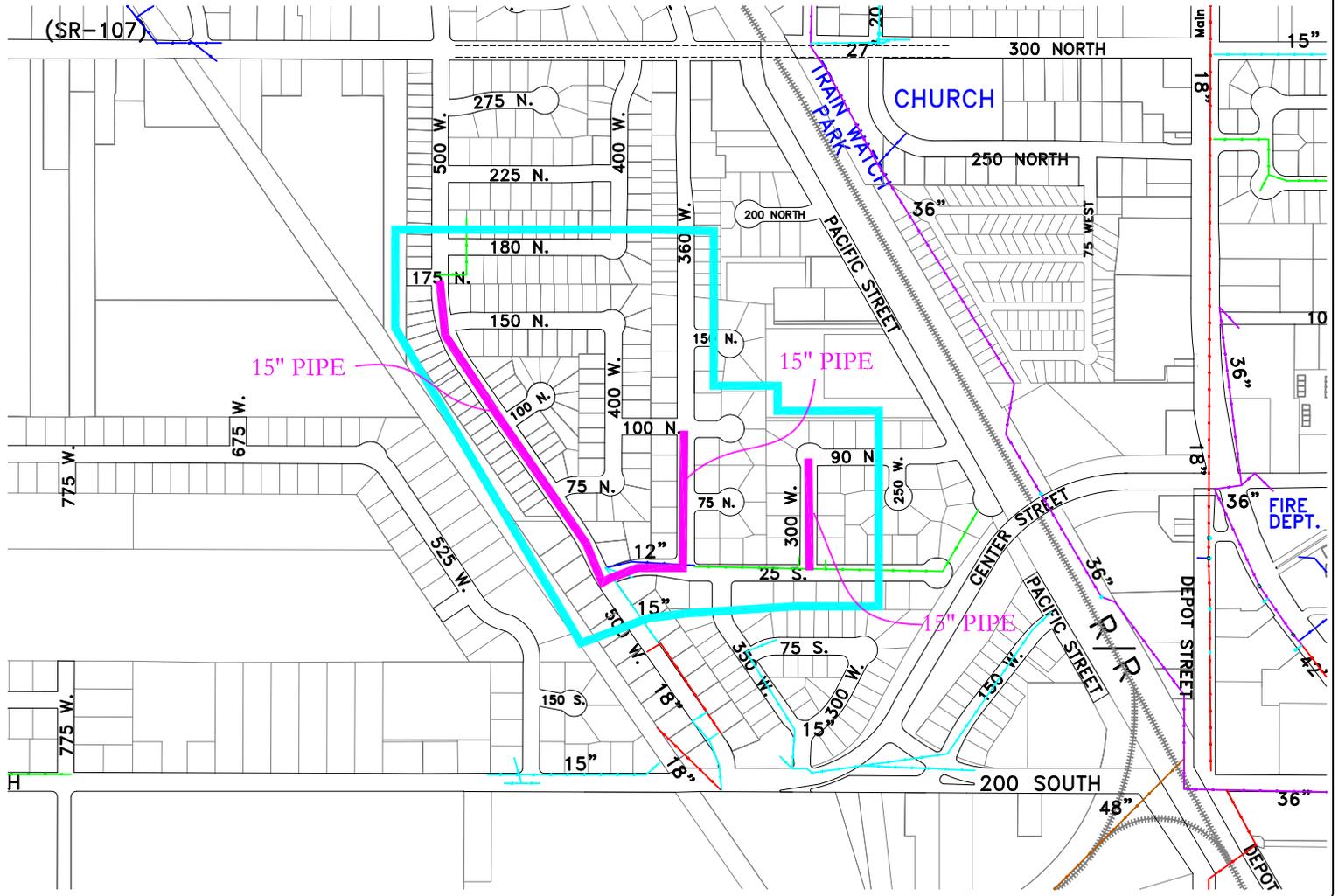
500 West Street - 175 N. to 25 S. - Piping and Collection Improvements
 (160 North to 25 South on 500 West Street
 360 North to 500 West on 25 South Street
 90 North to 25 South on 360 West Street
 90 North to 25 South on 300 West Street)

ESTIMATED COST: \$575,900.00

Project #23
 Location



NOT TO SCALE



CLIENT:
 CLEARFIELD CITY
 PROJECT NUMBER:
 CC.16001
 FILE: Storm Drain Maps -
 cost estimate.dwg
 SHEET: 23 of 35

PROJECT / LOCATION:
 CAPITAL FACILITY PLAN
 CLEARFIELD CITY, UTAH
 TITLE:
 PROJECT #23

DATE:
 APRIL 2016
 DRAWN:
 JLN
 CHECKED:
 RTF / NSN

NO.	DATE	BY	REVISIONS

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 5141 SOUTH 1500 WEST
 RIVERDALE, UT 84405
 801.866.0550

CLEARFIELD CITY CAPITAL FACILITIES PLAN

STORM DRAINAGE

Engineer's Cost Estimate

April 2016

Project Name: **500 West Street - 175 N. to 25 S. - Piping and Collection Improvements**
Project Location: **160 North to 25 South on 500 West Street**
360 North to 500 West on 25 South Street
90 North to 25 South on 360 West Street
90 North to 25 South on 300 West Street
Project Number: **Project #23**

<i>Item</i>	<i>Description</i>	<i>Quantity</i>	<i>Units</i>	<i>Unit Price</i>	<i>Amount</i>
1.	Mobilization & insurance (3% of base bid).	1	ls.	\$13,900.00	\$13,900.00
2.	Remove existing storm drainage piping (average cost).	1	lf.	\$1,000.00	\$1,000.00
3.	Remove surface materials - asphalt & roadbase.	3,500	lf.	\$8.75	\$30,625.00
4.	Construct single grate inlet catch basin box.	27	ea.	\$2,925.00	\$78,975.00
5.	Construct 15" diameter rcp storm drain pipe.	2,450	lf.	\$46.25	\$113,312.50
6.	Construct 4' diameter storm drain manhole.	9	ea.	\$2,750.00	\$24,750.00
7.	Construct 5' diameter storm drain manhole.	4	ea.	\$3,350.00	\$13,400.00
8.	Removal and installation of curb and gutter.	350	lf.	\$19.00	\$6,650.00
9.	Removal and installation of handicap ramp.	19	ea.	\$2,500.00	\$47,500.00
10.	Furnish trench backfill materials.	1,560	tons	\$11.00	\$17,160.00
11.	Furnish bedding materials.	800	tons	\$17.50	\$14,000.00
12.	Roadway patching.	2,350	sy.	\$23.60	\$55,460.00
13.	Traffic control and flagging.	65	days	\$70.00	\$4,550.00

14. Looping residential waterlines.	28 ea.	\$450.00	\$12,600.00
15. Looping main waterlines.	5 ea.	\$4,700.00	\$23,500.00
16. Looping fire hydrants.	3 ea.	\$2,850.00	\$8,550.00
17. Landscaping & surface restoration.	28 ea.	\$500.00	<u>\$14,000.00</u>

		Subtotal	\$479,933.00
		Engineering and Construction Contingencies (20%)	<u>\$96,000.00</u>

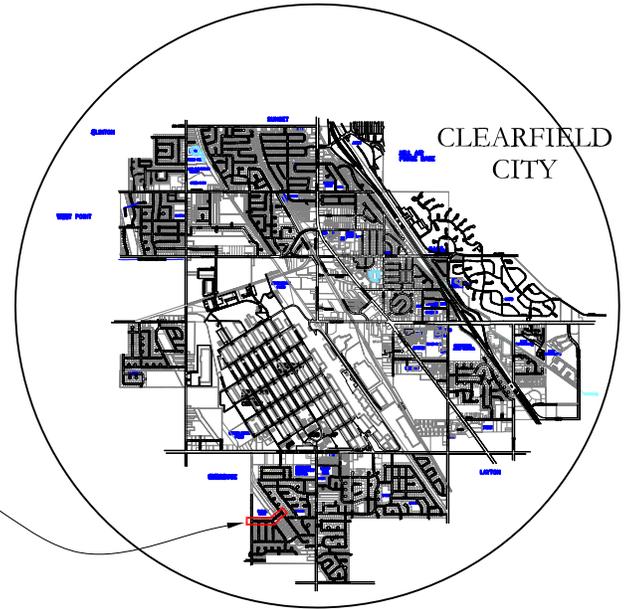
Estimated Total for Improvements \$575,900.00

PROJECT #24

STORM WATER PROJECT

2225 South Street - Piping and Collection Improvements
(500 West Street to 150 West Street)

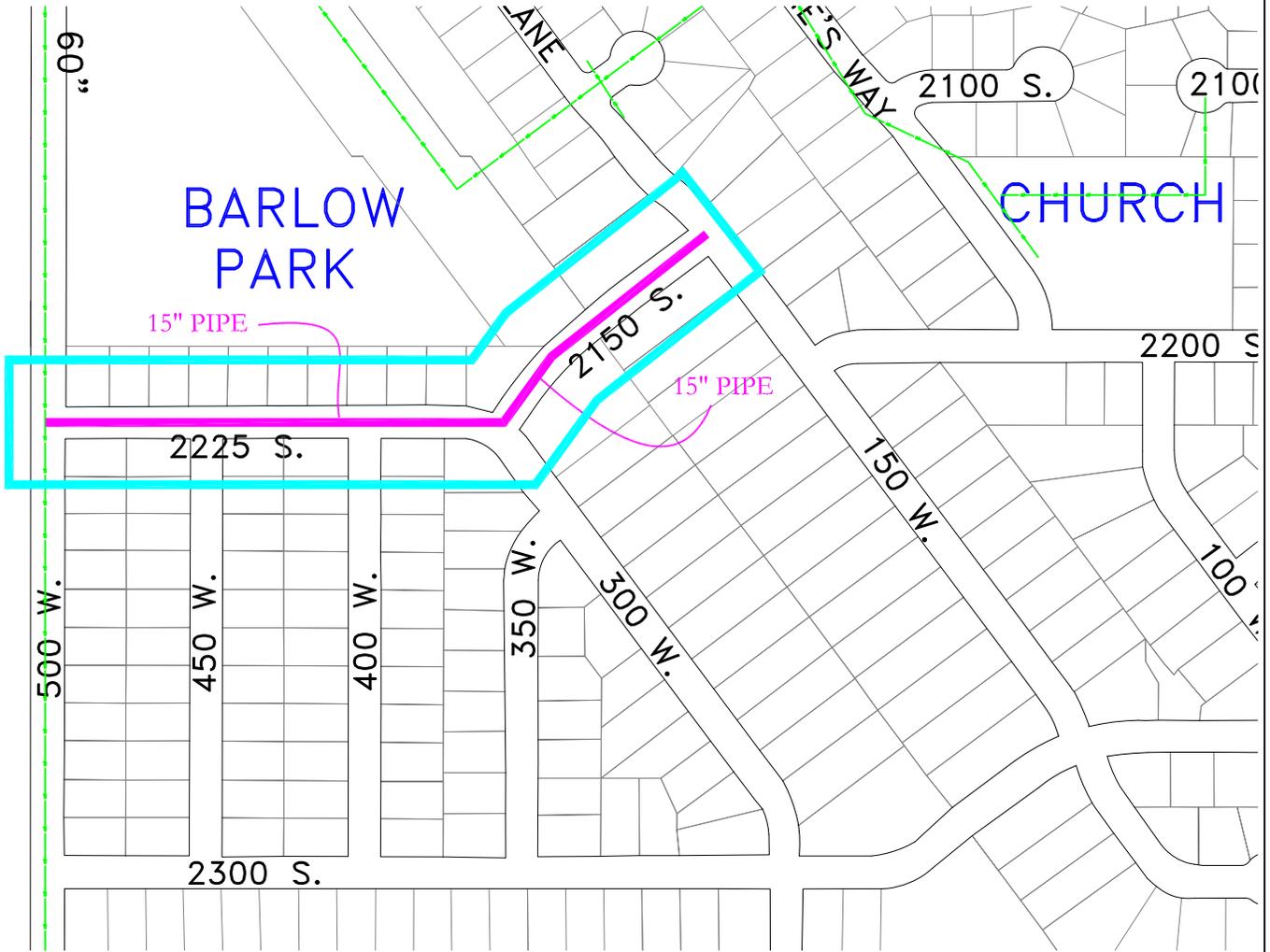
ESTIMATED COST: \$261,200.00



Project #24
Location



NOT TO SCALE



CLIENT:
CLEARFIELD CITY
PROJECT NUMBER:
CC.16001
FILE: Storm Drain Maps -
cost estimate.dwg
SHEET: 24 of 35

PROJECT / LOCATION:
CAPITAL FACILITY PLAN
CLEARFIELD CITY, UTAH
TITLE:
PROJECT #24

DATE:
APRIL 2016
DRAWN:
JLN
CHECKED:
RTF / NSN

NO.	DATE	BY	REVISIONS

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RIVERDALE, UT 84405
801.866.0550

CLEARFIELD CITY CAPITAL FACILITIES PLAN

STORM DRAINAGE

Engineer's Cost Estimate

April 2016

Project Name: **2225 South Street - Piping and Collection Improvements**
Project Location: **500 West Street to 150 West Street**
Project Number: **Project #24**

<i>Item</i>	<i>Description</i>	<i>Quantity</i>	<i>Units</i>	<i>Unit Price</i>	<i>Amount</i>
1.	Mobilization & insurance (3% of base bid).	1	ls.	\$6,400.00	\$6,400.00
2.	Remove existing storm drainage piping (average cost).	1	lf.	\$1,000.00	\$1,000.00
3.	Remove surface materials - asphalt & roadbase.	1,380	lf.	\$8.75	\$12,075.00
4.	Construct single grate inlet catch basin box.	9	ea.	\$2,925.00	\$26,325.00
5.	Construct 15" diameter rcp storm drain pipe.	1,380	lf.	\$46.25	\$63,825.00
6.	Construct 4' diameter storm drain manhole.	6	ea.	\$2,750.00	\$16,500.00
7.	Removal and installation of curb and gutter.	130	lf.	\$19.00	\$2,470.00
8.	Removal and installation of handicap ramp.	10	ea.	\$2,500.00	\$25,000.00
9.	Furnish trench backfill materials.	620	tons	\$11.00	\$6,820.00
10.	Furnish bedding materials.	320	tons	\$17.50	\$5,600.00
11.	Roadway patching.	940	sy.	\$23.60	\$22,184.00
12.	Traffic control and flagging.	30	days	\$70.00	\$2,100.00
13.	Looping residential waterlines.	13	ea.	\$450.00	\$5,850.00
14.	Looping main waterlines.	2	ea.	\$4,700.00	\$9,400.00
15.	Looping fire hydrants.	2	ea.	\$2,850.00	\$5,700.00

16. Landscaping & surface restoration.	13 ea.	\$500.00	<u>\$6,500.00</u>
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		Subtotal	\$217,749.00
		Engineering and Construction Contingencies (20%)	<u>\$43,500.00</u>

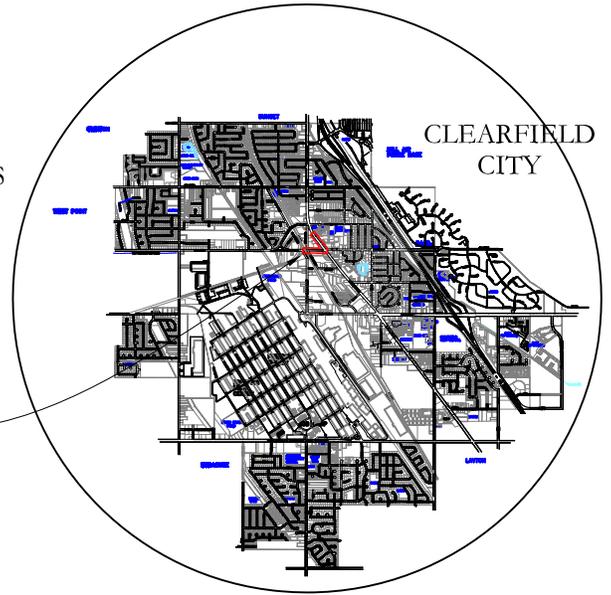
		Estimated Total for Improvements	\$261,200.00
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PROJECT #25

STORM WATER PROJECT

State Street and 200 South Street - Piping and Collection Improvements
(50 South along State Street to 200 South Street then to Depot Street)

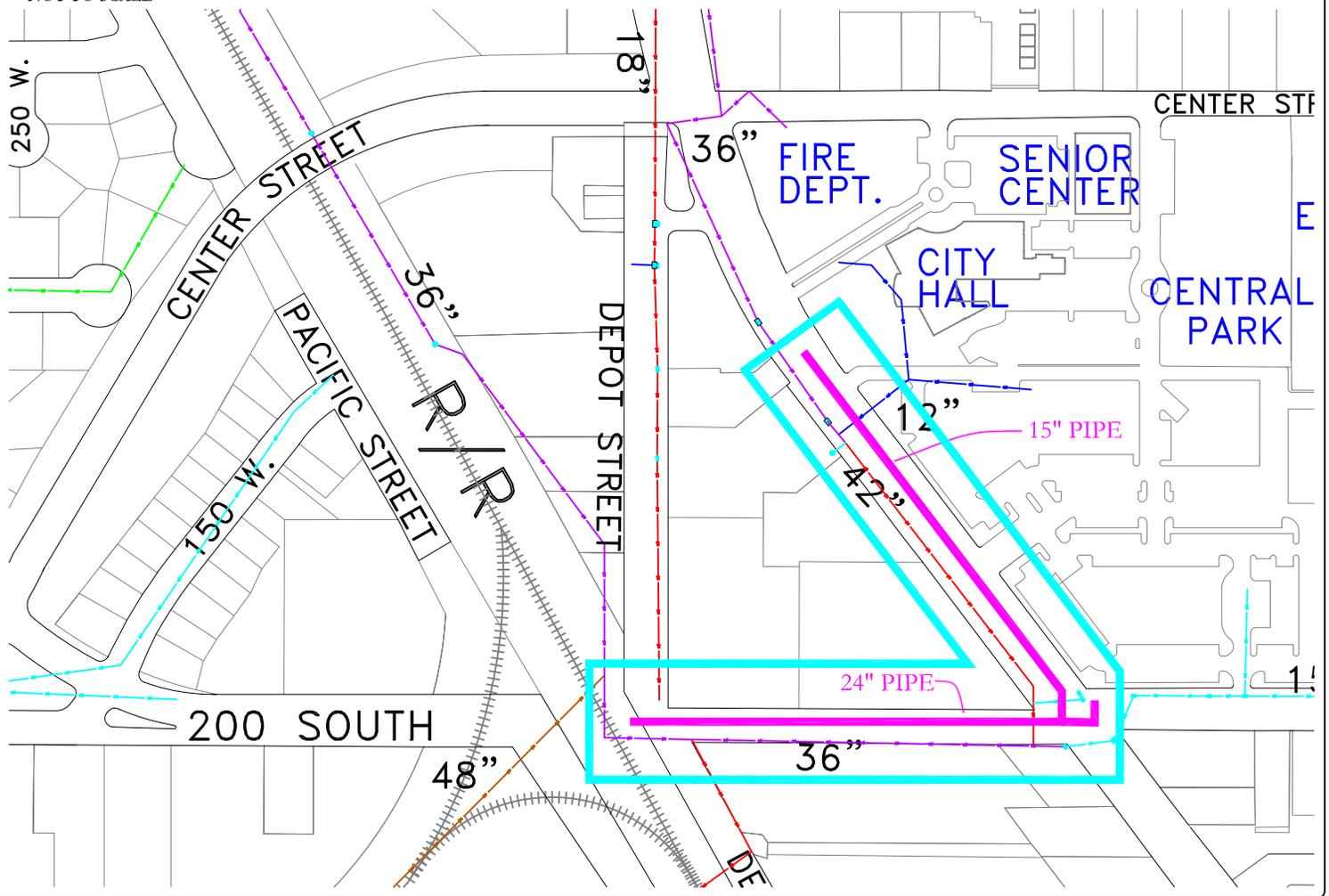
ESTIMATED COST: \$327,700.00



Project #25
Location



NOT TO SCALE



CLIENT:
CLEARFIELD CITY

PROJECT NUMBER:
CC.16001

FILE: Storm Drain Maps -
cost estimate.dwg

SHEET: 25 of 35

PROJECT / LOCATION:
CAPITAL FACILITY PLAN
CLEARFIELD CITY, UTAH

TITLE:
PROJECT #25

DATE:
APRIL 2016

DRAWN:
JLN

CHECKED:
RTF / NSN

NO.	DATE	BY	REVISIONS

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CONSULTANTS, PLLC.
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RIVERDALE, UT 84405
801.866.0550

CLEARFIELD CITY CAPITAL FACILITIES PLAN

STORM DRAINAGE

Engineer's Cost Estimate

April 2016

Project Name: **State Street and 200 South Street - Piping and Collection Improvements**
Project Location: **50 South along State Street to 200 South Street then to Depot Street**
Project Number: **Project #25**

<i>Item</i>	<i>Description</i>	<i>Quantity</i>	<i>Units</i>	<i>Unit Price</i>	<i>Amount</i>
1.	Mobilization and insurance (3% of base bid).	1	ls.	\$8,000.00	\$8,000.00
2.	Remove existing storm drainage piping (average cost).	1	ls.	\$1,000.00	\$1,000.00
3.	Remove surface materials - asphalt & roadbase.	1,750	lf.	\$8.75	\$15,312.50
4.	Construct single grate inlet catch basin box.	9	ea.	\$2,975.00	\$26,775.00
5.	Construct 24" diameter rcp storm drain pipe.	870	lf.	\$62.50	\$54,375.00
6.	Construct 15" diameter rcp storm drain pipe.	880	lf.	\$46.25	\$40,700.00
7.	Construct 5' diameter storm drain manhole.	9	ea.	\$3,350.00	\$30,150.00
8.	Removal and installation of curb and gutter.	180	lf.	\$19.00	\$3,420.00
9.	Removal and installation of handicap ramp.	6	ea.	\$2,500.00	\$15,000.00
10.	Furnish trench backfill materials.	800	tons	\$11.00	\$8,800.00
11.	Furnish bedding materials.	430	tons	\$17.50	\$7,525.00
12.	Roadway patching.	1,200	sy.	\$23.60	\$28,320.00
13.	Traffic control and flagging.	45	days	\$70.00	\$3,150.00
14.	Looping commercial waterlines.	5	ea.	\$450.00	\$2,250.00
15.	Looping main waterlines.	4	ea.	\$4,700.00	\$18,800.00

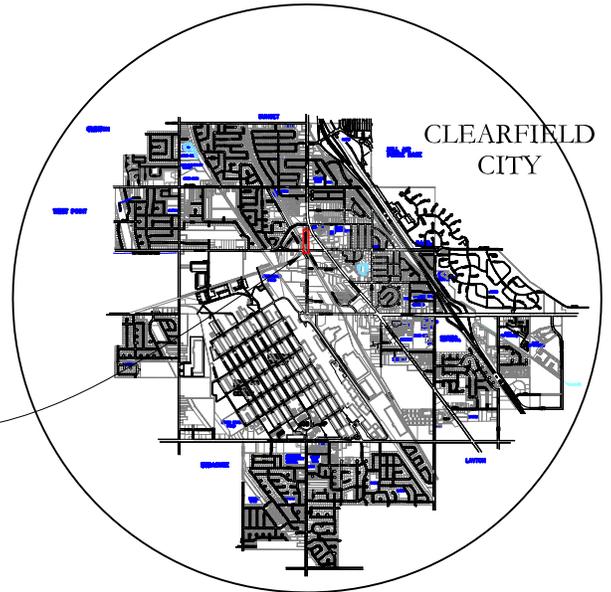
16. Looping main fire hydrants.	3 ea.	\$2,850.00	\$8,550.00
17. Landscaping & surface restoration.	1 ls.	\$1,000.00	<u>\$1,000.00</u>
		Subtotal	\$273,128.00
		Engineering and Construction Contingencies (20%)	<u>\$54,600.00</u>
		Estimated Total for Improvements	\$327,700.00

PROJECT #26

STORM WATER PROJECT

Depot Street - Piping and Collection Improvements
(50 South to 200 South Street)

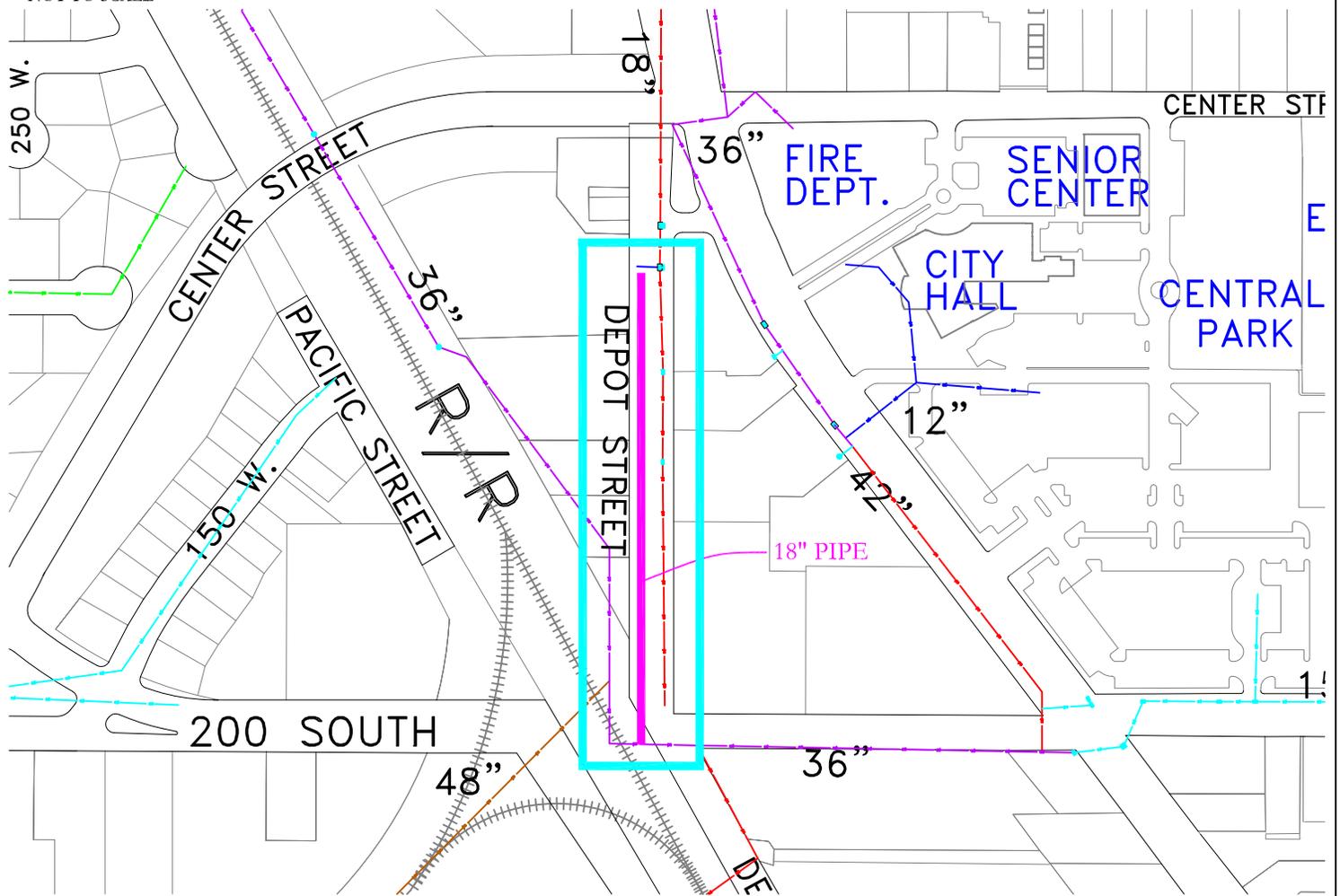
ESTIMATED COST: \$164,500.00



Project #26
Location



NOT TO SCALE



CLIENT:
CLEARFIELD CITY

PROJECT NUMBER:
CC.16001

FILE: Storm Drain Maps -
cost estimate.dwg

SHEET:
26 of 35

PROJECT / LOCATION:
CAPITAL FACILITY PLAN
CLEARFIELD CITY, UTAH

TITLE:
PROJECT #26

DATE:
APRIL 2016

DRAWN:
JLN

CHECKED:
RTF / NSN

NO.	DATE	BY	REVISIONS

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CONSULTANTS, PLLC.
5141 SOUTH 1500 WEST
RIVERDALE, UT 84405
801.866.0550

CLEARFIELD CITY CAPITAL FACILITIES PLAN

STORM DRAINAGE

Engineer's Cost Estimate

April 2016

Project Name: **Depot Street - Piping and Collection Improvements**
Project Location: **50 South to 200 South Street**
Project Number: **Project #26**

<i>Item</i>	<i>Description</i>	<i>Quantity</i>	<i>Units</i>	<i>Unit Price</i>	<i>Amount</i>
1.	Mobilization and insurance (3% of base bid).	1	ls.	\$4,000.00	\$4,000.00
2.	Remove existing storm drainage piping (average cost).	1	ls.	\$1,000.00	\$1,000.00
3.	Remove surface materials - asphalt & roadbase.	850	lf.	\$8.75	\$7,437.50
4.	Construct single grate inlet catch basin box.	4	ea.	\$2,975.00	\$11,900.00
5.	Construct 18" diameter rcp storm drain pipe.	850	lf.	\$58.00	\$49,300.00
6.	Construct 5' diameter storm drain manhole.	6	ea.	\$3,350.00	\$20,100.00
7.	Removal and installation of curb and gutter.	90	lf.	\$19.00	\$1,710.00
8.	Removal and installation of handicap ramp.	2	ea.	\$2,500.00	\$5,000.00
9.	Furnish trench backfill materials.	380	tons	\$11.00	\$4,180.00
10.	Furnish bedding materials.	430	tons	\$17.50	\$7,525.00
11.	Roadway patching.	200	sy.	\$23.60	\$4,720.00
12.	Traffic control and flagging.	30	days	\$70.00	\$2,100.00
13.	Looping commercial waterlines.	5	ea.	\$450.00	\$2,250.00
14.	Looping main waterlines.	2	ea.	\$4,700.00	\$9,400.00
15.	Looping main fire hydrants.	2	ea.	\$2,750.00	\$5,500.00

16. Landscaping & surface restoration.	1 ls.	\$1,000.00	<u>\$1,000.00</u>
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		Subtotal	\$137,123.00
		Engineering and Construction Contingencies (20%)	<u>\$27,400.00</u>

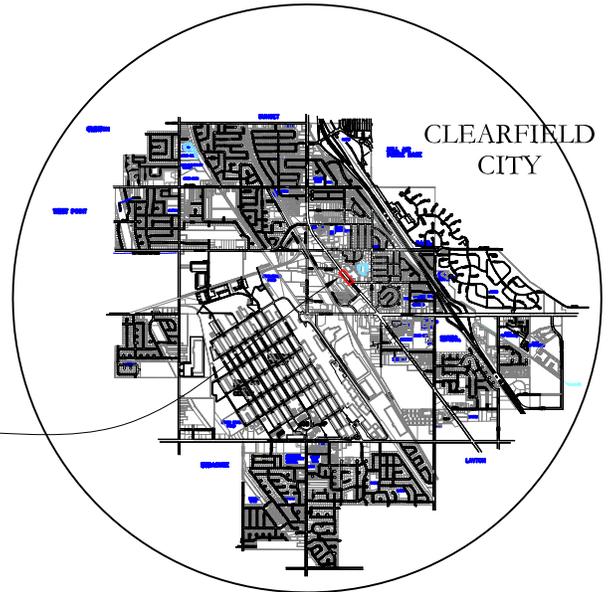
		Estimated Total for Improvements	\$164,500.00
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PROJECT #27

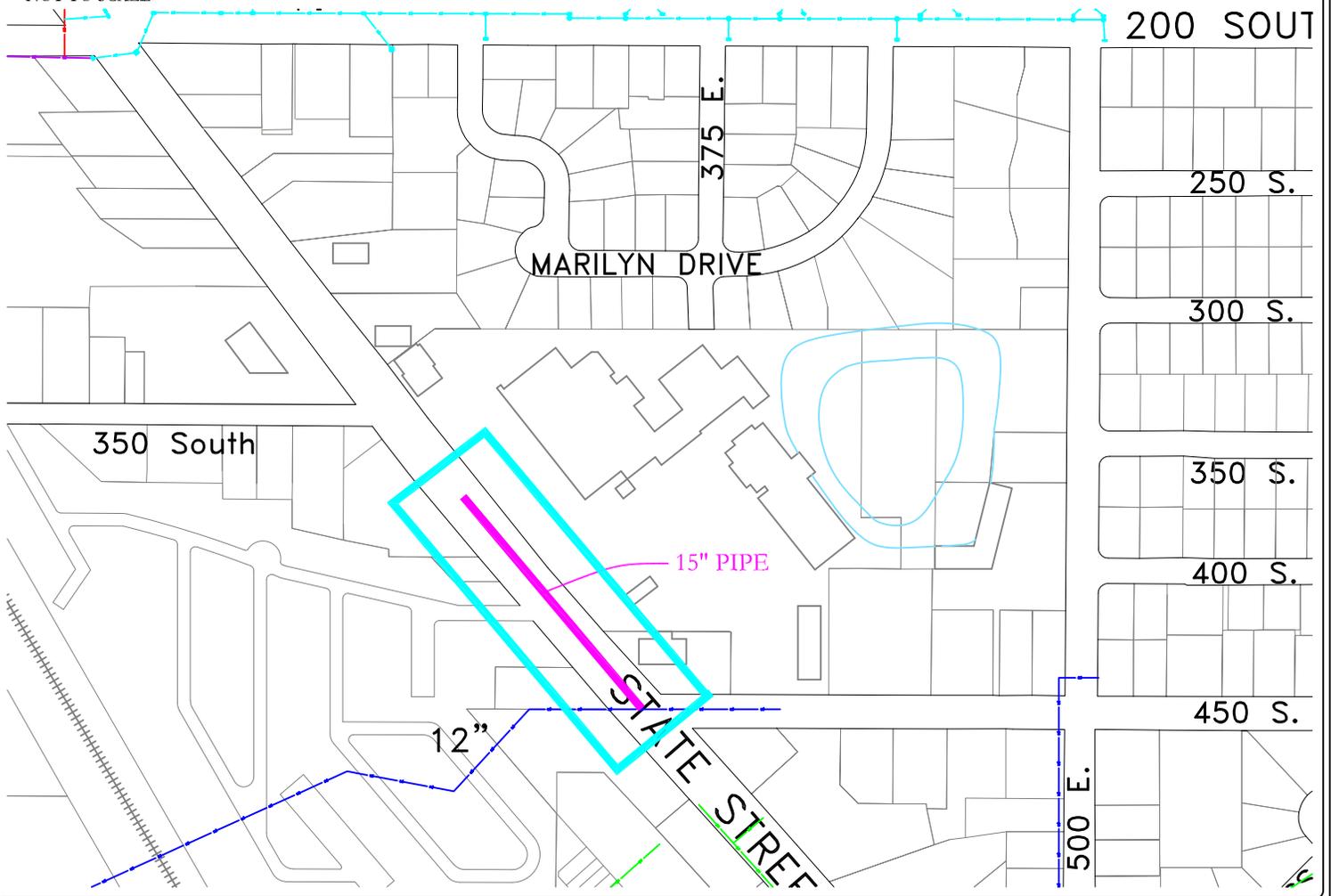
STORM WATER PROJECT

State Street - Piping and Collection Improvements
(375 South to 450 South Street)

ESTIMATED COST: \$116,200.00



NOT TO SCALE



CLIENT:
CLEARFIELD CITY

PROJECT NUMBER:
CC.16001

FILE: Storm Drain Maps -
cost estimate.dwg

SHEET: 27 of 35

PROJECT / LOCATION:
**CAPITAL FACILITY PLAN
CLEARFIELD CITY, UTAH**

TITLE:
PROJECT #27

DATE:
APRIL 2016

DRAWN:
JLN

CHECKED:
RTF / NSN

NO.	DATE	BY	REVISIONS

CIVIL ENGINEERING
CONSULTANTS, PLLC.
5141 SOUTH 1500 WEST
RIVERDALE, UT 84405
801.866.0550

CLEARFIELD CITY CAPITAL FACILITIES PLAN

STORM DRAINAGE

Engineer's Cost Estimate

April 2016

Project Name: **State Street - Piping and Collection Improvements**
Project Location: **375 South to 450 South Street**
Project Number: **Project #27**

<i>Item</i>	<i>Description</i>	<i>Quantity</i>	<i>Units</i>	<i>Unit Price</i>	<i>Amount</i>
1.	Mobilization and insurance (3% of base bid).	1	ls.	\$2,800.00	\$2,800.00
2.	Remove existing storm drainage piping (average cost).	1	ls.	\$1,000.00	\$1,000.00
3.	Remove surface materials - asphalt & roadbase.	560	lf.	\$8.75	\$4,900.00
4.	Construct single grate inlet catch basin box.	4	ea.	\$2,975.00	\$11,900.00
5.	Construct 15" diameter rcp storm drain pipe.	560	lf.	\$46.25	\$25,900.00
6.	Construct 5' diameter storm drain manhole.	4	ea.	\$3,350.00	\$13,400.00
7.	Removal and installation of curb and gutter.	80	lf.	\$19.00	\$1,520.00
9.	Furnish trench backfill materials.	300	tons	\$11.00	\$3,300.00
10.	Furnish bedding materials.	160	tons	\$17.50	\$2,800.00
11.	Roadway patching.	400	sy.	\$23.60	\$9,440.00
12.	Traffic control and flagging.	21	days	\$70.00	\$1,470.00
13.	Looping commercial waterlines.	1	ea.	\$450.00	\$450.00
14.	Looping main waterlines.	3	ea.	\$4,700.00	\$14,100.00
15.	Looping main fire hydrants.	1	ea.	\$2,850.00	\$2,850.00

16. Landscaping & surface restoration.	1 ls.	\$1,000.00	<u>\$1,000.00</u>
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		Subtotal	\$96,830.00
		Engineering and Construction Contingencies (20%)	<u>\$19,400.00</u>

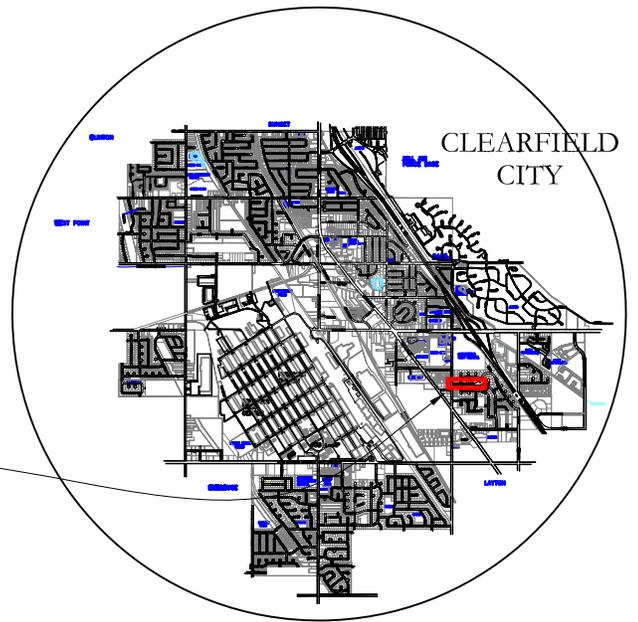
		Estimated Total for Improvements	\$116,200.00
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PROJECT #28

STORM WATER IMPROVEMENT

1100 South Street - Piping and Collection Improvements
(1200 East to 1000 East on 1100 South Street)

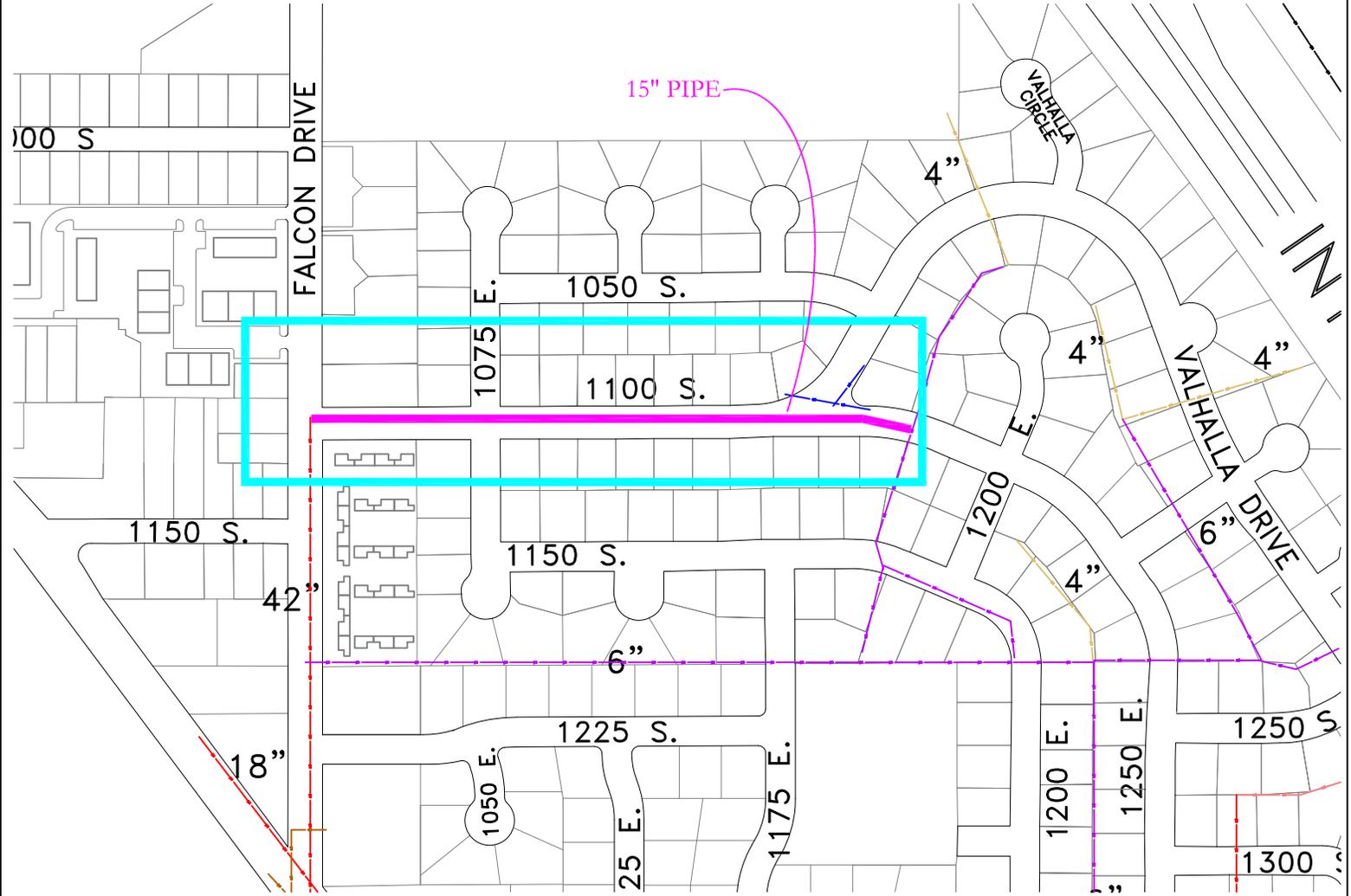
ESTIMATED COST: \$235,800.00



Project #28
Location



NOT TO SCALE



CLIENT:
CLEARFIELD CITY
PROJECT NUMBER:
CC.09001
FILE: Storm Drain Maps -
cost estimate.dwg
SHEET: 28 of 35

PROJECT / LOCATION:
**CAPITAL FACILITY PLAN
CLEARFIELD CITY, UTAH**
TITLE:
PROJECT #28

DATE:
APRIL 2016
DRAWN:
JLN
CHECKED:
RTF / NSN

NO.	DATE	BY	REVISIONS



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CONSULTANTS, PLLC.
5141 SOUTH 1500 WEST
RIVERDALE, UT 84405
801.866.0550

CLEARFIELD CITY CAPITAL FACILITIES PLAN

STORM DRAINAGE

Engineer's Cost Estimate

April 2016

Project Name: **1100 South Street - Piping and Collection Improvements**
Project Location: **1200 East to 1000 East on 1100 South Street**
Project Number: **Project #28**

<i>Item</i>	<i>Description</i>	<i>Quantity</i>	<i>Units</i>	<i>Unit Price</i>	<i>Amount</i>
1.	Mobilization and insurance (3% of base bid).	1	ls.	\$5,700.00	\$5,700.00
2.	Remove surface materials - asphalt & roadbase.	1	ls.	\$1,000.00	\$1,000.00
3.	Construct single grate inlet catch basin box.	12	ea.	\$2,725.00	\$32,700.00
4.	Construct 15" diameter rcp storm drain pipe.	1,250	lf.	\$46.25	\$57,812.50
5.	Construct 4' diameter storm drain manhole.	5	ea.	\$2,750.00	\$13,750.00
6.	Removal and installation of curb and gutter.	180	lf.	\$19.00	\$3,420.00
7.	Removal and installation of handicap ramp.	8	ea.	\$2,500.00	\$20,000.00
8.	Furnish trench backfill materials.	575	tons	\$11.00	\$6,325.00
9.	Furnish bedding materials.	300	tons	\$17.50	\$5,250.00
10.	Roadway patching.	850	sy.	\$23.60	\$20,060.00
11.	Traffic control and flagging.	30	days	\$70.00	\$2,100.00
12.	Looping residential waterlines.	14	ea.	\$450.00	\$6,300.00
13.	Looping main waterlines.	2	ea.	\$4,700.00	\$9,400.00
14.	Looping fire hydrants.	2	ea.	\$2,820.00	\$5,640.00

15. Landscaping & surface restoration.	14 ea.	\$500.00	<u>\$7,000.00</u>
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		Subtotal	\$196,458.00
		Engineering and Construction Contingencies (20%)	<u>\$39,300.00</u>

		Estimated Total for Improvements	\$235,800.00
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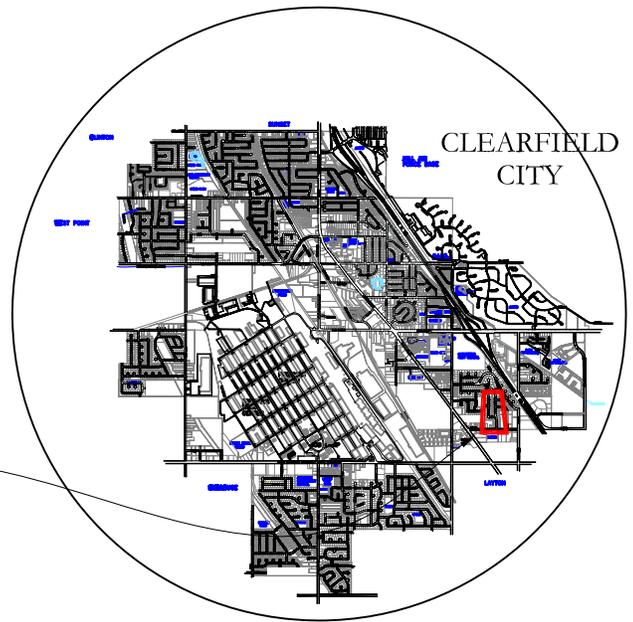
PROJECT #29

STORM WATER PROJECT

1250 East Street, 1400 South Streets and 1200 East Street
 - Piping and Collection Improvements

(1125 South to 1450 South on 1250 East Street
 1250 East to 1200 East on 1400 South Street
 1400 South to 1250 South on 1200 East Street)

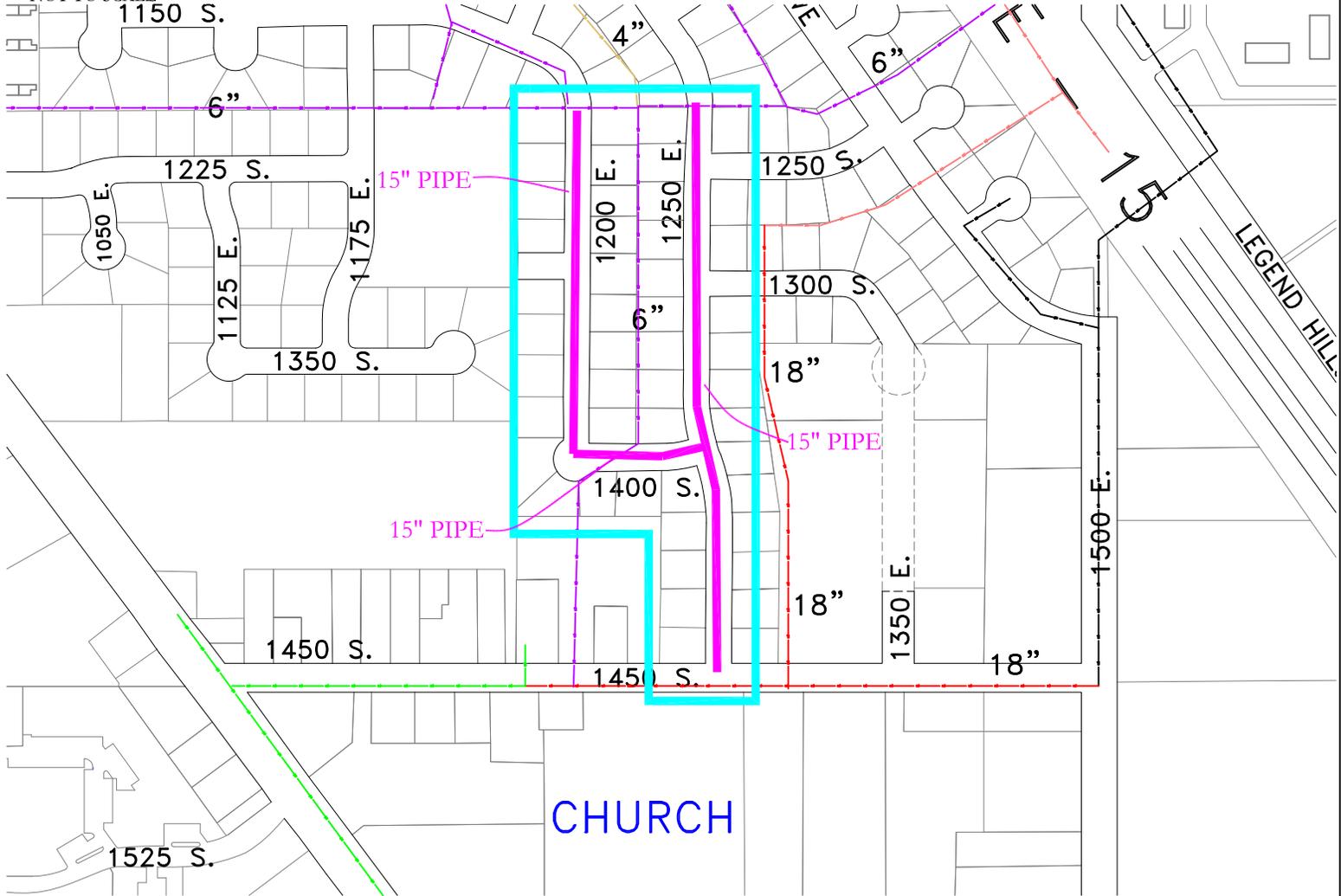
ESTIMATED COST: \$472,400.00



Project #29
 Location



NOT TO SCALE



CLIENT:
 CLEARFIELD CITY
 PROJECT NUMBER:
 CC.16001
 FILE: Storm Drain Maps -
 cost estimate.dwg
 SHEET: 29 of 35

PROJECT / LOCATION:
 CAPITAL FACILITY PLAN
 CLEARFIELD CITY, UTAH
 TITLE:
 PROJECT #29

DATE:
 APRIL 2016
 DRAWN:
 JLN
 CHECKED:
 RTF / NSN

NO.	DATE	BY	REVISIONS

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 RIVERDALE, UT 84405
 801.866.0550

CLEARFIELD CITY CAPITAL FACILITIES PLAN

STORM DRAINAGE

Engineer's Cost Estimate

April 2016

Project Name: **1250 East, 1400 South, and 1200 East Streets**
- Piping and Collection Improvements
Project Location: **1125 South to 1450 South on 1250 East Street**
1250 East to 1200 East on 1400 South Street
1400 South to 1250 South on 1200 East Street
Project Number: **Project #29**

<i>Item</i>	<i>Description</i>	<i>Quantity</i>	<i>Units</i>	<i>Unit Price</i>	<i>Amount</i>
1.	Mobilization and insurance (3% of base bid).	1	ls.	\$11,400.00	\$11,400.00
2.	Remove surface materials - asphalt & roadbase.	2,500	lf.	\$8.75	\$21,875.00
3.	Construct single grate inlet catch basin box.	16	ea.	\$2,925.00	\$46,800.00
4.	Construct 15" diameter rcp storm drain pipe.	2,500	lf.	\$46.25	\$115,625.00
5.	Construct 4' diameter storm drain manhole.	4	ea.	\$2,750.00	\$11,000.00
6.	Construct 5' diameter storm drain manhole.	6	ea.	\$3,350.00	\$20,100.00
7.	Removal and installation of curb and gutter.	320	lf.	\$19.00	\$6,080.00
8.	Removal and installation of handicap ramp.	12	ea.	\$2,500.00	\$30,000.00
9.	Furnish trench backfill materials.	1,100	tons	\$11.00	\$12,100.00
10.	Furnish bedding materials.	600	tons	\$17.50	\$10,500.00
11.	Roadway patching.	1,680	sy.	\$23.60	\$39,648.00
12.	Traffic control and flagging.	60	days	\$70.00	\$4,200.00
13.	Looping residential waterlines.	30	ea.	\$450.00	\$13,500.00

14. Looping fire hydrants.	6 ea.	\$2,850.00	\$17,100.00
15. Looping main waterlines.	4 ea.	\$4,700.00	\$18,800.00
16. Landscaping & surface restoration.	30 ea	\$500.00	<u>\$15,000.00</u>

		Subtotal	\$393,728.00
		Engineering and Construction Contingencies (20%)	<u>\$78,700.00</u>

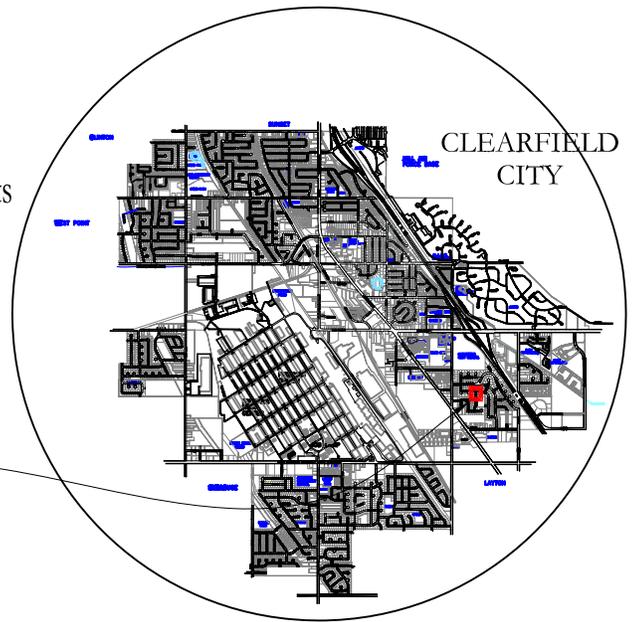
Estimated Total for Improvements \$472,400.00

PROJECT #30

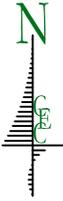
STORM WATER PROJECT

1150 South and 1175 East Streets - Piping and Collection Improvements
 (1125 East to 1200 East on 1150 South Street
 1150 South to 1225 South on 1175 East Street)

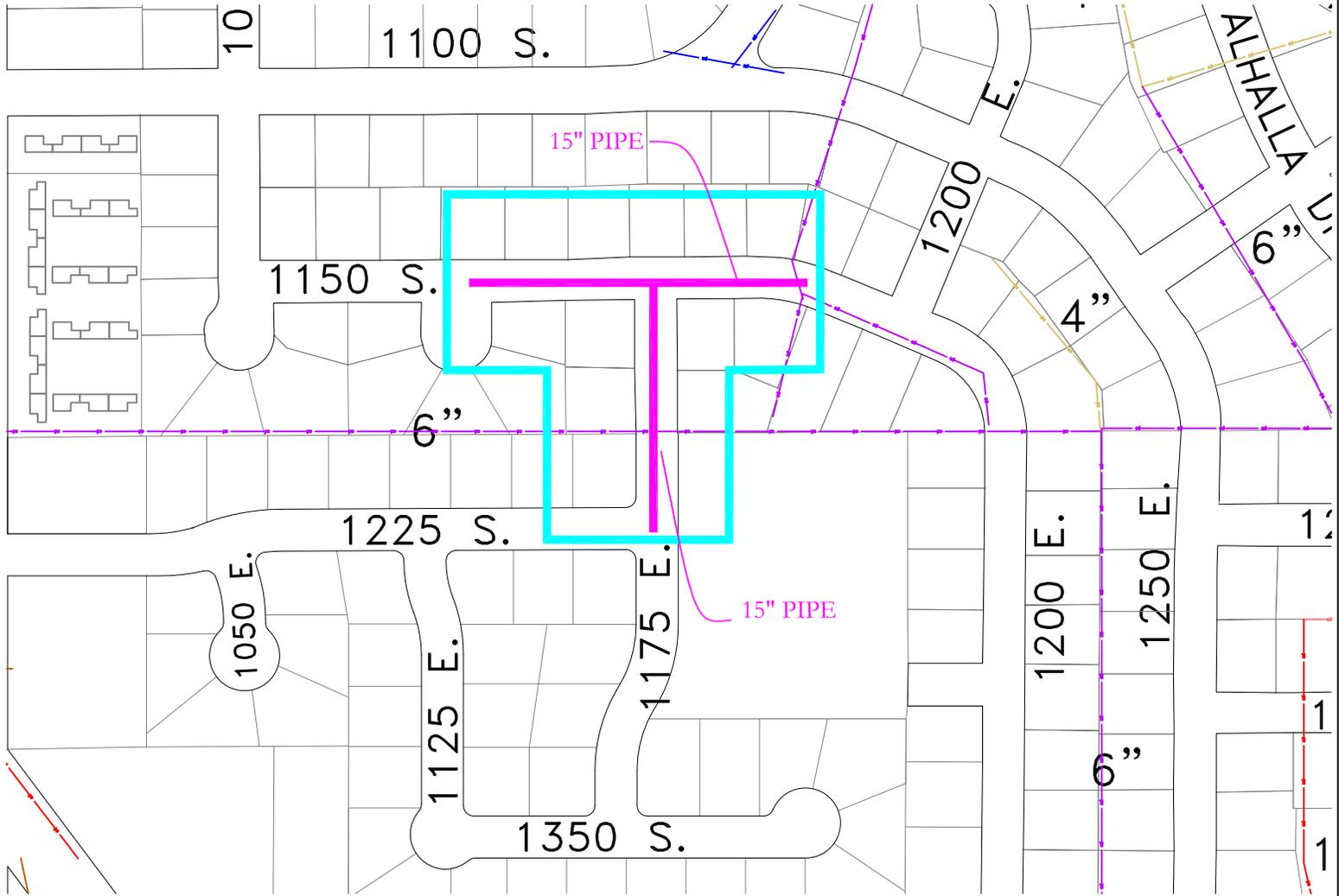
ESTIMATED COST: \$214,100.00



Project #30
 Location



NOT TO SCALE



CLIENT:
 CLEARFIELD CITY
 PROJECT NUMBER:
 CC.16001
 FILE: Storm Drain Maps -
 cost estimate.dwg
 SHEET: 30 of 35

PROJECT / LOCATION:
 CAPITAL FACILITY PLAN
 CLEARFIELD CITY, UTAH
 TITLE:
 PROJECT #30

DATE:
 APRIL 2016
 DRAWN:
 JLN
 CHECKED:
 RTF / NSN

NO.	DATE	BY	REVISIONS

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CLEARFIELD CITY CAPITAL FACILITIES PLAN

STORM DRAINAGE

Engineer's Cost Estimate

April 2016

Project Name: **1150 South and 1175 East Streets - Piping and Collection Improvements**
Project Location: **1125 East to 1200 East on 1150 South Street**
1150 South to 1225 South on 1175 East Street
Project Number: **Project #30**

<i>Item</i>	<i>Description</i>	<i>Quantity</i>	<i>Units</i>	<i>Unit Price</i>	<i>Amount</i>
1.	Mobilization and insurance (3% of base bid).	1	ls.	\$5,300.00	\$5,300.00
2.	Remove surface materials - asphalt & roadbase.	950	lf.	\$8.75	\$8,312.50
3.	Construct single grate inlet catch basin box.	9	ea.	\$2,925.00	\$26,325.00
4.	Construct 15" diameter rcp storm drain pipe.	950	lf.	\$46.25	\$43,937.50
5.	Construct 4' diameter storm drain manhole.	4	ea.	\$2,750.00	\$11,000.00
6.	Construct 5' diameter storm drain manhole.	1	ea.	\$3,350.00	\$3,350.00
7.	Removal and installation of curb and gutter.	180	lf.	\$19.00	\$3,420.00
8.	Removal and installation of handicap ramp.	7	ea.	\$2,500.00	\$17,500.00
9.	Furnish trench backfill materials.	430	tons	\$11.00	\$4,730.00
10.	Furnish bedding materials.	220	tons	\$17.50	\$3,850.00
11.	Roadway patching.	650	sy.	\$23.60	\$15,340.00
12.	Traffic control and flagging.	45	days	\$70.00	\$3,150.00
13.	Looping residential waterlines.	15	ea.	\$450.00	\$6,750.00
14.	Looping main waterlines.	2	ea.	\$4,700.00	\$9,400.00

15. Looping fire hydrants.	3 ea.	\$2,850.00	\$8,550.00
16. Landscaping & surface restoration.	15 ea.	\$500.00	<u>\$7,500.00</u>

		Subtotal	\$178,415.00
		Engineering and Construction Contingencies (20%)	<u>\$35,700.00</u>

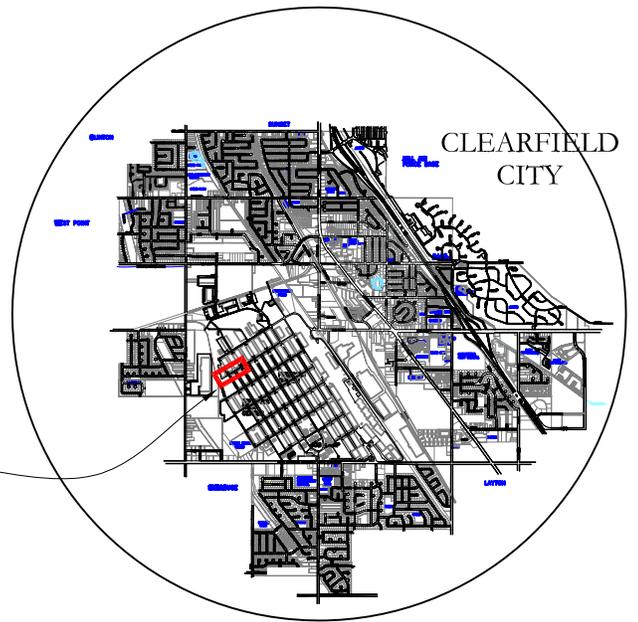
Estimated Total for Improvements \$214,100.00

PROJECT #31

STORM WATER PROJECT

G Street - Freeport Center - Piping and Collection Improvements
 (Open canal just West of 3rd Street to 5th Street)

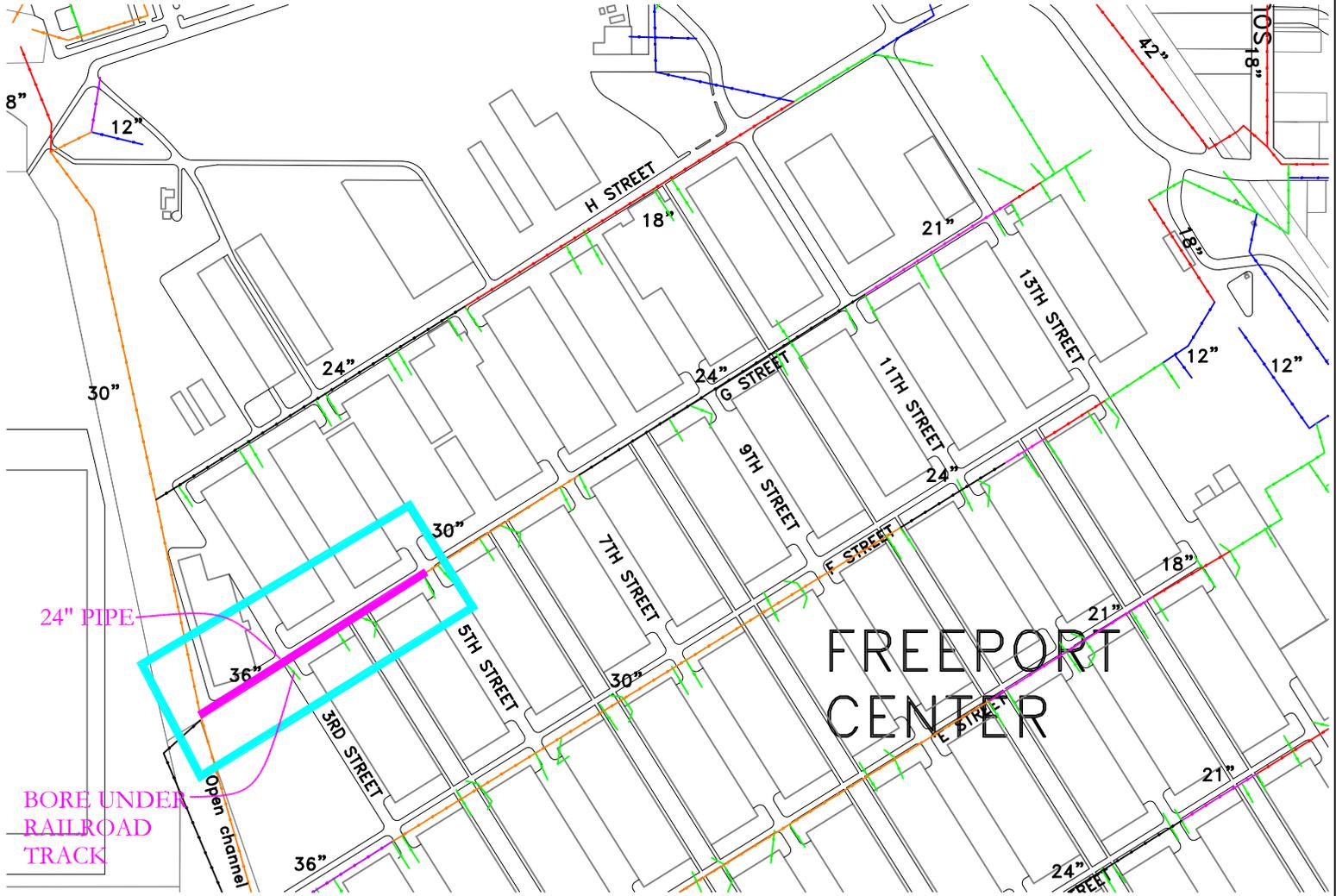
ESTIMATED COST: \$307,700.00



Project #31
 Location



NOT TO SCALE



CLIENT:
 CLEARFIELD CITY
 PROJECT NUMBER:
 CC.16001
 FILE: Storm Drain Maps -
 cost estimate.dwg
 SHEET:
 31 of 35

PROJECT / LOCATION:
 CAPITAL FACILITY PLAN
 CLEARFIELD CITY, UTAH
 TITLE:
 PROJECT #31

DATE:
 APRIL 2016
 DRAWN:
 JLN
 CHECKED:
 RTF / NSN

NO.	DATE	BY	REVISIONS

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CLEARFIELD CITY CAPITAL FACILITIES PLAN

STORM DRAINAGE

Engineer's Cost Estimate

April 2016

Project Name: **G Street - Freeport Center - Piping and Collection Improvements**
Project Location: **Open canal just West of 3rd Street to 5th Street**
Project Number: **Project #31**

<i>Item</i>	<i>Description</i>	<i>Quantity</i>	<i>Units</i>	<i>Unit Price</i>	<i>Amount</i>
1.	Mobilization and insurance (3% of base bid).	1	ls.	\$7,500.00	\$7,500.00
2.	Remove existing storm drainage piping (average cost).	1	ls.	\$1,000.00	\$1,000.00
3.	Remove surface materials - asphalt & roadbase.	1,150	lf.	\$8.75	\$10,062.50
4.	Construct single grate inlet catch basin box.	10	ea.	\$2,975.00	\$29,750.00
5.	Construct 15" diameter rcp storm drain pipe.	150	lf.	\$46.25	\$6,937.50
6.	Construct 24" diameter rcp storm drain pipe.	1,000	lf.	\$62.50	\$62,500.00
7.	Construct 5' diameter storm drain manhole.	5	ea.	\$3,350.00	\$16,750.00
8.	Furnish trench backfill materials.	520	tons	\$11.00	\$5,720.00
9.	Furnish bedding materials.	270	tons	\$17.50	\$4,725.00
10.	Roadway patching.	800	sy.	\$23.60	\$18,880.00
11.	Traffic control and flagging.	30	days	\$70.00	\$2,100.00
12.	Looping commercial waterlines.	8	ea.	\$450.00	\$3,600.00
13.	Looping main waterlines.	5	ea.	\$4,700.00	\$23,500.00
14.	Looping fire hydrants.	4	ea.	\$2,850.00	\$11,400.00
15.	Pipe bore under the railroad crossing.	1	ea.	\$47,000.00	\$47,000.00

16. Landscaping & surface restoration.	1 ls.	\$5,000.00	<u>\$5,000.00</u>
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		Subtotal	\$256,425.00
		Engineering and Construction Contingencies (20%)	<u>\$51,300.00</u>

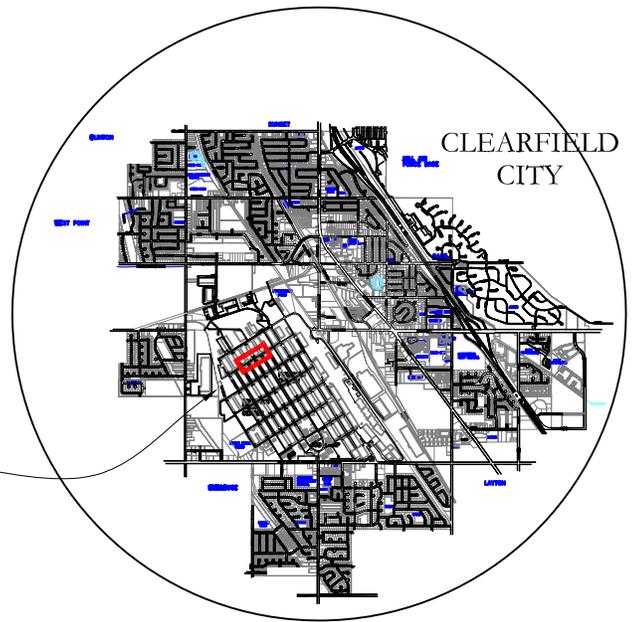
		Estimated Total for Improvements	\$307,700.00
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PROJECT #32

STORM WATER PROJECT

G Street - Freeport Center - Piping and Collection Improvements
(5th Street to 9th Street)

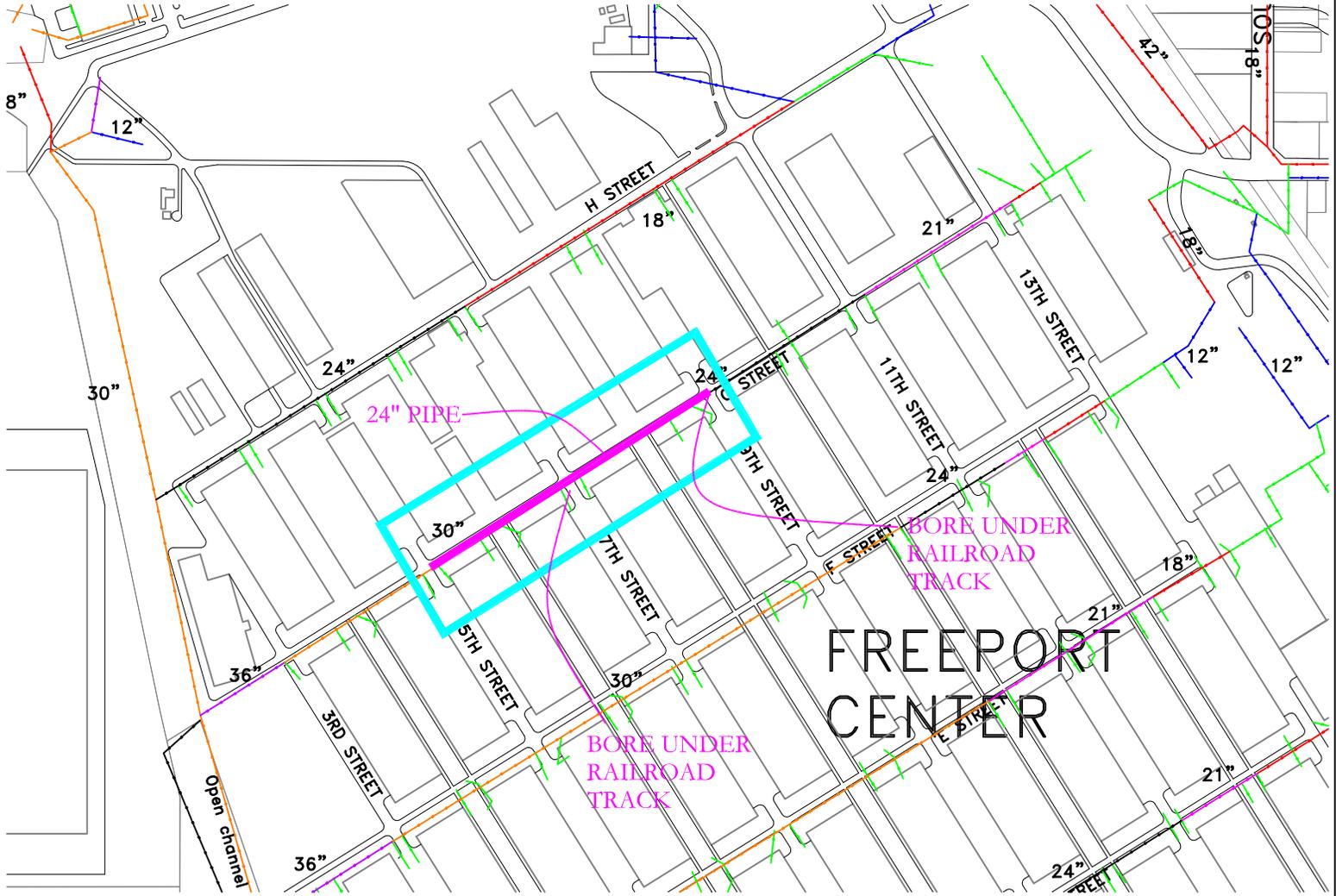
ESTIMATED COST: \$395,400.00



Project #32
Location



NOT TO SCALE



CLIENT:
CLEARFIELD CITY
PROJECT NUMBER:
CC.16001
FILE: Storm Drain Maps -
cost estimate.dwg
SHEET: 32 of 35

PROJECT / LOCATION:
CAPITAL FACILITY PLAN
CLEARFIELD CITY, UTAH
TITLE:
PROJECT #32

DATE:
APRIL 2016
DRAWN:
JLN
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NO.	DATE	BY	REVISIONS

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RIVERDALE, UT 84405
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CLEARFIELD CITY CAPITAL FACILITIES PLAN

STORM DRAINAGE

Engineer's Cost Estimate

April 2016

Project Name: **G Street - Freeport Center - Piping and Collection Improvements**
Project Location: **5th Street to 9th Street**
Project Number: **Project #32**

<i>Item</i>	<i>Description</i>	<i>Quantity</i>	<i>Units</i>	<i>Unit Price</i>	<i>Amount</i>
1.	Mobilization and insurance (3% of base bid).	1	ls.	\$9,600.00	\$9,600.00
2.	Remove existing storm drainage piping (average cost).	1	ls.	\$1,000.00	\$1,000.00
3.	Remove surface materials - asphalt & roadbase.	1,370	lf.	\$8.75	\$11,987.50
4.	Construct single grate inlet catch basin box.	10	ea.	\$2,975.00	\$29,750.00
5.	Construct 15" diameter rcp storm drain pipe.	150	lf.	\$46.25	\$6,937.50
6.	Construct 24" diameter rcp storm drain pipe.	1,220	lf.	\$62.50	\$76,250.00
7.	Construct 5' diameter storm drain manhole.	6	ea.	\$3,350.00	\$20,100.00
8.	Furnish trench backfill materials.	620	tons	\$11.00	\$6,820.00
9.	Furnish bedding materials.	330	tons	\$17.50	\$5,775.00
10.	Roadway patching.	920	sy.	\$23.60	\$21,712.00
11.	Traffic control and flagging.	30	days	\$70.00	\$2,100.00
12.	Looping commercial waterlines.	8	ea.	\$450.00	\$3,600.00
13.	Looping main waterlines.	5	ea.	\$4,700.00	\$23,500.00
14.	Looping fire hydrants.	4	ea.	\$2,850.00	\$11,400.00
15.	Pipe bore under the railroad crossing.	2	ea.	\$47,000.00	\$94,000.00

16. Landscaping & surface restoration.	1 ls.	\$5,000.00	<u>\$5,000.00</u>
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		Subtotal	\$329,532.00
		Engineering and Construction Contingencies (20%)	<u>\$65,900.00</u>

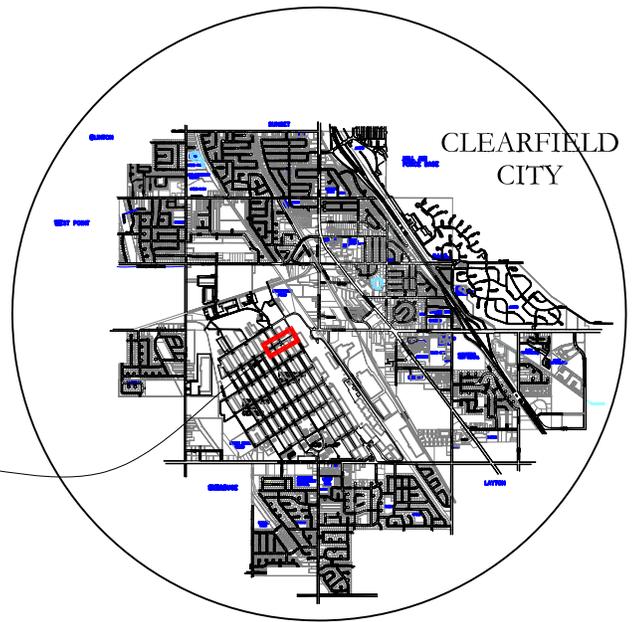
		Estimated Total for Improvements	\$395,400.00
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PROJECT #33

STORM WATER PROJECT

G Street - Freeport Center - Piping and Collection Improvements
(9th Street to 13th Street)

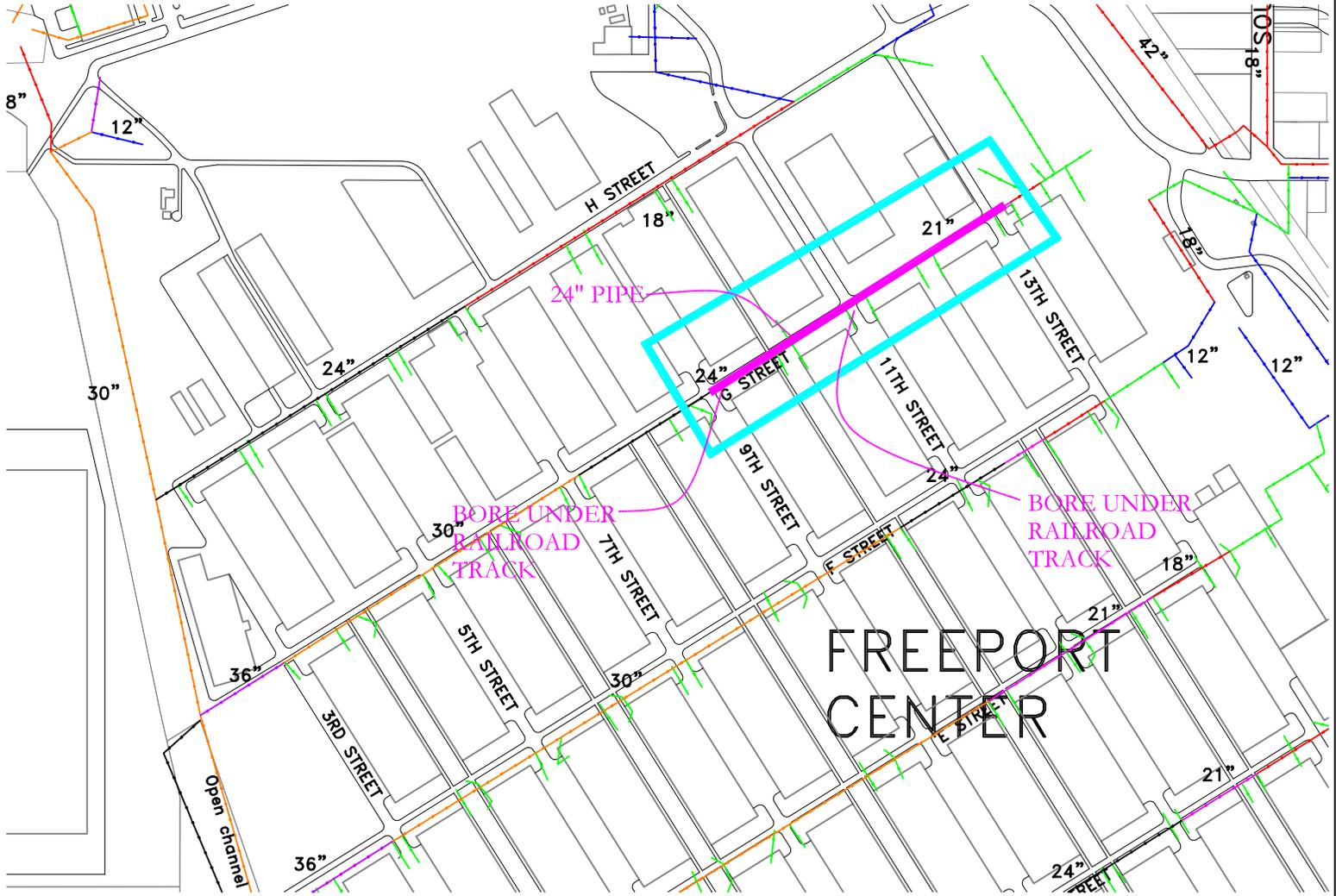
ESTIMATED COST: \$420,100.00



Project #33
Location



NOT TO SCALE



CLIENT:
CLEARFIELD CITY
PROJECT NUMBER:
CC.16001
FILE: Storm Drain Maps -
cost estimate.dwg
SHEET: 33 of 35

PROJECT / LOCATION:
CAPITAL FACILITY PLAN
CLEARFIELD CITY, UTAH
TITLE:
PROJECT #33

DATE:
APRIL 2016
DRAWN:
JLN
CHECKED:
RTF / NSN

NO.	DATE	BY	REVISIONS

CIVIL ENGINEERING
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801.866.0550

CLEARFIELD CITY CAPITAL FACILITIES PLAN

STORM DRAINAGE

Engineer's Cost Estimate

April 2016

Project Name: **G Street - Freeport Center - Piping and Collection Improvements**
Project Location: **9th Street to 13th Street**
Project Number: **Project #33**

<i>Item</i>	<i>Description</i>	<i>Quantity</i>	<i>Units</i>	<i>Unit Price</i>	<i>Amount</i>
1.	Mobilization and insurance (3% of base bid).	1	ls.	\$10,100.00	\$10,100.00
2.	Remove existing storm drainage piping (average cost).	1	ls.	\$1,000.00	\$1,000.00
3.	Remove surface materials - asphalt & roadbase.	1,450	lf.	\$8.75	\$12,687.50
4.	Construct single grate inlet catch basin box.	13	ea.	\$2,975.00	\$38,675.00
5.	Construct 15" diameter rcp storm drain pipe.	150	lf.	\$46.25	\$6,937.50
6.	Construct 24" diameter rcp storm drain pipe.	1,300	lf.	\$62.50	\$81,250.00
7.	Construct 5' diameter storm drain manhole.	7	ea.	\$3,350.00	\$23,450.00
8.	Furnish trench backfill materials.	650	tons	\$11.00	\$7,150.00
9.	Furnish bedding materials.	320	tons	\$17.50	\$5,600.00
10.	Roadway patching.	1,000	sy.	\$23.60	\$23,600.00
11.	Traffic control and flagging.	30	days	\$70.00	\$2,100.00
12.	Looping commercial waterlines.	8	ea.	\$450.00	\$3,600.00
13.	Looping main waterlines.	5	ea.	\$4,700.00	\$23,500.00
14.	Looping fire hydrants.	4	ea.	\$2,850.00	\$11,400.00
15.	Pipe bore under the railroad crossing.	2	ea.	\$47,000.00	\$94,000.00

16. Landscaping & surface restoration.	1 ls.	\$5,000.00	<u>\$5,000.00</u>
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		Subtotal	\$350,050.00
		Engineering and Construction Contingencies (20%)	<u>\$70,000.00</u>

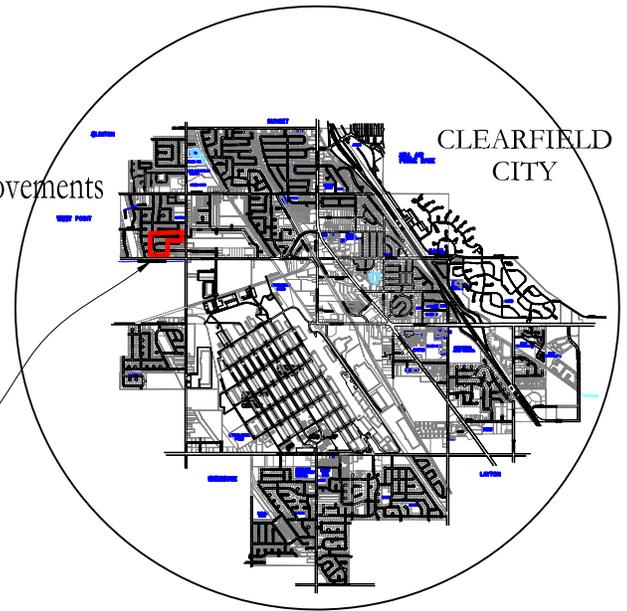
		Estimated Total for Improvements	\$420,100.00
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PROJECT #34

STORM WATER PROJECT

25 South, 75 South and 150 South Streets -Piping and Collection Improvements
 (1250 West to 1050 West on 25 South Street
 1250 West to 1150 West on 75 South Street
 1250 West to 1150 West on 150 South Street)

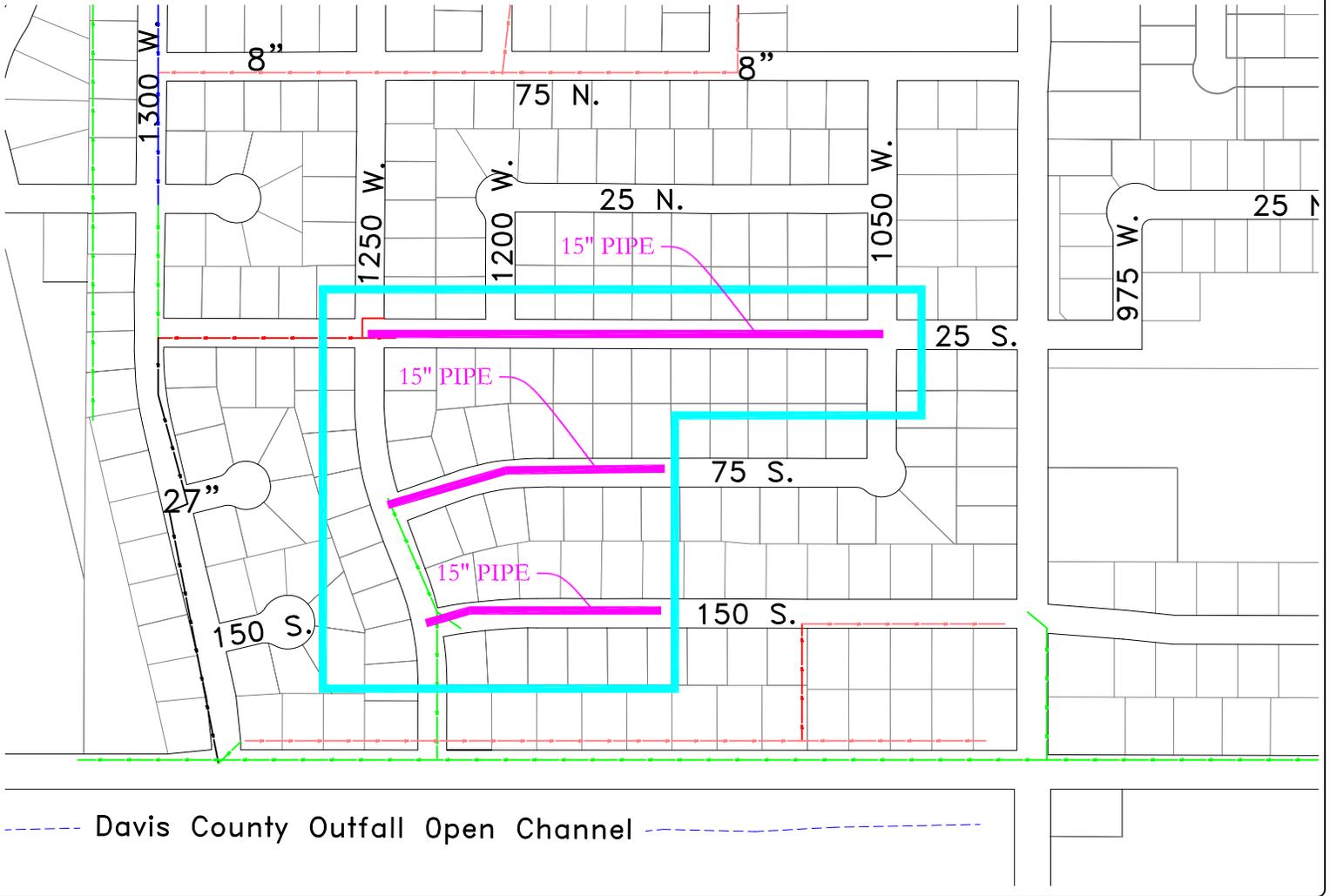
ESTIMATED COST: \$411,100.00



Project #34
 Location



NOT TO SCALE



--- Davis County Outfall Open Channel ---

CLIENT:
 CLEARFIELD CITY
 PROJECT NUMBER:
 CC.16001
 FILE: Storm Drain Maps -
 cost estimate.dwg
 SHEET: 34 of 35

PROJECT / LOCATION:
 CAPITAL FACILITY PLAN
 CLEARFIELD CITY, UTAH
 TITLE:
 PROJECT #34

DATE:
 APRIL 2016
 DRAWN:
 JLN
 CHECKED:
 RTF / NSN

NO.	DATE	BY	REVISIONS

CIVIL ENGINEERING
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 5141 SOUTH 1500 WEST
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 801.866.0550

CLEARFIELD CITY CAPITAL FACILITIES PLAN

STORM DRAINAGE

Engineer's Cost Estimate

April 2016

Project Name: **25 South, 75 South and 150 South Streets - Piping and Collection Improvements**
Project Location: **1250 West to 1050 West on 25 South Street**
1250 West to 1150 West on 75 South Street
1250 West to 1150 West on 150 South Street
Project Number: **Project #34**

<i>Item</i>	<i>Description</i>	<i>Quantity</i>	<i>Units</i>	<i>Unit Price</i>	<i>Amount</i>
1.	Mobilization and insurance (3% of base bid).	1	ls.	\$10,000.00	\$10,000.00
2.	Remove surface materials - asphalt & roadbase.	2,400	lf.	\$8.75	\$21,000.00
3.	Construct single grate inlet catch basin box.	17	ea.	\$2,925.00	\$49,725.00
4.	Construct 15" diameter rcp storm drain pipe.	2,400	lf.	\$46.25	\$111,000.00
5.	Construct 4' diameter storm drain manhole.	9	ea.	\$2,750.00	\$24,750.00
6.	Construct 5' diameter storm drain manhole.	1	ea.	\$3,350.00	\$3,350.00
7.	Removal and installation of curb and gutter	340	lf.	\$19.00	\$6,460.00
8.	Removal and installation of handicap ramp.	8	ea.	\$2,500.00	\$20,000.00
9.	Furnish trench backfill materials.	1,100	tons	\$11.00	\$12,100.00
10.	Furnish bedding materials.	550	tons	\$17.50	\$9,625.00
11.	Roadway patching.	1,620	sy.	\$19.50	\$31,590.00
12.	Traffic control and flagging.	45	days	\$70.00	\$3,150.00
13.	Looping residential waterlines.	20	ea.	\$450.00	\$9,000.00
14.	Looping main waterlines.	2	ea.	\$4,700.00	\$9,400.00

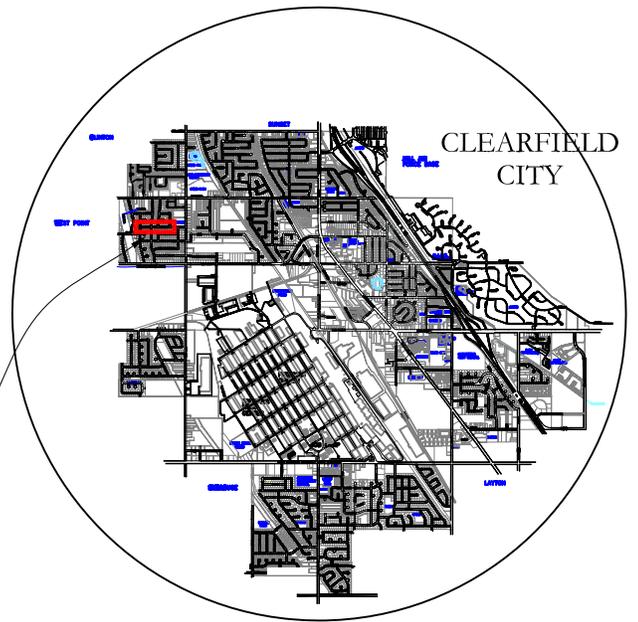
15. Looping fire hydrants.	4 ea.	\$2,850.00	\$11,400.00
16. Landscaping & surface restoration.	20 ea.	\$500.00	<u>\$10,000.00</u>
		Subtotal	\$342,550.00
		Engineering and Construction Contingencies (20%)	<u>\$68,500.00</u>
		Estimated Total for Improvements	\$411,100.00

PROJECT #35

STORM WATER PROJECT

75 North Street - Piping and Collection Improvements
 (1300 West to 1100 West on 75 North Street)

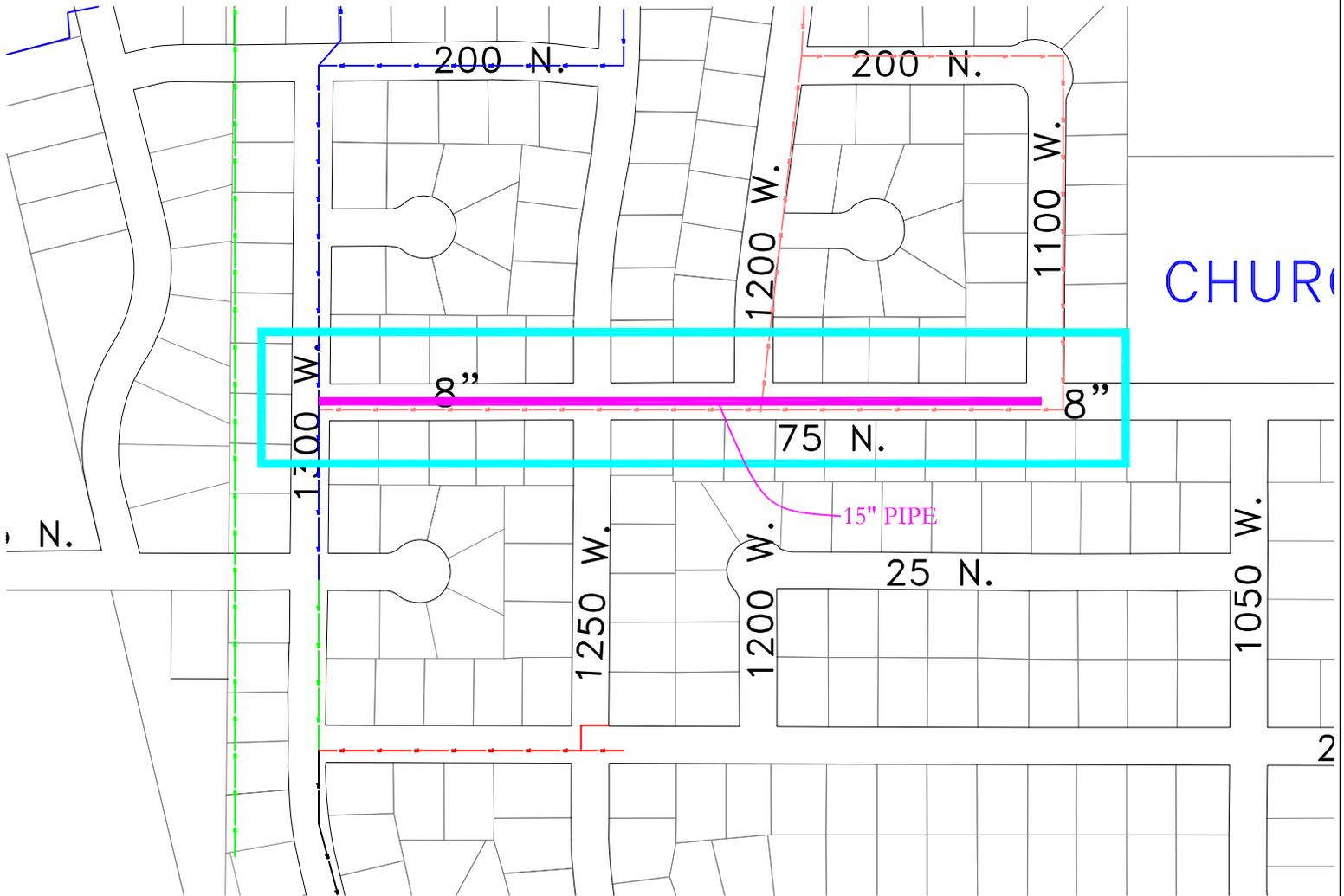
ESTIMATED COST: \$250,400.00



Project #35
 Location



NOT TO SCALE



CLIENT:
 CLEARFIELD CITY
 PROJECT NUMBER:
 CC.16001
 FILE: Storm Drain Maps -
 cost estimate.dwg
 SHEET: 35 of 35

PROJECT / LOCATION:
 CAPITAL FACILITY PLAN
 CLEARFIELD CITY, UTAH
 TITLE:
 PROJECT #35

DATE:
 APRIL 2016
 DRAWN:
 JLN
 CHECKED:
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NO.	DATE	BY	REVISIONS

 CIVIL ENGINEERING
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CLEARFIELD CITY CAPITAL FACILITIES PLAN

STORM DRAINAGE

Engineer's Cost Estimate

April 2016

Project Name: **75 North Street - Piping and Collection Improvements**
Project Location: **1300 West to 1100 West on 75 North Street**
Project Number: **Project #35**

<i>Item</i>	<i>Description</i>	<i>Quantity</i>	<i>Units</i>	<i>Unit Price</i>	<i>Amount</i>
1.	Mobilization and insurance (3% of base bid).	1	ls.	\$6,100.00	\$6,100.00
2.	Remove existing storm drainage piping (average cost).	1	ls.	\$1,000.00	\$1,000.00
3.	Remove surface materials - asphalt & roadbase.	1,170	lf.	\$8.75	\$10,237.50
4.	Construct single grate inlet catch basin box.	12	ea.	\$2,975.00	\$35,700.00
5.	Construct 15" diameter rcp storm drain pipe.	1,170	lf.	\$46.25	\$54,112.50
6.	Construct 4' diameter storm drain manhole.	4	ea.	\$2,750.00	\$11,000.00
7.	Construct 5' diameter storm drain manhole.	1	ea.	\$3,350.00	\$3,350.00
8.	Removal and installation of curb and gutter.	240	lf.	\$19.00	\$4,560.00
9.	Removal and installation of handicap ramp.	10	ea.	\$2,500.00	\$25,000.00
10.	Furnish trench backfill materials.	550	tons	\$11.00	\$6,050.00
11.	Furnish bedding materials.	260	tons	\$17.50	\$4,550.00
12.	Roadway patching.	780	sy.	\$23.60	\$18,408.00
13.	Traffic control and flagging.	30	days	\$70.00	\$2,100.00
14.	Looping residential waterlines.	12	ea.	\$450.00	\$5,400.00
15.	Looping main waterlines.	2	ea.	\$4,700.00	\$9,400.00

16. Looping fire hydrants.	2 ea.	\$2,850.00	\$5,700.00
17. Landscaping & surface restoration.	12 ea.	\$500.00	<u>\$6,000.00</u>
		Subtotal	\$208,668.00
		Engineering and Construction Contingencies (20%)	<u>\$41,700.00</u>
		Estimated Total for Improvements	\$250,400.00