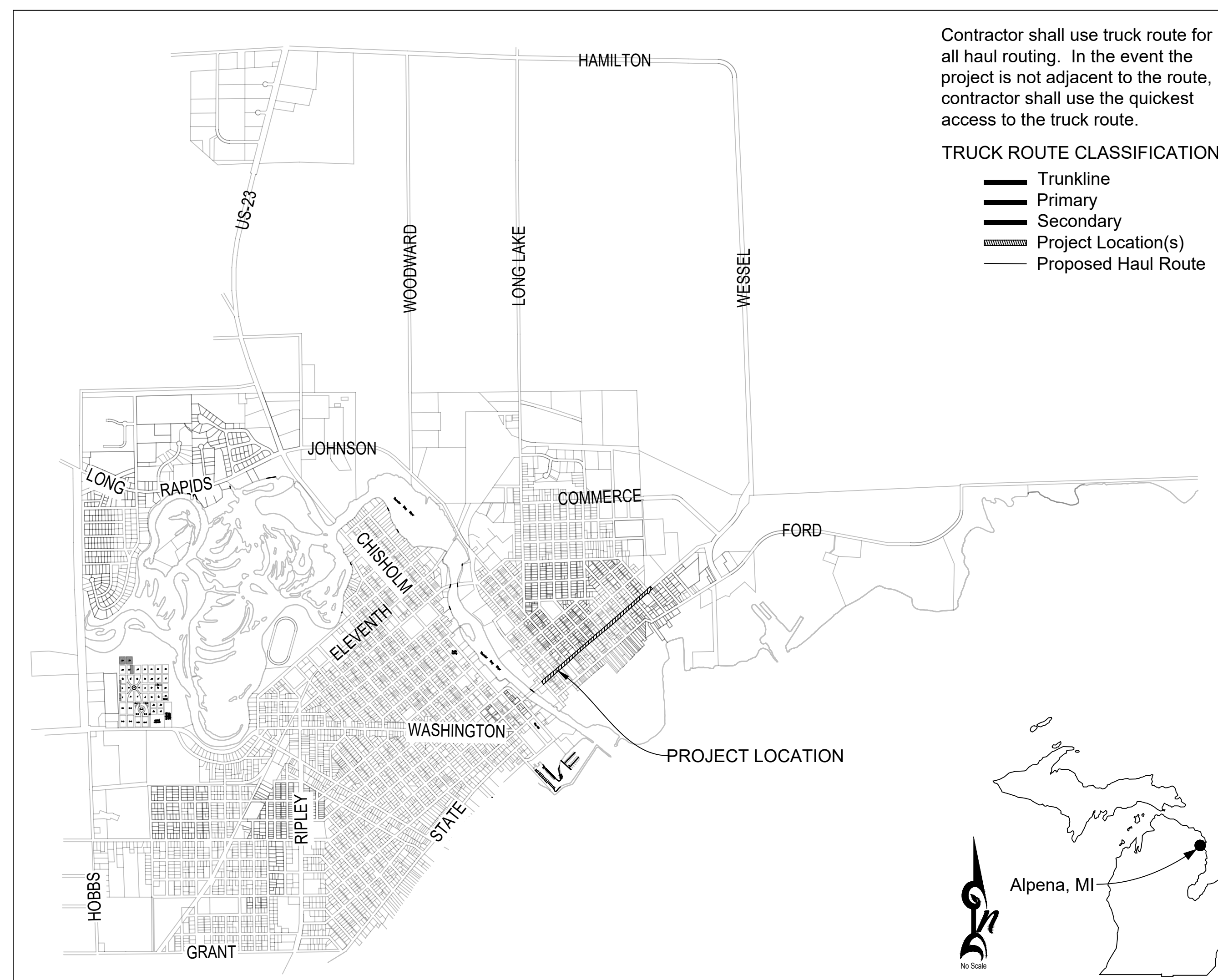


# City of Alpena Plans for Proposed Second Av Infrastructure Upgrades Fletcher St to Hueber St

Utilities

<u>Name of Contact</u>	<u>Type of Utility</u>
Veolia 210 Harbor Drive Alpena, MI 49707 Attn: Mike Collins (989) 354-1400	City Water and Sewer
Thunder Bay Electric 1693 M-32 West Alpena, MI 49707 Attn: Tim Modrzynski (989) 354-2840	City Lighting & Fiber Optic
DTE Energy (Michcon) 1111 US-23 North Alpena, MI 49707 Attn: Matthew Logan (231) 492-7479	Natural Gas
Frontier Communications 3840 US 23 North Alpena, MI 49707 Attn: John Kuziel (989) 657-6659	Telephone
Alpena Power Company 310 N. Second Av Alpena, MI 49707 Attn: Ken Dragiewicz (989) 358-4945 (Direct)	Electricity
Charter Communications 345 S. State St. P.O. Box 339 Oscoda, MI 48750 Attn: Scott Serda (989) 392-8468	Cable
Alpena Township 4385 US-23 North Alpena, MI 49707 (989) 356-0297	Township Water & Sewer



Contractor shall use truck route for all haul routing. In the event the project is not adjacent to the route, contractor shall use the quickest access to the truck route.

- TRUCK ROUTE CLASSIFICATION**
- Trunkline
  - Primary
  - Secondary
  - - - Project Location(s)
  - ..... Proposed Haul Route

<u>Title</u>	<u>Sheet Numbers</u>
Title	1
General Notes & Details	2
Typical Sections	3
Second Ave Plan & Profile	4-11
Project Quantities	12

**Project Notes :**

Designed in accordance with 2011 AASHTO "A Policy on Geometric Design of Highways and Streets"

All signage shall be in accordance with the 2011 Michigan Manual of Uniform Traffic Control Devices.

The improvements covered by these plans shall be done in accordance with the MDOT 2012 Standard Specifications for Construction except as modified by the supplemental specifications and special provisions included in the contract documents.

The contractor shall protect any and all street sections that are not part of this contract. The contractor shall, at his own expense, repair or replace any such damage in accordance with the MDOT 2020 Standard Specifications for Construction, and to the satisfaction of the engineer.

It shall be the responsibility of the Contractor to apply for, and the City of Alpena shall issue no cost permits required under the soil erosion and sedimentation control act (public act 347) for work conducted within the the city limits. Contractor shall be responsible for obtaining other legally mandated permits for off-site disposal of spoils generated by his work.

Underground utility locations as shown on plans were obtained from utility owners records and were NOT field located. The City cannot guarantee the accuracy or completeness of the buried utility information shown in these plans. It shall be the Contractor's responsibility to contact Miss Dig (1-800-482-7171) in accordance with the MISS DIG System requirements to verify the location of all existing utilities, and pay for any and all costs or charges associated with the utility marking.

All utilities shown in these plans are a representation of their approximate location and depth(s). Actual field locations may vary and the contractor shall verify locations by contacting the appropriate utility owner. The absence of utilities shown hereon does not ensure that no utilities exist. The Contractor shall contact MISSDIG not less than 72 hours before any excavation.

Contract for: Sanitary sewer, sewer services, water main, water services, storm sewer, earth excavation, concrete curb and gutter, aggregate base, HMA paving, and slope restoration.

Prepared by:  
City of Alpena  
Engineering Department  
208 North First Avenue  
Alpena, MI 49707



Prepared under the supervision of:

*Stephan J. Shulz*  
Stephan J. Shulz, P.E.  
City Engineer

6201050541  
Registration No.



City of Alpena final plan approval:

*Rachel R. Smolinski*  
Rachel R. Smolinski  
City Manager

3-21-2024  
Date

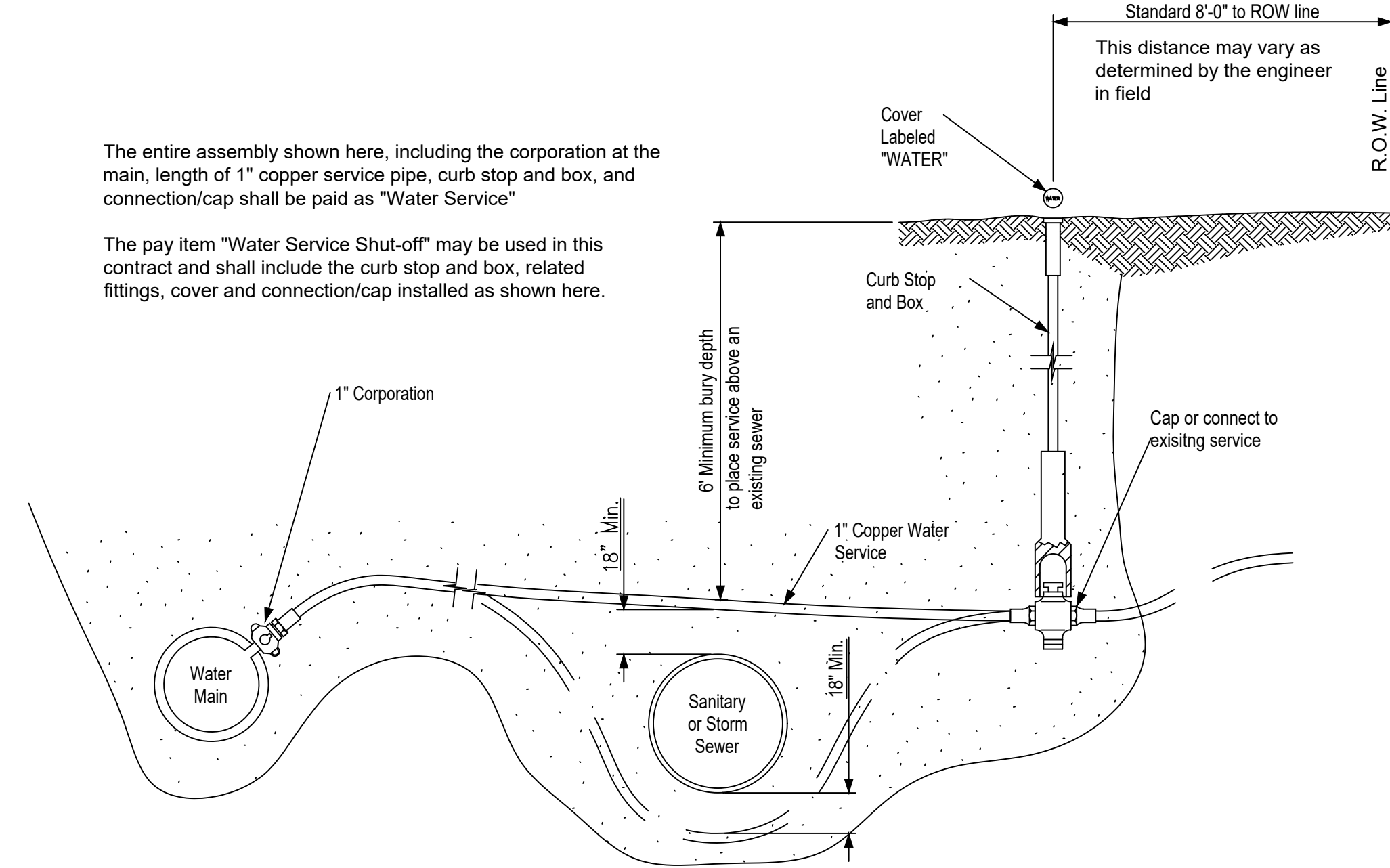
Second Ave Infrastructure Upgrades

### General Plan Notes

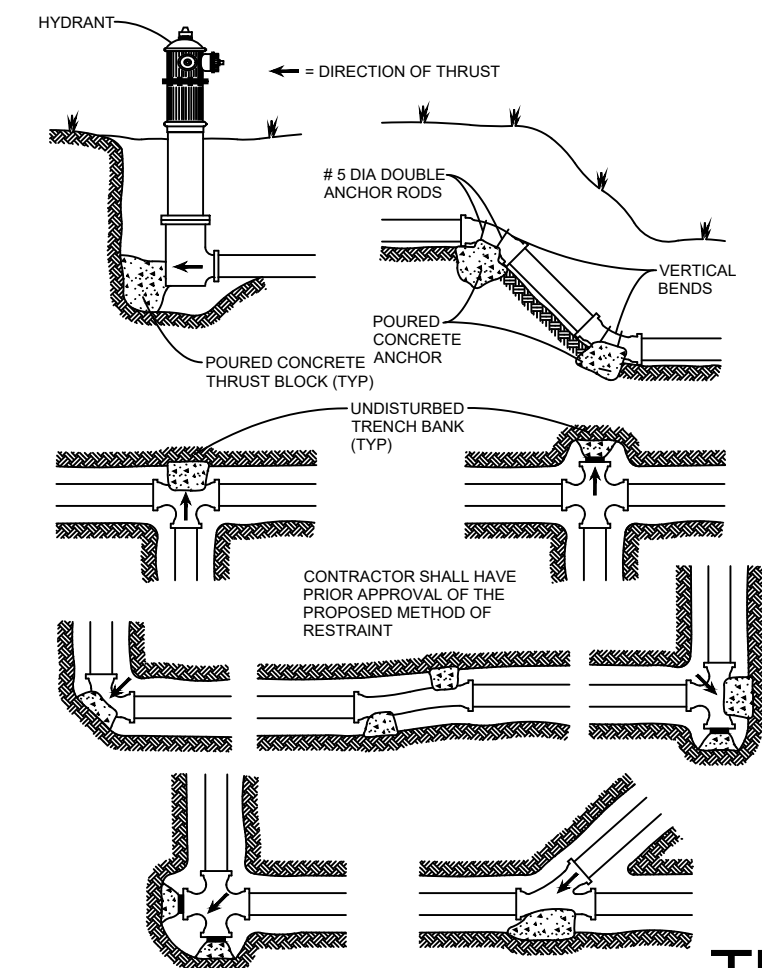
- Contractor shall protect trees from damage during the project. Any trees damaged shall be repaired/replaced as directed by the project engineer at the contractor's expense.
- All concrete and asphalt drives and sidewalks as shown within the project limits shall be saw cut prior to removal. Sawcutting shall be included in the adjacent removal item.
- All structures shall be adjusted after installation of the leveling course of asphalt and prior to placing the top course of asphalt. All HMA and aggregate material disturbed while adjusting casting to grade shall be collected and removed from the site. After casting is set, Contractor shall replace disturbed material to top of aggregate base with 4-sack grout. After 16 hours (minimum) of cure time the Contractor shall replace disturbed HMA material with HMA as described by the typical cross-sections and compact with plate compactor as directed by Engineer in field. Coring and setting covers flush in concrete shall be allowed only by advance approval of the Engineer at the time of bidding. All work to be included in the corresponding structure adjust or new structure item.
- Backfilling of excavations shall be maintained immediately behind the excavation activity. All backfill shall be compacted to 95% of maximum density.
- Open excavations shall be protected with fence and barricaded at the end of each work day to be included in the corresponding pay items.
- Barricades/advanced signing shall be placed as directed by the plans and project engineer and shall be inspected daily to ensure that lights are operating properly and the signage is in good repair. Any damaged barricades must be replaced and/or repaired as part of the item "Barricade, Type III, High Intensity, Lighted, Furn". Barricades and signage in disrepair, improperly installed, and/or not in accordance with the most current version of the MMUTCD shall not be paid for. In the event that a detour route is NOT specified by the plans or the Engineer, a W20-1 (Construction Ahead) and W20-3 (Street Closed Ahead) signage shall be erected on each leg of the intersections approaching the project. To be paid as Sign, Type B, Temp, Furn and Oper.
- Contractor shall be responsible for coordination of all work with other utilities throughout the project.
- Removal of all pipes 8" and smaller in diameter shall be included in the item "Excavation, Earth, LM, Modified"
- Payment for new structures shall include casting and grate for catch basins and casting with cover and steps for manholes.
- All catch basin castings in curbline shall be EJW #7045 with M1 grate and T1 back, or approved equal unless otherwise specified.
- All manhole castings shall be EJW #1040, or approved equal with City of Alpena logo inscribed on cover with raised lettering "SANITARY" or "STORM" where applicable and included as part of the drainage structure pay item.
- All storm sewer leads shall be Schedule 40 PVC.
- Removal of existing infrastructure, fittings, and appurtenances that are in the same trench as proposed infrastructure is required and shall not be paid for separately. Pipe and structure removal items to be paid for separately are described on the plans.
- All water main/storm and sanitary sewer main crossings, existing or proposed, shall have a minimum 18" vertical separation. All proposed water mains and storm and sanitary sewer mains, existing or proposed, shall be installed with a minimum 10' horizontal separation.
- Contractor shall notify property owners two weeks in advance of any work to be done which will affect existing lawn sprinkler systems and/or landscaping (in writing with a copy sent to the engineer). If the property owner fails to relocate the lawn sprinkler system prior to the Contractor beginning work, and if the Contractor cuts the system during the construction, the Contractor shall cap the system pipe and witness the location of the cap with a wooden stake for the property owner's use. The Contractor shall place the salvaged sprinkler heads on the owners' property. If the property owner fails to relocate the landscaping prior to the contractor beginning work, the contractor shall carefully salvage the landscaping items and stockpile them on the owner's property. Any other modification to the lawn sprinkler systems and/or landscaping, is the responsibility of the owner and is not part of this contract. This work shall be included in adjacent items of the project.

The entire assembly shown here, including the corporation at the main, length of 1" copper service pipe, curb stop and box, and connection/cap shall be paid as "Water Service"

The pay item "Water Service Shut-off" may be used in this contract and shall include the curb stop and box, related fittings, cover and connection/cap installed as shown here.

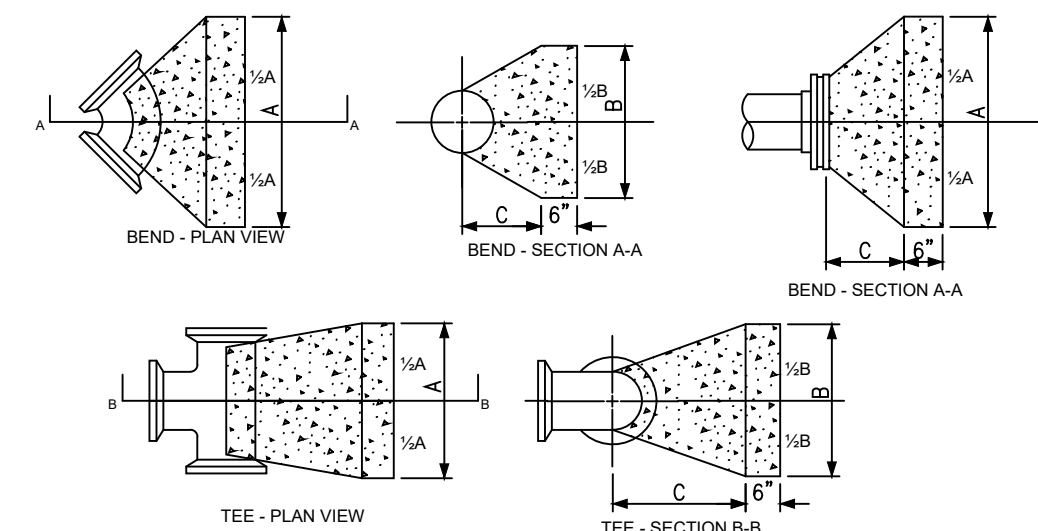


Water Service Connection



DIA. OF PIPE OR BRANCH OF TEE	90° BEND OR SMALLER			45° BEND			22 1/2° BEND			PLUGS, HYDRANTS AND TEES		
	A	B	C	A	B	C	A	B	C	A	B	C
8" W.M.	2'-0"	2'-0"	1'-0"	2'-0"	1'-0"	1'-0"	2'-0"	1'-0"	1'-0"	2'-0"	2'-0"	1'-0"
10" W.M.	2'-0"	2'-0"	1'-0"	2'-0"	1'-0"	1'-0"	2'-0"	1'-0"	1'-0"	2'-0"	2'-0"	1'-0"
12" W.M.	2'-0"	2'-0"	1'-0"	2'-0"	1'-0"	1'-0"	2'-0"	1'-0"	1'-0"	2'-0"	2'-0"	1'-0"
15" W.M.	2'-0"	2'-0"	1'-0"	2'-0"	1'-0"	1'-0"	2'-0"	1'-0"	1'-0"	2'-0"	2'-0"	1'-0"
24" W.M.	3'-0"	3'-0"	1'-0"	3'-0"	1'-0"	1'-0"	3'-0"	1'-0"	1'-0"	3'-0"	3'-0"	1'-0"

TABLE INDICATES MINIMUM BEARINGS

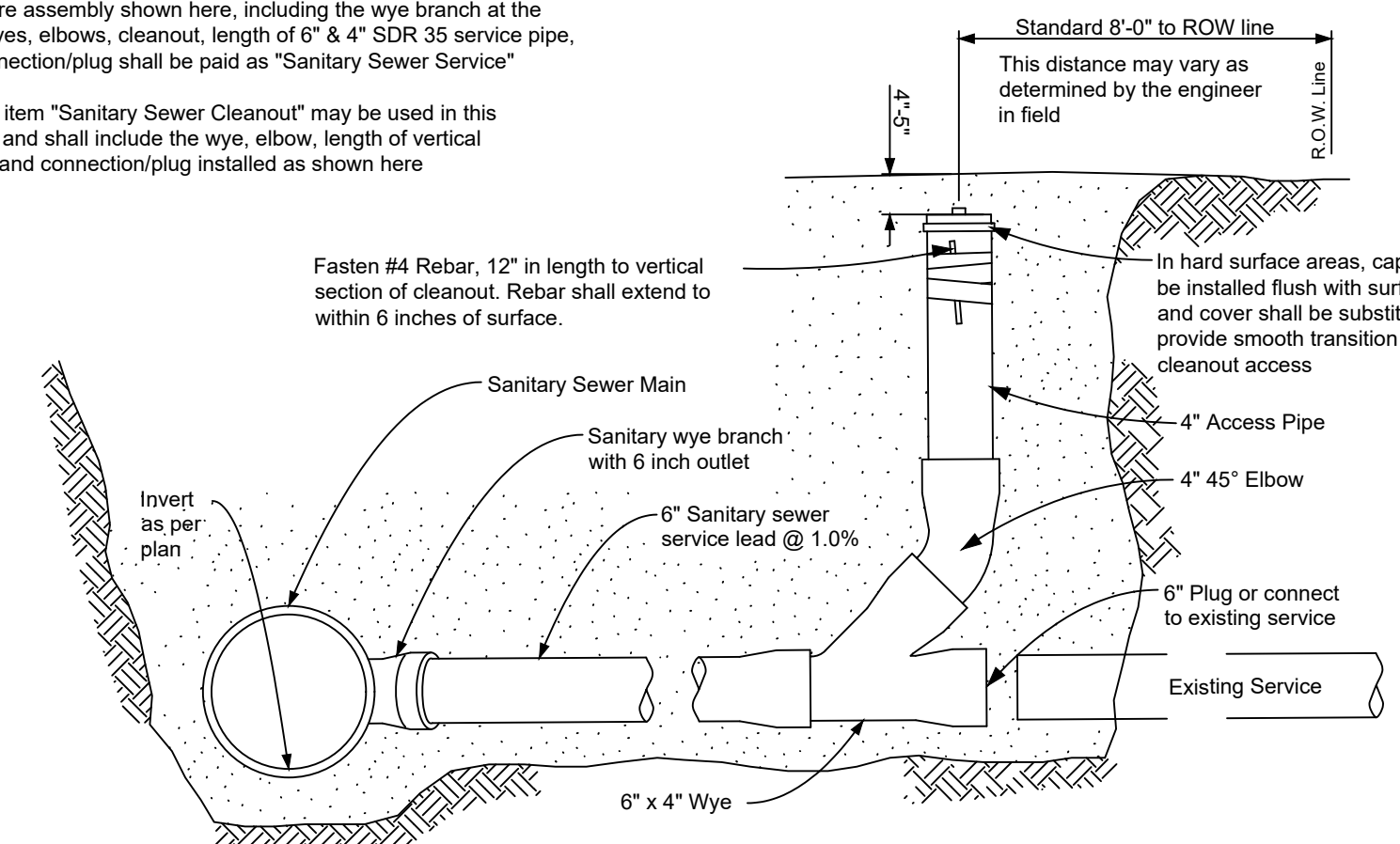


### Thrust Block Details

When Mechanically Restrained Joints are Not Used

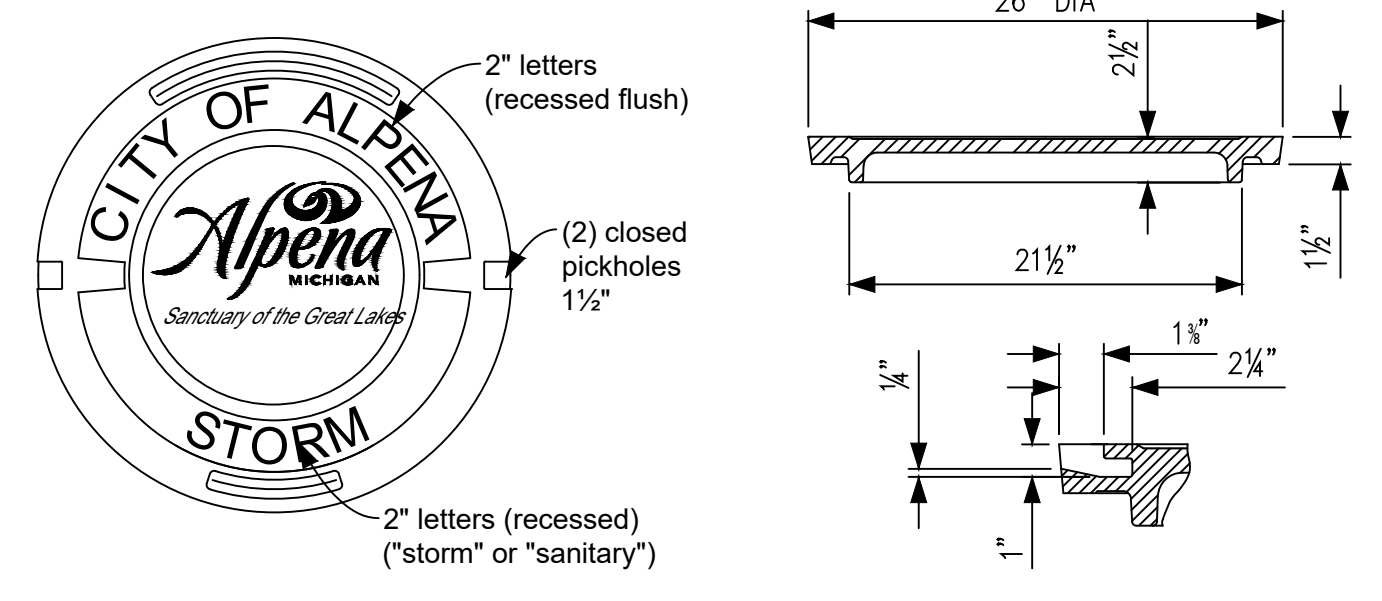
The entire assembly shown here, including the wye branch at the main, wyes, elbows, cleanout, length of 6" x 4" SDR 35 service pipe, and connection/plug shall be paid as "Sanitary Sewer Service"

The pay item "Sanitary Sewer Cleanout" may be used in this contract and shall include the wye, elbow, length of vertical 4" pipe, and connection/plug installed as shown here



Sanitary Sewer Service Connection

### Drainage Structure Cover Details



EJ #1040A or Approved Equal

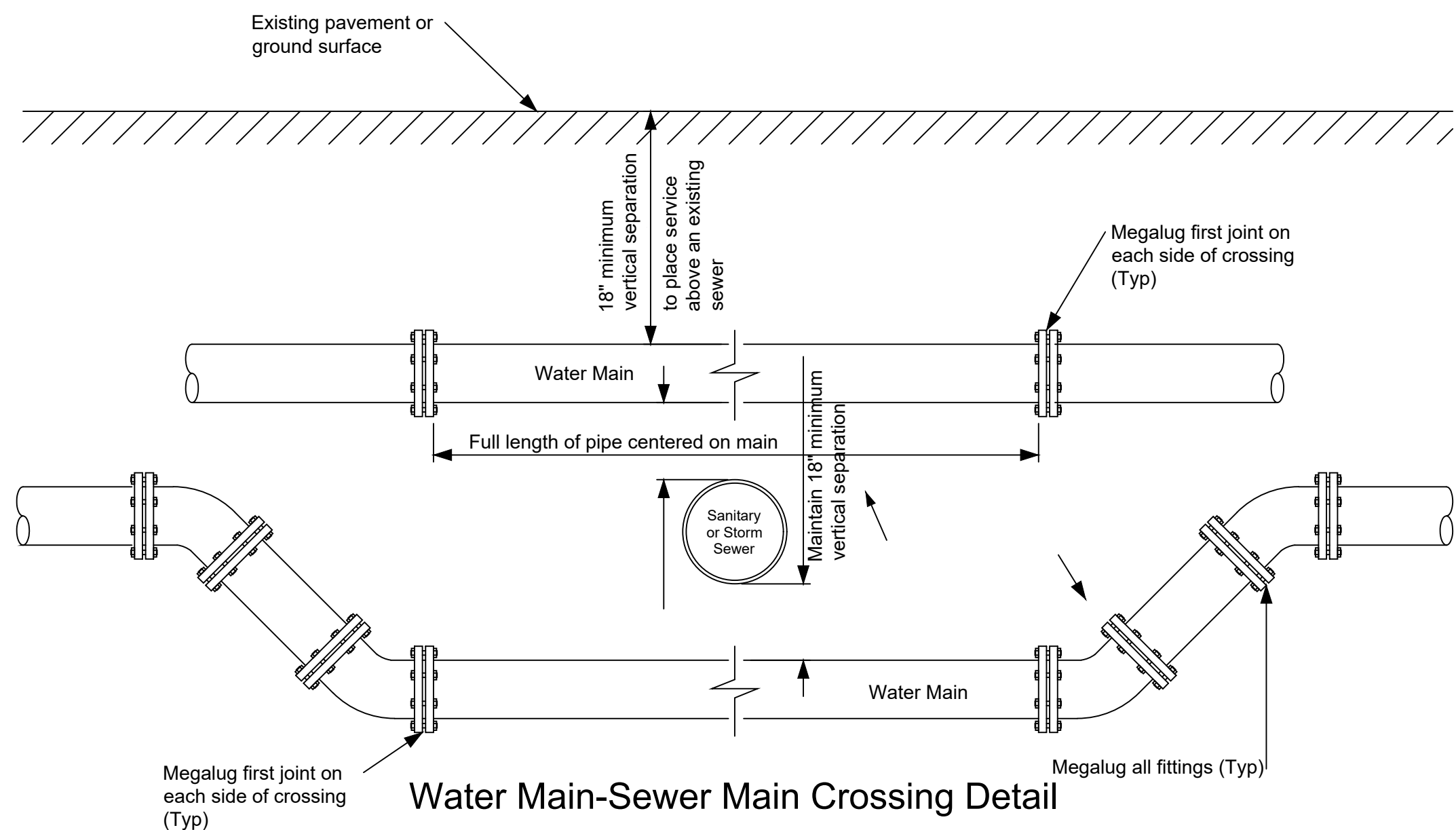
\*\*Please note: Logo change from previous cover. Please verify this change has been made with the vender.

Structure Type	Cover Type
Storm Sewer Manhole	EJ 1040, must have ALPENA logo and "STORM" inscribed on cover
Sanitary Sewer Manhole	EJ 1040, must have ALPENA logo and "SANITARY" inscribed on cover
Catch Basin	Curbline covers shall be MDOT Standard Plan R-15 Series "Cover K", with "Dump No Waste", "Drains To Rivers", or similar inscribed on casting.  Ditchline covers shall be MDOT Standard Plan R-10 Series "Cover E", with "Dump No Waste", "Drains To Rivers", or similar inscribed on casting.

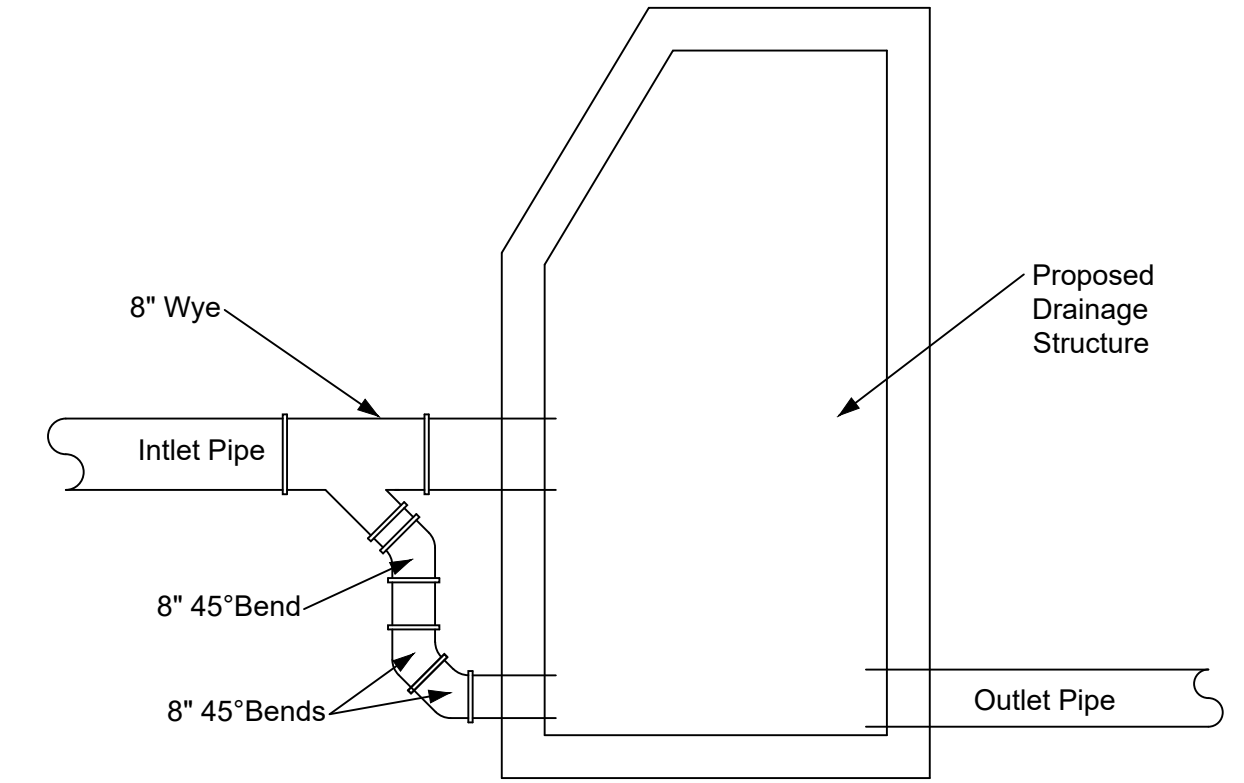
### Notes Applying to MDOT Standard Plans & Special Details

Where the following items are called for on the plans they are to be constructed in accordance with the most current version, at the time of bidding, of the standard plan series noted below opposite each item unless otherwise specified:

Series	Standard Plan Name
R-1	Drainage Structures
R-10	Cover E
R-15	Cover K
R-28	Curb Ramp and Detectable Warning Details
R-29	Driveway Openings & Approaches and Concrete Sidewalks
R-30	Concrete Curb and Concrete Curb & Gutter
R-80	Granular Blanket, Uunderdrains, Outlet Endings for Underdrains, and Sewer Bulkheads
R-83	Utility Trenches
R-96	Soil Erosion & Sedimentation Control Measures



Water Main-Sewer Main Crossing Detail



Proposed Drop Manhole Connection  
As-Needed

Final Plans	Revision	1
Date	2	3
Auth	4	
Design By: RER	Checked By:	Printed:
Drawn By:	Date:	Time:

Location: Note Sheet Detail Sheet

Project: Second Avenue Road and Infrastructure Upgrades

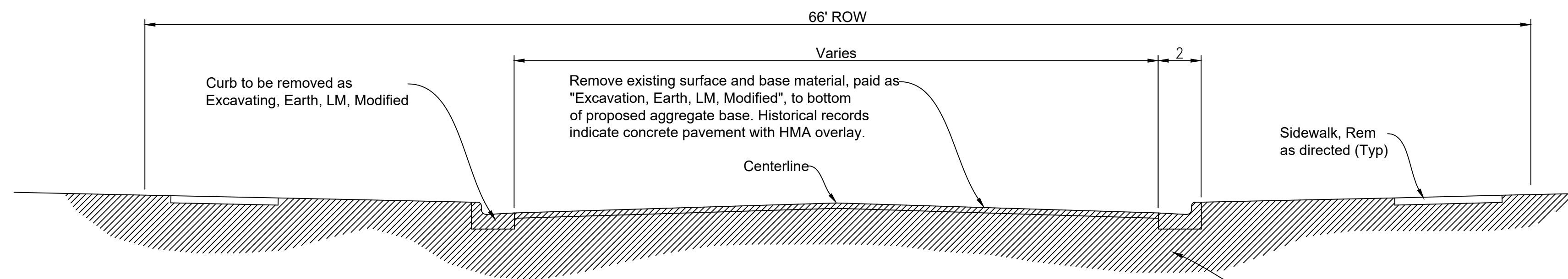
**HURON**  
ENGINEERING & SURVEYING, INC.

Alpena City Hall  
208 N. First Ave.  
Alpena, MI 49707  
Ph: 989-354-1730  
Fax: 989-354-1709

City of Alpena MICHIGAN ENGINEERING

Street Code/Location: 92G  
Scale: Horizontal: 1"=20'  
Vertical: 1"=4'  
Sheet No.: 2 OF 12

SECOND AVENUE FROM FLETCHER ST TO HUEBER ST



Existing Typical Section

Upon field investigation, the engineer may require additional excavation, paid as "Excavation, Earth, LM", Modified", for the purposes of placing up to 18 inches of "Subbase, CIP".

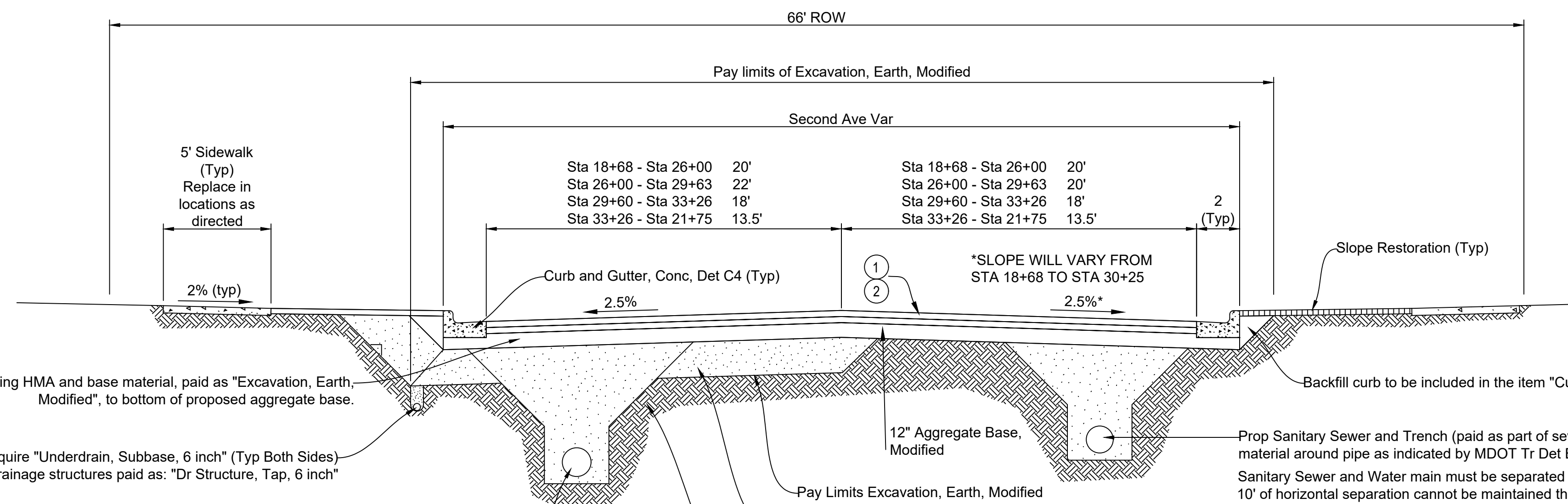
Existing unsuitable material below the subbase (to be determined by Engineer) shall be removed and replaced with Class II granular material and paid as "Subgrade Undercutting, Type II, Modified"

These item(s) shall not include the material for utility trenches which is paid for as part of the utility installation.

FROM STA 18+68 TO STA 31+00 REMOVE AN ADEQUATE QUANTITY OF SIDEWALK TO ALLOW FOR CURB INSTALLATION AND APPROPRIATE SLOPE TO MATCH NEW GRADES. TO BE INCLUDED IN PAYMENT FOR SIDEWALK RELATED ITEMS.

FROM STA 18+68 TO STA 30+25 REPLACE THE EXISTING SIDEWALK IN ACCORDANCE WITH DDA REGULATIONS AS DIRECTED BY THE ENGINEER. CONTRACTOR SHALL PROTECT EXISTING TREES AND OTHER OBJECTS WITHIN THE EXISTING SIDEWALK THAT WILL BE REPLACED.

ALL EXISTING LIGHT POLE BASES WILL BE REMOVED AND PROTECTED OFF-SITE. LIGHT POLE BASES WILL BE REINSTALLED AT THE END OF THE PROJECT AS DIRECTED BY THE ENGINEER. INCLUDED IN PAYMENT FOR EXCAVATION, EARTH, LM, MODIFIED



Proposed Typical Section  
Applies to: Entire Project

Remove existing HMA and base material, paid as "Excavation, Earth, Modified", to bottom of proposed aggregate base.

Remove existing HMA and base material, paid as "Excavation, Earth, Modified", to bottom of proposed aggregate base.

Upon field investigation, the Engineer may require "Underdrain, Subbase, 6 inch" (Typ Both Sides)  
Underdrain shall be outlet into drainage structures paid as: "Dr Structure, Tap, 6 inch"

Prop Water and Trench (paid as part of water main item) use Class IIIA material around pipe as indicated by MDOT Tr Det G (R-83 Series)

Upon field investigation, the engineer may require additional excavation, paid as "Excavation, Earth, Modified", for the purposes of placing up to 18 inches of "Subbase, CIP".

Existing unsuitable material below the subbase (to be determined by Engineer) shall be removed to a maximum depth of 24 inches below the subbase and replaced with Class II granular material and paid as "Subgrade Undercutting, Type II, Modified".

\*These item(s) shall not include the material for utility trenches which is paid for as part of the utility installation.

HMA Application Estimate

No.	Item	Rate per Syd	Performance Grade	Remarks
①	HMA, 13A, Modified	220 lbs	64-28	Top Course
②	HMA, 13A, Modified	220 lbs	64-28	Base Course

Final Plans Revision	No.	Date	AUTH	Design By: RER	Checked By:	Printed:	Date:	Time:
	1		RER					
	2							
	3							
	4							

Location: Typical Sections Sheet

Project: Second Avenue Road and Infrastructure Upgrades



Alpena City Hall  
208 N First Ave  
Alpena, MI 49707  
Ph: 989-354-1730  
Fax: 989-354-1709

City of Alpena MICHIGAN ENGINEERING

Street Code/Location: 92G  
Scale: Horizontal: 1"=20' Vertical: 1"=4'  
Sheet No. 3 OF 12

SECOND AVENUE FROM FLETCHER ST TO HUEBER ST

S 2nd Ave

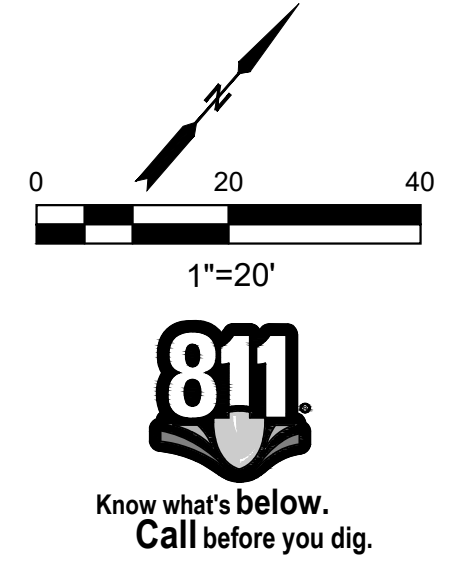
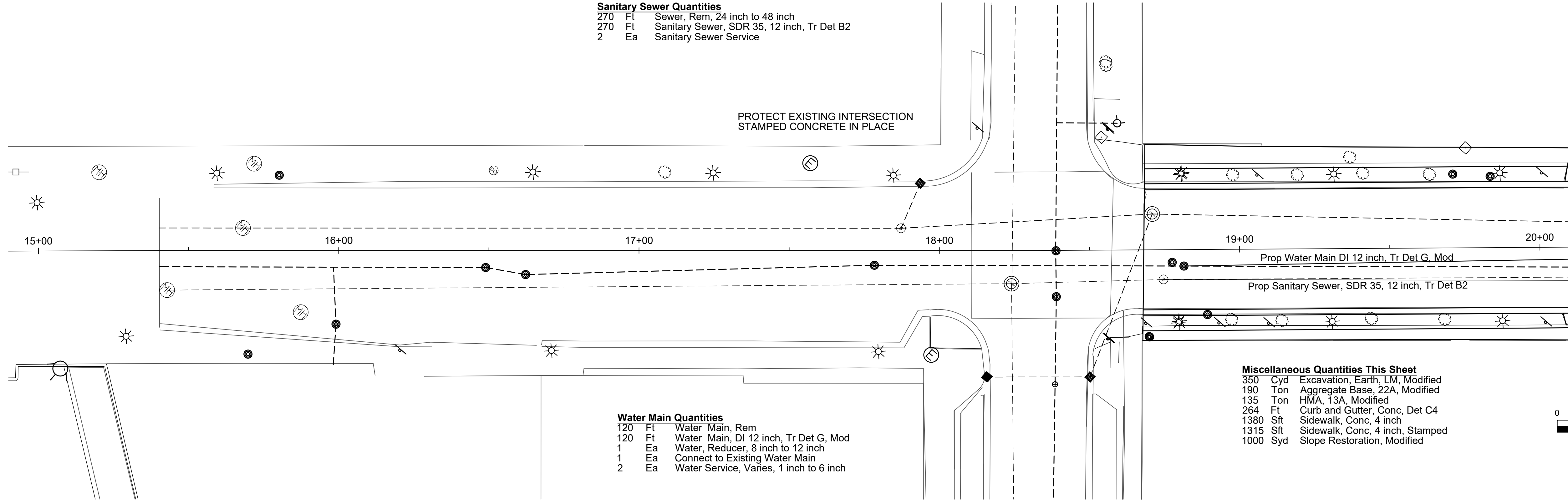
Fletcher St

**Sanitary Sewer Quantities**  
 270 Ft Sewer, Rem, 24 inch to 48 inch  
 270 Ft Sanitary Sewer, SDR 35, 12 inch, Tr Det B2  
 2 Ea Sanitary Sewer Service

**Water Main Quantities**  
 120 Ft Water Main, Rem  
 120 Ft Water Main, DI 12 inch, Tr Det G, Mod  
 1 Ea Water Reducer, 8 inch to 12 inch  
 1 Ea Connect to Existing Water Main  
 2 Ea Water Service, Varies, 1 inch to 6 inch

**Miscellaneous Quantities This Sheet**  
 350 Cyd Excavation, Earth, LM, Modified  
 190 Ton Aggregate Base, 22A, Modified  
 135 Ton HMA, 13A, Modified  
 264 Ft Curb and Gutter, Conc, Det C4  
 1380 Sft Sidewalk, Conc, 4 inch  
 1315 Sft Sidewalk, Conc, 4 inch, Stamped  
 1000 Syd Slope Restoration, Modified

PROTECT EXISTING INTERSECTION  
 STAMPED CONCRETE IN PLACE



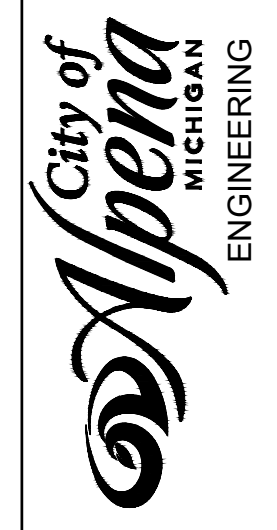
Design By:	AUTH	Date	No	Final Plans
RER	RER		1	Revision
			2	
			3	
			4	

Location:  
 Second Ave at Fletcher Street  
 Sta 15+00 to Sta 20+00

Project:  
 Second Avenue Road and  
 Infrastructure Upgrades

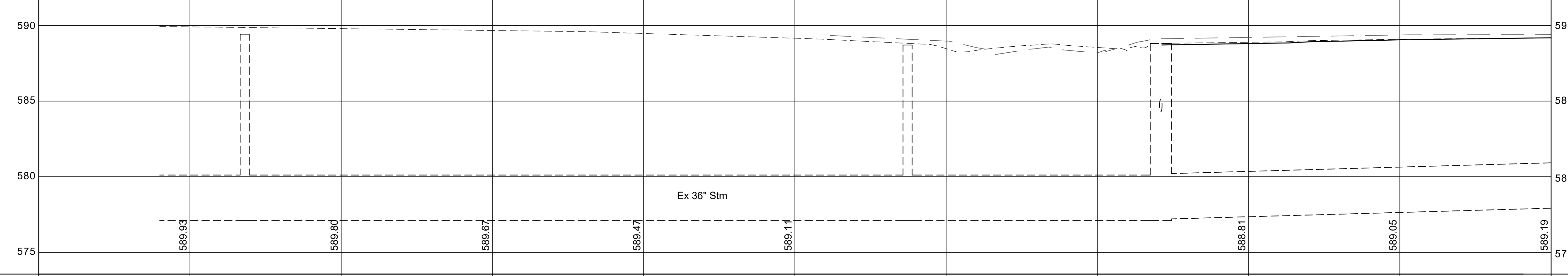


Alpena City Hall  
 108 N. First  
 Alpena, MI 49707  
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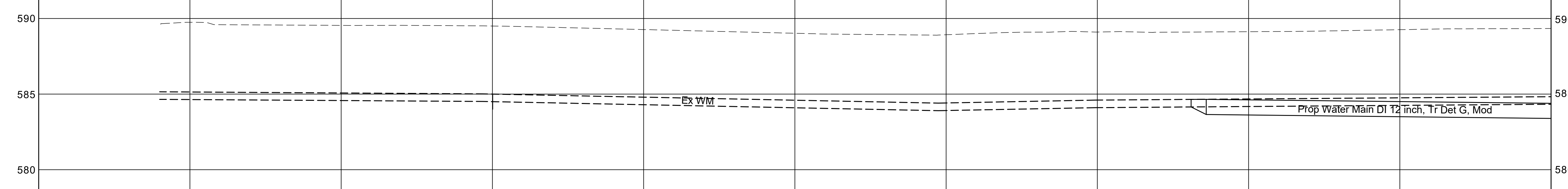
Street Code/Location  
 92G  
 Scale:  
 Horizontal: 1"=20'  
 Vertical: 1"=4'  
 Sheet No.  
 4 OF 12

Existing Top of Curb Profile LT  
 Proposed Top of Curb Profile Lt



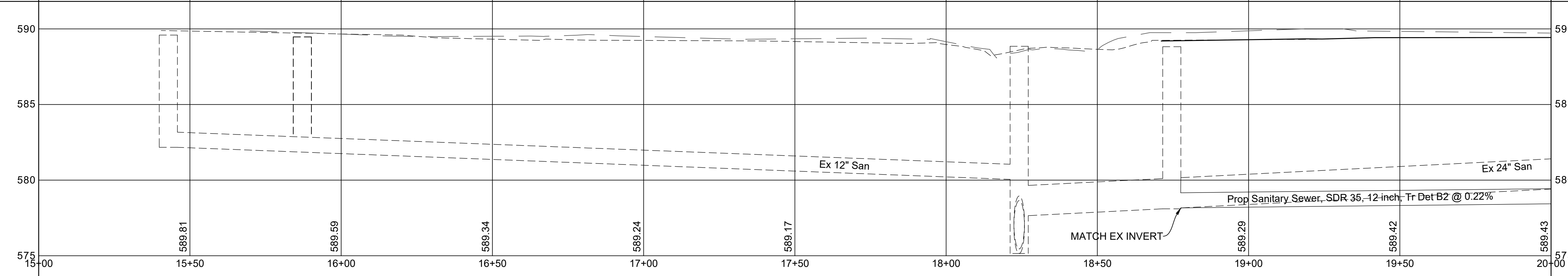
Existing B/C  
 Existing Back SW  
 Proposed B/C  
 Proposed Back of Curb Elev

Existing Centerline Profile  
 Proposed Centerline Profile



Existing C/L  
 Proposed C/L  
 Proposed Centerline Elevations

Existing Top of Curb Profile RT  
 Proposed Top of Curb Profile Rt



Existing B/C  
 Existing Back SW  
 Proposed B/C  
 Proposed Back of Curb Elev

SECOND AVENUE FROM FLETCHER ST TO HUEBER ST

**Sanitary Sewer Quantities**

500	Ft	Sewer, Rem, 24 inch to 48 inch
1	Ea	Dr Structure, Rem
1	Ea	Dr Structure, 48 inch, Dia, with Cover and Casting, Special
500	Ft	Sanitary Sewer, SDR 35, 12 inch, Tr Det B2
10	Ft	Sanitary Sewer Service
3	Ft	Dr Structure, Add Depth of 48 inch dia, 8 feet to 15 feet

**Storm Sewer Quantities Olfield Street**

1	Ea	Dr Structure, Rem
4	Ea	Dr Structure, 24 inch dia, with Cover and Casting, Special
170	Ft	Sewer, CI A, Sch 40 PVC, 8 inch, Tr Det B2
2	Ea	Sewer Tap, 8 inch

**Water Main Quantities**

595	Ft	Water Main, Rem
500	Ft	Water Main, DI 12 inch, Tr Det G, Mod
95	Ft	Water Main, DI 8 inch, Tr Det G, Mod
2	Ea	Gate Valve and Box, 12 inch, Modified
2	Ea	Gate Valve and Box, 8 inch, Modified
1	Ea	Bend, DI, Cross, 12 inch by 8 inch
1	Ea	Fire Hydrant Assembly
1	Ea	Fire Hydrant Assembly, Rem
2	Ea	Connect to Existing Water Main
10	Ea	Water Service, Varies 1 inch to 6 inch

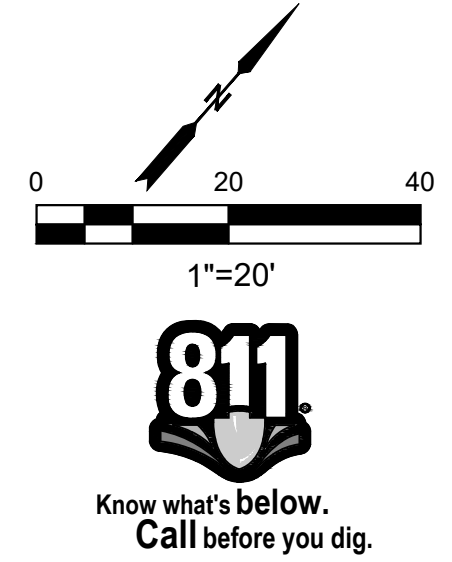
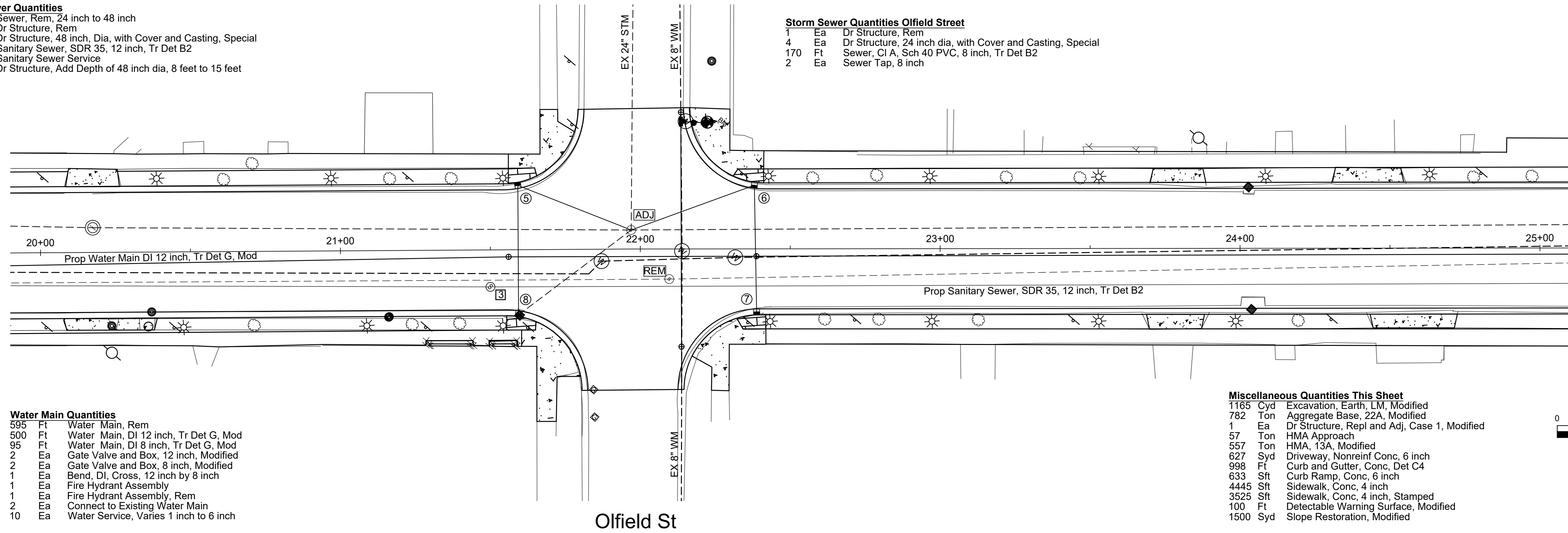
**Miscellaneous Quantities This Sheet**

1165	Cyd	Excavation, Earth, LM, Modified
782	Ton	Aggregate Base, 22A, Modified
1	Ea	Dr Structure, Repl and Adj, Case 1, Modified
57	Ton	HMA Approach
557	Ton	HMA, 13A, Modified
627	Syd	Driveway, Nonreinf Conc, 6 inch
998	Ft	Curb and Gutter, Conc, Det C4
633	Sft	Curb Ramp, Conc, 6 inch
4445	Sft	Sidewalk, Conc, 4 inch
3525	Sft	Sidewalk, Conc, 4 inch, Stamped
100	Ft	Detectable Warning Surface, Modified
1500	Syd	Slope Restoration, Modified

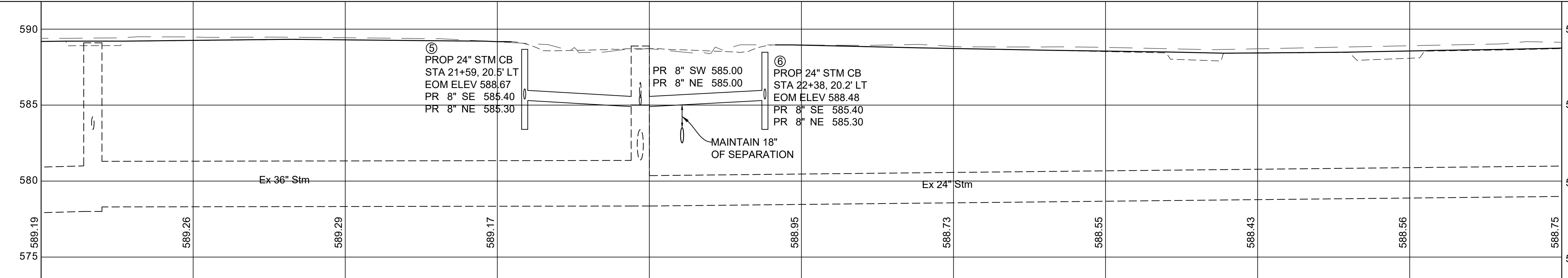
S 2nd Ave

Olfield St

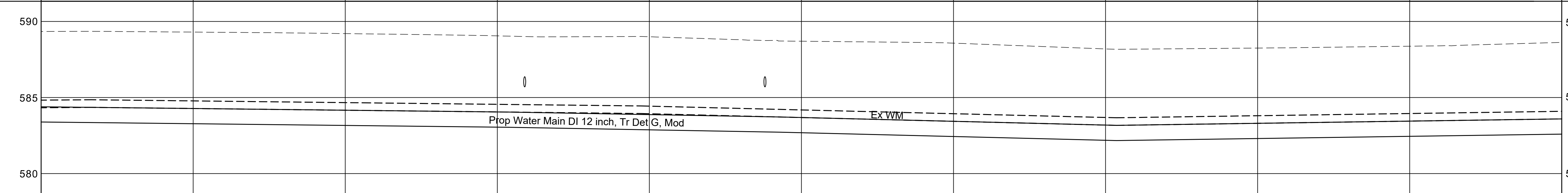
Olfield St



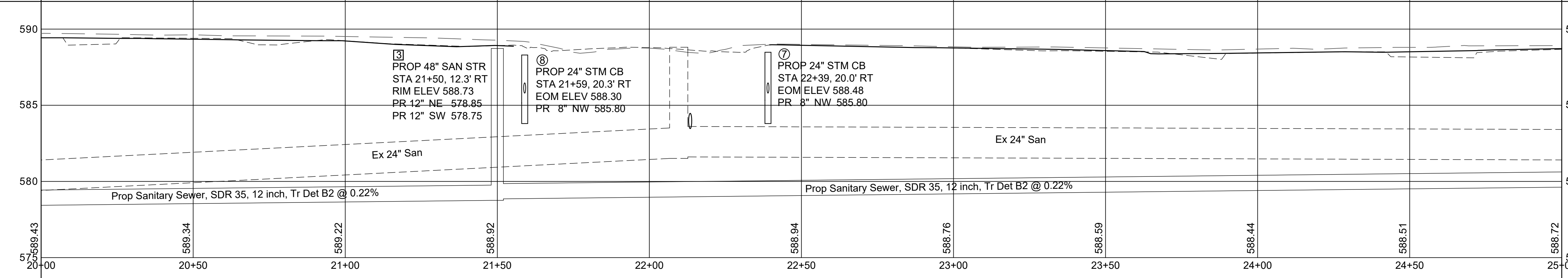
Existing Top of Curb Profile LT  
Proposed Top of Curb Profile Lt



Existing Centerline Profile  
Proposed Centerline Profile



Existing Top of Curb Profile RT  
Proposed Top of Curb Profile RT



Design By:	RER	Auth:	RER	No:	1	Final Plans
Drawn By:		Checked By:		Date:		Revision
Printed:		Date:				
Time:						

Location: Second Avenue at Olfield Street  
Sta 20+00 to Sta 25+00

Project: Second Avenue Road and Infrastructure Upgrades

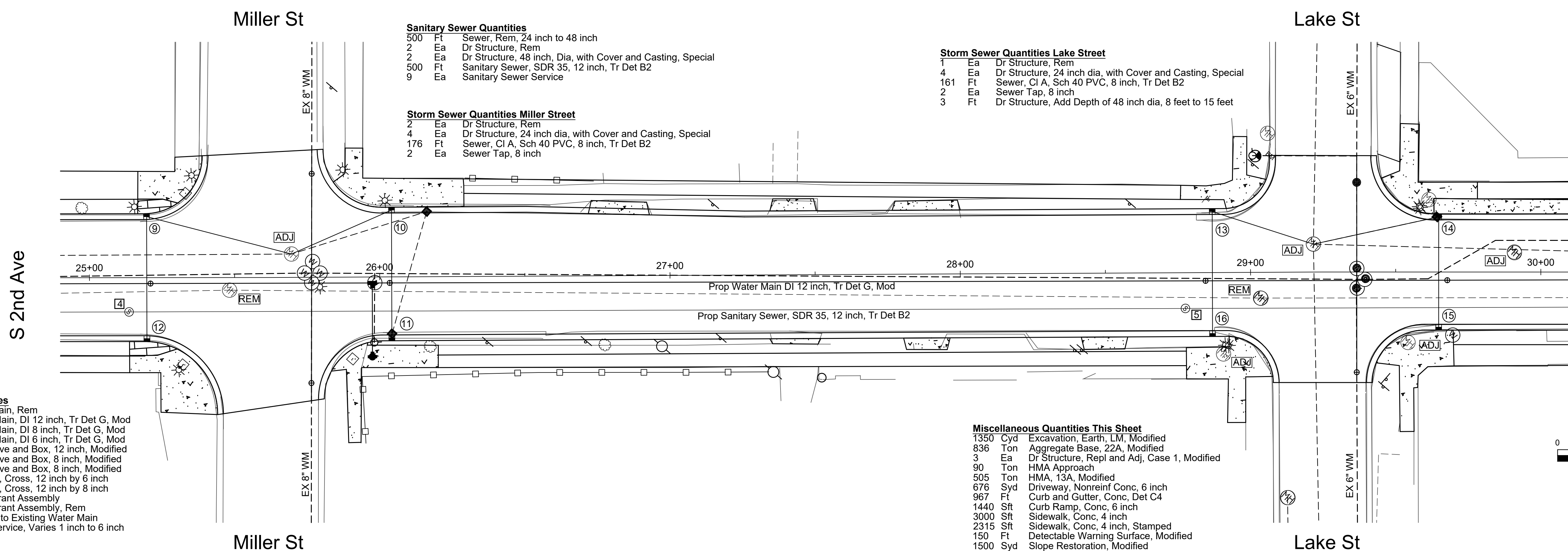


Alpena City Hall  
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Ph: 989-354-1730  
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Street Code/Location	92G
Scale:	
Horizontal: 1"=20'	
Vertical: 1"=4'	
Sheet No.	5 OF 12

SECOND AVENUE FROM FLETCHER ST TO HUEBER ST



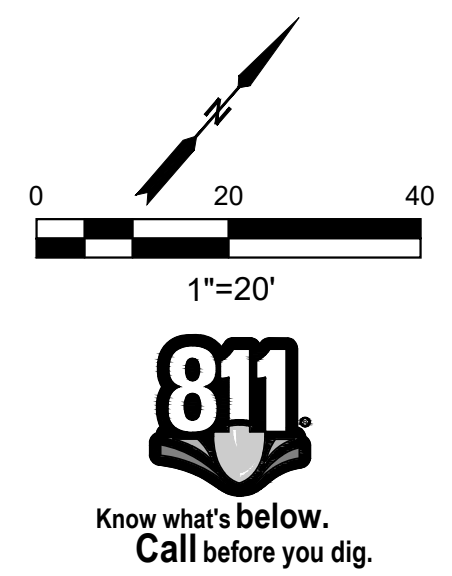
- Sanitary Sewer Quantities**
- 500 Ft Sewer, Rem, 24 inch to 48 inch
  - 2 Ea Dr Structure, Rem
  - 2 Ea Dr Structure, 48 inch, Dia, with Cover and Casting, Special
  - 500 Ft Sanitary Sewer, SDR 35, 12 inch, Tr Det B2
  - 9 Ea Sanitary Sewer Service

- Storm Sewer Quantities Miller Street**
- 2 Ea Dr Structure, Rem
  - 4 Ea Dr Structure, 24 inch dia, with Cover and Casting, Special
  - 176 Ft Sewer, CI A, Sch 40 PVC, 8 inch, Tr Det B2
  - 2 Ea Sewer Tap, 8 inch

- Storm Sewer Quantities Lake Street**
- 1 Ea Dr Structure, Rem
  - 4 Ea Dr Structure, 24 inch dia, with Cover and Casting, Special
  - 161 Ft Sewer, CI A, Sch 40 PVC, 8 inch, Tr Det B2
  - 2 Ea Sewer Tap, 8 inch
  - 3 Ft Dr Structure, Add Depth of 48 inch dia, 8 feet to 15 feet

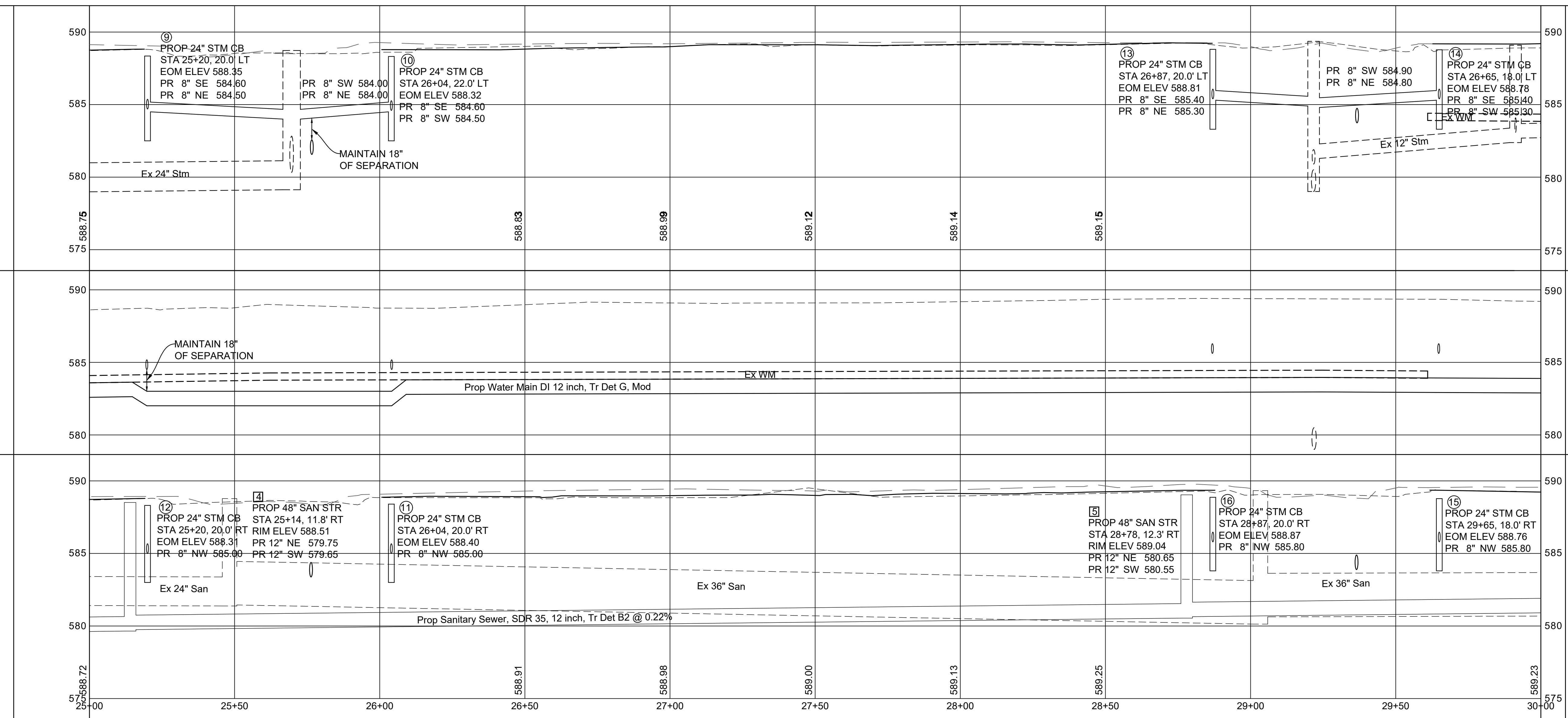
- Water Main Quantities**
- 664 Ft Water Main, Rem
  - 500 Ft Water Main, DI 12 inch, Tr Det G, Mod
  - 144 Ft Water Main, DI 8 inch, Tr Det G, Mod
  - 20 Ft Water Main, DI 6 inch, Tr Det G, Mod
  - 4 Ea Gate Valve and Box, 12 inch, Modified
  - 2 Ea Gate Valve and Box, 8 inch, Modified
  - 2 Ea Gate Valve and Box, 8 inch, Modified
  - 1 Ea Bend, DI, Cross, 12 inch by 6 inch
  - 1 Ea Bend, DI, Cross, 12 inch by 8 inch
  - 2 Ea Fire Hydrant Assembly
  - 2 Ea Fire Hydrant Assembly, Rem
  - 4 Ea Connect to Existing Water Main
  - 9 Ea Water Service, Varies 1 inch to 6 inch

- Miscellaneous Quantities This Sheet**
- 1350 Cyd Excavation, Earth, LM, Modified
  - 836 Ton Aggregate Base, 22A, Modified
  - 3 Ea Dr Structure, Repl and Adj, Case 1, Modified
  - 90 Ton HMA Approach
  - 505 Ton HMA, 13A, Modified
  - 676 Syd Driveway, Nonreinf Conc, 6 inch
  - 967 Ft Curb and Gutter, Conc, Det C4
  - 1440 Sft Curb Ramp, Conc, 6 inch
  - 3000 Sft Sidewalk, Conc, 4 inch
  - 2315 Sft Sidewalk, Conc, 4 inch, Stamped
  - 150 Ft Detectable Warning Surface, Modified
  - 1500 Syd Slope Restoration, Modified



Final Plans	No	Date	Revised
Revision	1		
Design By:	RER		
Checked By:			
Printed:	3		
Date:	4		
Time:	4		

Location: Second Avenue at Offfield Street  
Sta 25+00 to Sta 30+00



Project: Second Avenue Road and Infrastructure Upgrades

**HURON**  
ENGINEERING & SURVEYING, INC.

Alpena City Hall  
108 N. First  
Alpena, MI 49707  
Ph: 989-354-1730  
Fax: 989-354-1709

**City of Alpena**  
MICHIGAN  
ENGINEERING

Street Code/Location: 92G

Scale:  
Horizontal: 1"=20'  
Vertical: 1"=4'

Sheet No. 6 OF 12

SECOND AVENUE FROM FLETCHER ST TO HUEBER ST

- Sanitary Sewer Quantities**
- 500 Ft Sewer, Rem, 24 inch to 48 inch
  - 1 Ea Dr Structure, Rem
  - 1 Ea Dr Structure, 48 inch Dia, with Cover and Casting, Special
  - 500 Ft Sanitary Sewer, SDR 35, 12 inch, Tr Det B2
  - 6 Ea Sanitary Sewer Service

- Storm Sewer Quantities Clark Street**
- 4 Ea Dr Structure, Rem
  - 6 Ea Dr Structure, 24 inch dia, with Cover and Casting, Special
  - 135 Ft Sewer, CI A, Sch 40 PVC, 8 inch, Tr Det B2
  - 4 Ea Sewer Tap, 8 inch

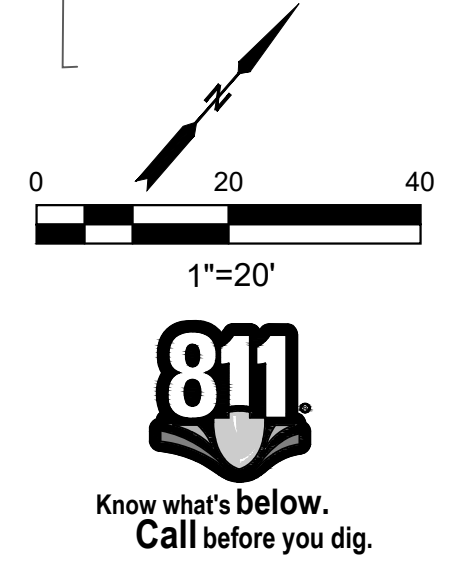
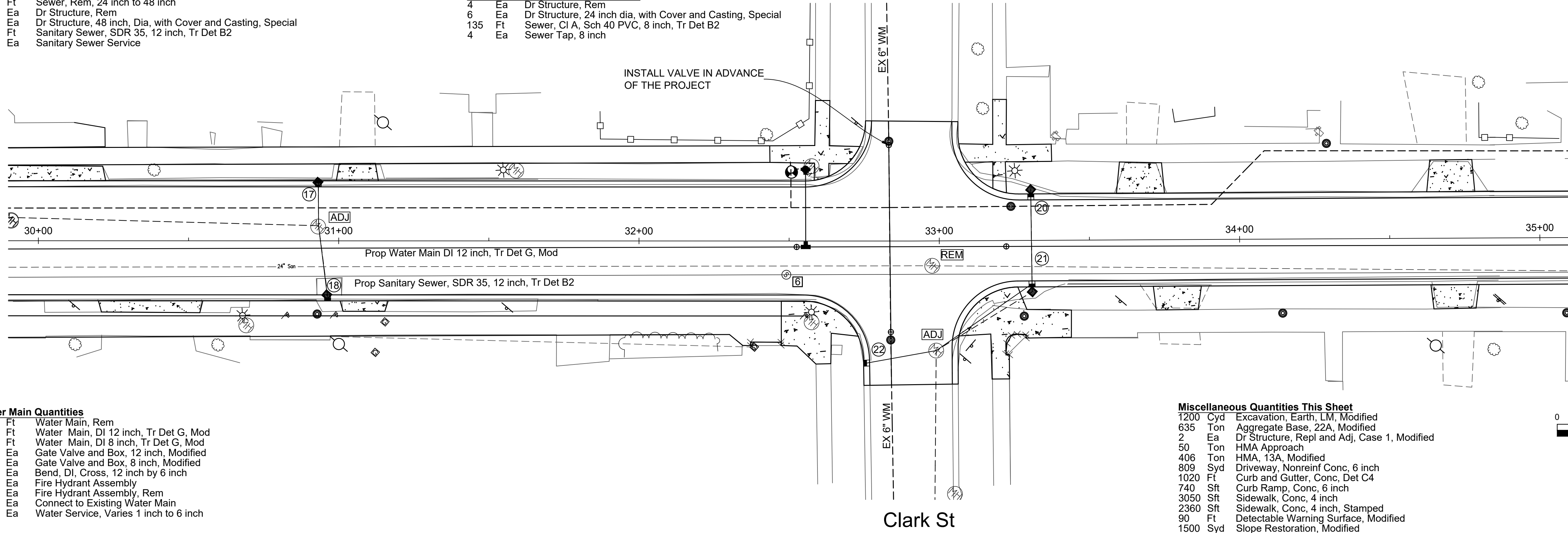
- Water Main Quantities**
- 590 Ft Water Main, Rem
  - 500 Ft Water Main, DI 12 inch, Tr Det G, Mod
  - 90 Ft Water Main, DI 8 inch, Tr Det G, Mod
  - 2 Ea Gate Valve and Box, 12 inch, Modified
  - 2 Ea Gate Valve and Box, 8 inch, Modified
  - 1 Ea Bend, DI, Cross, 12 inch by 6 inch
  - 2 Ea Fire Hydrant Assembly
  - 2 Ea Fire Hydrant Assembly, Rem
  - 2 Ea Connect to Existing Water Main
  - 6 Ea Water Service, Varies 1 inch to 6 inch

- Miscellaneous Quantities This Sheet**
- 1200 Cyd Excavation, Earth, LM, Modified
  - 635 Ton Aggregate Base, 22A, Modified
  - 2 Ea Dr Structure, Repl and Adj, Case 1, Modified
  - 50 Ton HMA Approach
  - 406 Ton HMA, 13A, Modified
  - 809 Syd Driveway, Nonreinf Conc, 6 inch
  - 1020 Ft Curb and Gutter, Conc, Det C4
  - 740 Sft Curb Ramp, Conc, 6 inch
  - 3050 Sft Sidewalk, Conc, 4 inch
  - 2360 Sft Sidewalk, Conc, 4 inch, Stamped
  - 90 Ft Detectable Warning Surface, Modified
  - 1500 Syd Slope Restoration, Modified

S 2nd Ave

Clark St

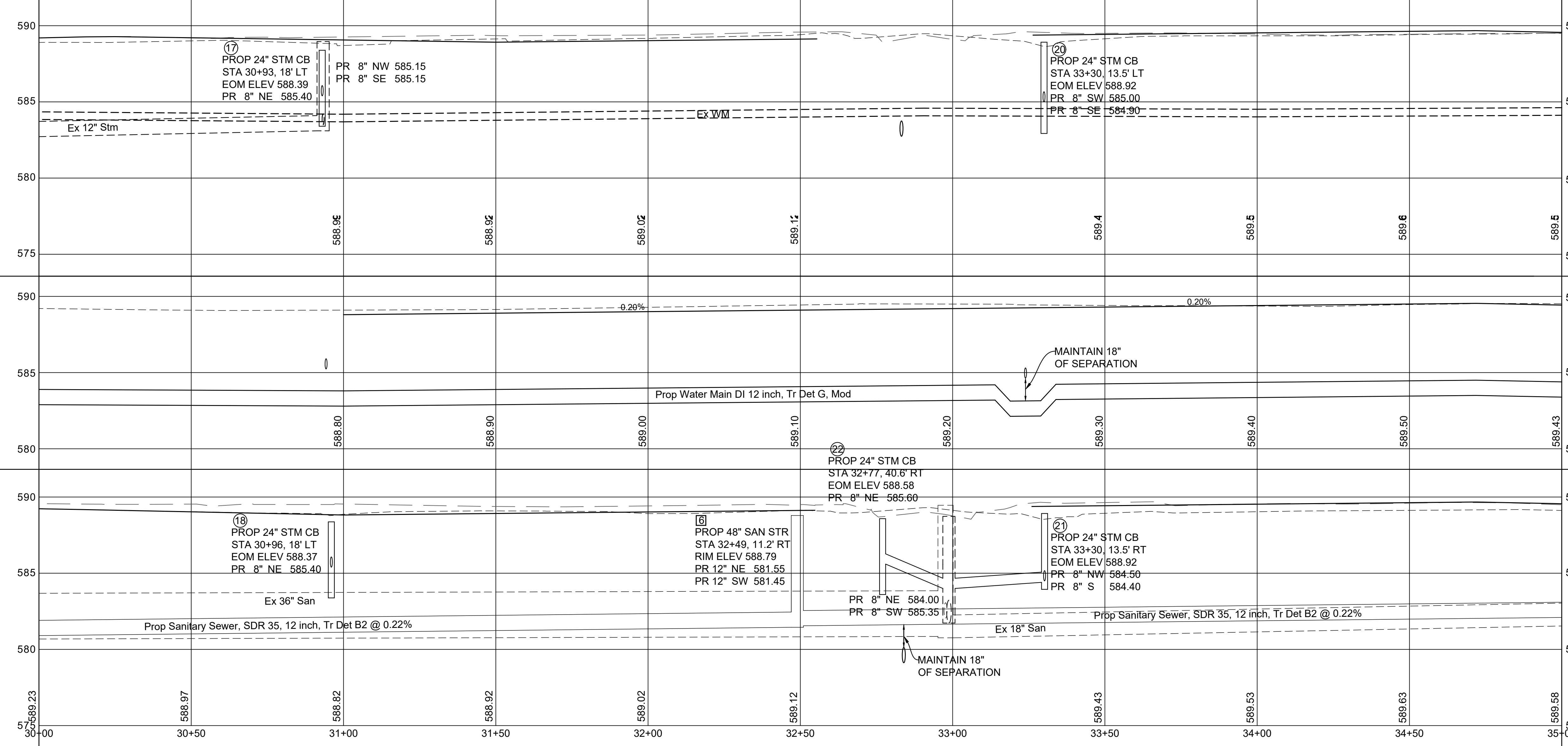
Clark St



Existing Top of Curb Profile LT  
Proposed Top of Curb Profile Lt

Existing Centerline Profile  
Proposed Centerline Profile

Existing Top of Curb Profile RT  
Proposed Top of Curb Profile Rt



Existing B/C  
Existing Back SW  
Proposed B/C  
Proposed Back of Curb Elev

Existing C/L  
Proposed C/L  
Proposed Centerline Elevations

Existing B/C  
Existing Back SW  
Proposed B/C  
Proposed Back of Curb Elev

Design By: RER	AUTH: RER	Date:	No:	Final Plans
Drawn By:	Checked By:	Printed:	Revision:	
Date:				
Time:				

Location: Second Avenue Road and Infrastructure Upgrades  
Sta 30+00 to Sta 35+00



Alpena City Hall  
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Street Code/Location: 92G  
Scale:  
Horizontal: 1"=20'  
Vertical: 1"=4'  
Sheet No: 7 OF 12

SECOND AVENUE FROM FLETCHER ST TO HUEBER ST

**Sanitary Sewer Quantities**

- 75 Ft Sewer, Rem, Less than 24 inch
- 450 Ft Sewer, Rem, 24 inch to 48 inch
- 1 Ea Dr Structure, Rem
- 1 Ea Dr Structure, 48 inch, Dia, with Cover and Casting, Special
- 450 Ft Sanitary Sewer, SDR 35, 12 inch, Tr Det B2
- 6 Ea Sanitary Sewer Service
- 1 Ea Sewer Tap, 12 inch

**Water Main Quantities**

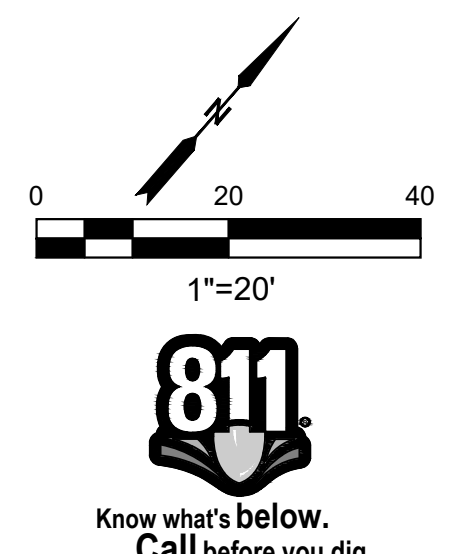
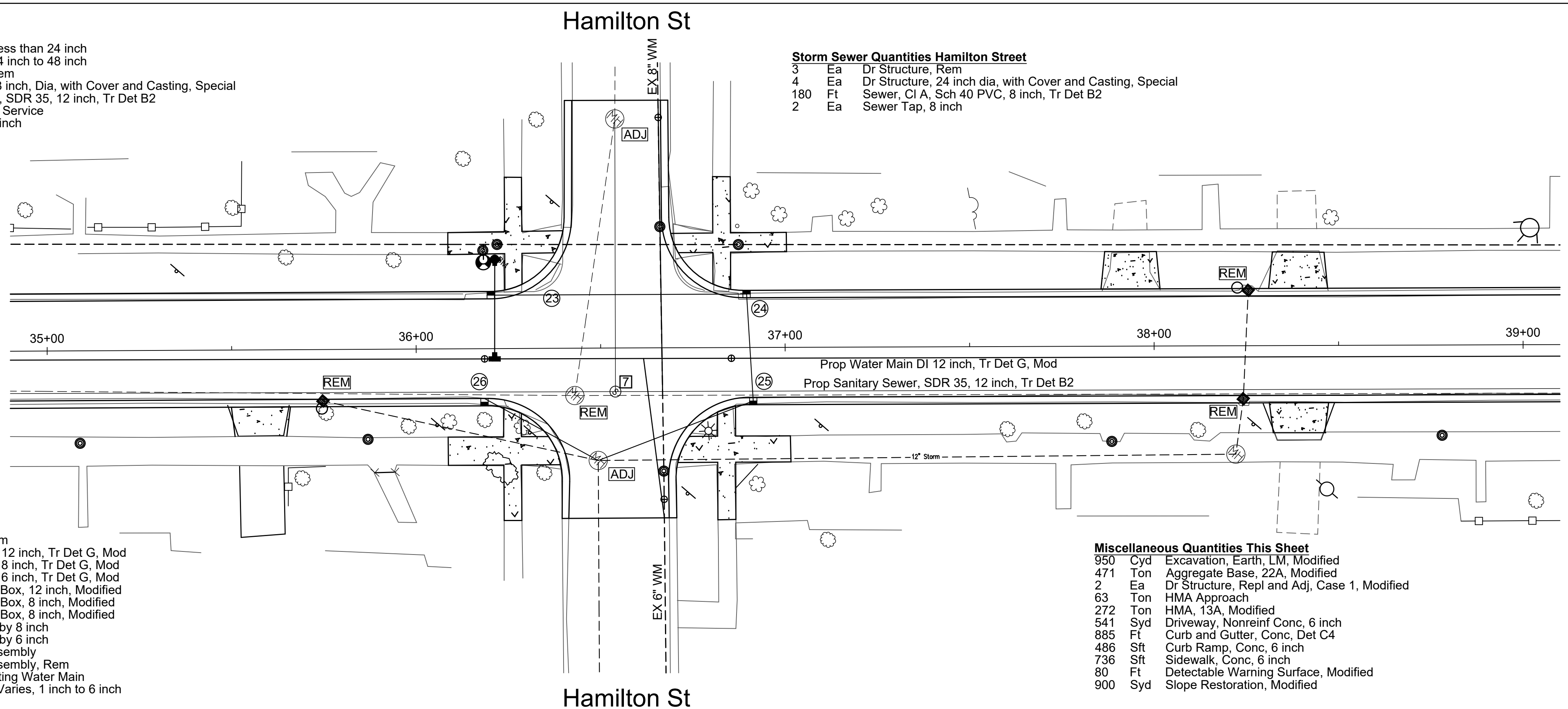
- 475 Ft Water Main, Rem
- 400 Ft Water Main, DI 12 inch, Tr Det G, Mod
- 95 Ft Water Main, DI 8 inch, Tr Det G, Mod
- 20 Ft Water Main, DI 6 inch, Tr Det G, Mod
- 2 Ea Gate Valve and Box, 12 inch, Modified
- 1 Ea Gate Valve and Box, 8 inch, Modified
- 1 Ea Gate Valve and Box, 8 inch, Modified
- 1 Ea Tee, DI 12 inch by 8 inch
- 1 Ea Tee, DI 12 inch by 6 inch
- 1 Ea Fire Hydrant Assembly
- 1 Ea Fire Hydrant Assembly, Rem
- 2 Ea Connect to Existing Water Main
- 6 Ea Water Service, Varies, 1 inch to 6 inch

**Storm Sewer Quantities Hamilton Street**

- 3 Ea Dr Structure, Rem
- 4 Ea Dr Structure, 24 inch dia, with Cover and Casting, Special
- 180 Ft Sewer, CI A, Sch 40 PVC, 8 inch, Tr Det B2
- 2 Ea Sewer Tap, 8 inch

**Miscellaneous Quantities This Sheet**

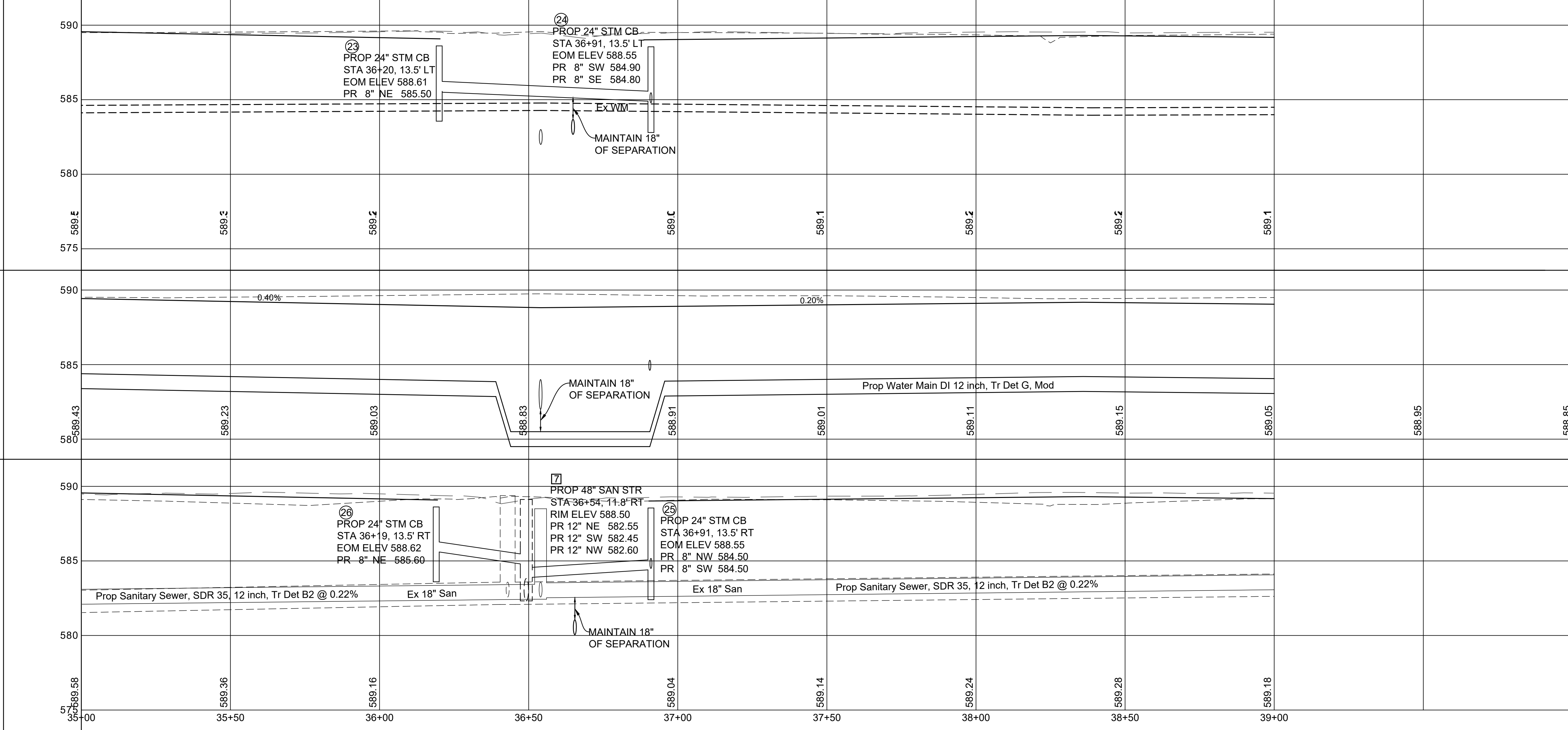
- 950 Cyd Excavation, Earth, LM, Modified
- 471 Ton Aggregate Base, 22A, Modified
- 2 Ea Dr Structure, Repl and Adj, Case 1, Modified
- 63 Ton HMA Approach
- 272 Ton HMA, 13A, Modified
- 541 Syd Driveway, Nonreinf Conc, 6 inch
- 885 Ft Curb and Gutter, Conc, Det C4
- 486 Sft Curb Ramp, Conc, 6 inch
- 736 Sft Sidewalk, Conc, 6 inch
- 80 Ft Detectable Warning Surface, Modified
- 900 Syd Slope Restoration, Modified



Existing Top of Curb Profile LT  
Proposed Top of Curb Profile LT

Existing Centerline Profile  
Proposed Centerline Profile

Existing Top of Curb Profile RT  
Proposed Top of Curb Profile RT



590  
585  
580  
575  
570

Existing B/C  
Existing Back SW  
Proposed B/C  
Proposed Back of Curb Elev

590  
585  
580  
575

Existing C/L  
Proposed C/L  
Proposed Centerline Elevations

590  
585  
580  
575

Existing B/C  
Existing Back SW  
Proposed B/C  
Proposed Back of Curb Elev

Design By:	Auth:	Date:	No:	Final Plans
RER	RER		1	Revision
			2	
			3	
			4	

Location: Second Avenue Road and Infrastructure Upgrades  
Second Ave at Hamilton Street  
Sta 35+00 to Sta 39+00

Project: Second Avenue Road and Infrastructure Upgrades

**HURON**  
ENGINEERING & SURVEYING, INC.

Alpena City Hall  
108 N First  
Alpena, MI 49707  
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**City of Alpena**  
MICHIGAN  
ENGINEERING

Street Code/Location: 92G

Scale:  
Horizontal: 1"=20'  
Vertical: 1"=4'

Sheet No: 8 OF 12

SECOND AVENUE FROM FLETCHER ST TO HUEBER ST



**Sanitary Sewer Quantities**

50	Ft	Sewer, Rem, Less than 24 inch
450	Ft	Sewer, Rem, 24 inch to 48 inch
1	Ea	Dr Structure, Rem
1	Ea	Dr Structure, 48 inch, Dia, with Cover and Casting, Special
500	Ft	Sanitary Sewer, SDR 35, 12 inch, Tr Det B2
9	Ea	Sanitary Sewer Service

**Storm Sewer Quantities Hamilton Street**

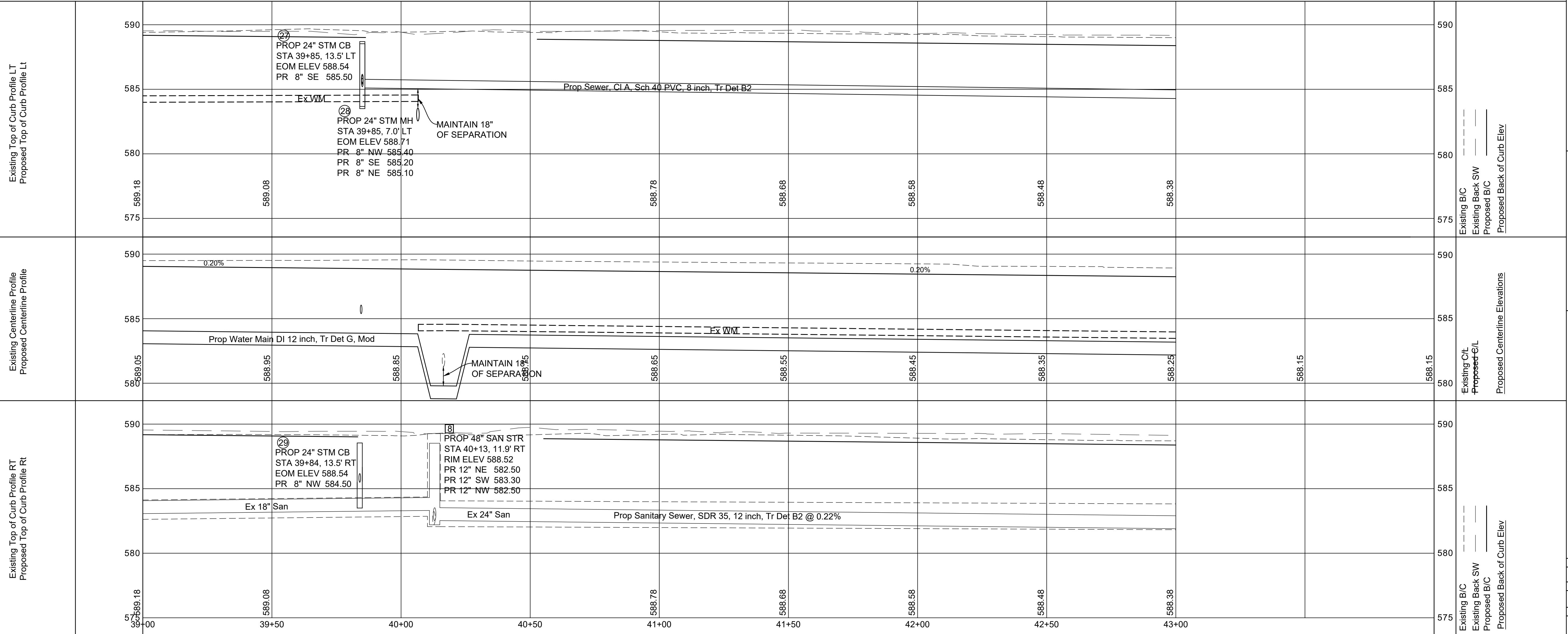
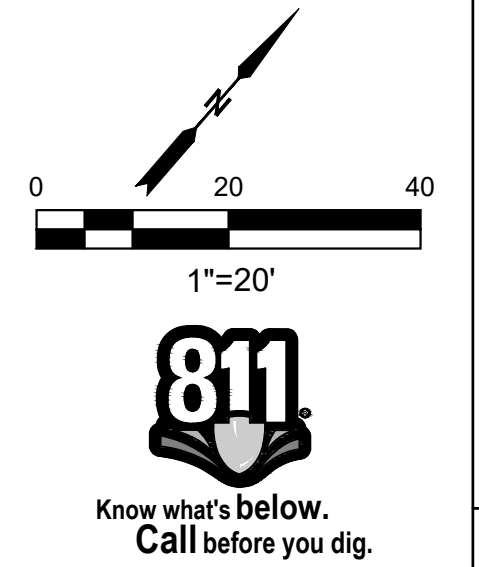
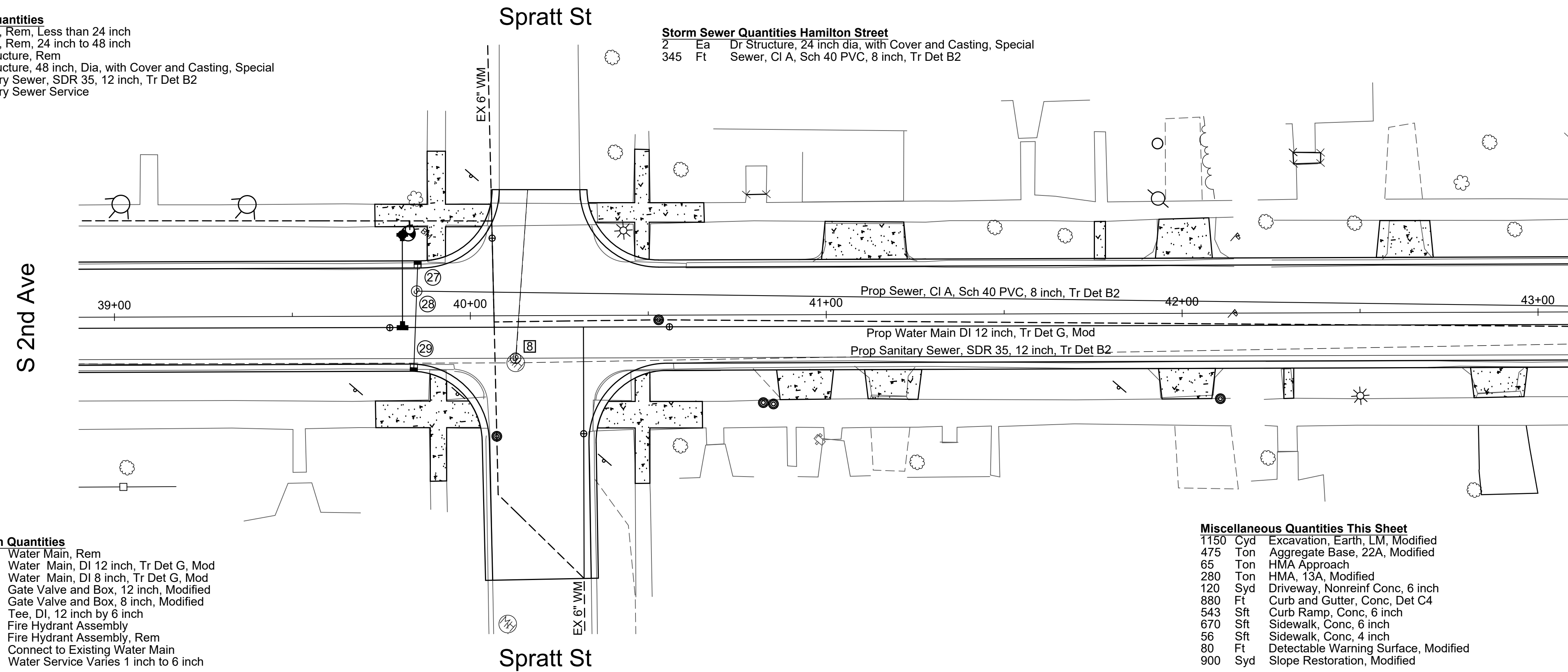
2	Ea	Dr Structure, 24 inch dia, with Cover and Casting, Special
345	Ft	Sewer, CI A, Sch 40 PVC, 8 inch, Tr Det B2

**Water Main Quantities**

525	Ft	Water Main, Rem
400	Ft	Water Main, DI 12 inch, Tr Det G, Mod
110	Ft	Water Main, DI 8 inch, Tr Det G, Mod
2	Ea	Gate Valve and Box, 12 inch, Modified
2	Ea	Gate Valve and Box, 8 inch, Modified
2	Ea	Tee, DI, 12 inch by 6 inch
1	Ea	Fire Hydrant Assembly
1	Ea	Fire Hydrant Assembly, Rem
2	Ea	Connect to Existing Water Main
9	Ea	Water Service Varies 1 inch to 6 inch

**Miscellaneous Quantities This Sheet**

1150	Cyd	Excavation, Earth, LM, Modified
475	Ton	Aggregate Base, 22A, Modified
65	Ton	HMA Approach
280	Ton	HMA, 13A, Modified
120	Syd	Driveway, Nonreinf Conc, 6 inch
880	Ft	Curb and Gutter, Conc, Det C4
543	Sft	Curb Ramp, Conc, 6 inch
670	Sft	Sidewalk, Conc, 6 inch
56	Sft	Sidewalk, Conc, 4 inch
80	Ft	Detectable Warning Surface, Modified
900	Syd	Slope Restoration, Modified



Final Plans	No	Date	Revised
Revision	1		
Checked By:	2		
Printed:	3		
Date:	4		
Time:			

Location: Second Ave at Spratt Street  
Sta 39+00 to Sta 43+00

Project: Second Avenue Road and Infrastructure Upgrades

**HURON**  
ENGINEERING & SURVEYING, INC.

Alpena City Hall  
108 N First  
Alpena, MI 49707  
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Fax: 989-354-1709

**City of Alpena**  
MICHIGAN  
ENGINEERING

Street Code/Location: 92G

Scale:  
Horizontal: 1"=20'  
Vertical: 1"=4'

Sheet No. 9 OF 12

SECOND AVENUE FROM FLETCHER ST TO HUEBER ST

**Sanitary Sewer Quantities**

80	Ft	Sewer, Rem, Less than 24 inch
584	Ft	Sewer, Rem, 24 inch to 48 inch
2	Ea	Dr Structure, Rem
2	Ea	Dr Structure, 48 inch, Dia, with Cover and Casting, Special
664	Ft	Sanitary Sewer, SDR 35, 12 inch, Tr Det B2
10	Ea	Sanitary Sewer Service

Alfred St

**Storm Sewer Quantities Alfred Street**

2	Ea	Dr Structure, Rem
4	Ea	Dr Structure, 24 inch dia, with Cover and Casting, Special
188	Ft	Sewer, Cl A, Sch 40 PVC, 8 inch, Tr Det B2
2	Ea	Sewer Tap, 8 inch

**Storm Sewer Quantities Bosley Street**

1	Ea	Dr Structure, Rem
2	Ea	Dr Structure, 24 inch dia, with Cover and Casting, Special
132	Ft	Sewer, Cl A, Sch 40 PVC, 8 inch, Tr Det B2
1	Ea	Sewer Tap, 8 inch

Bosley St

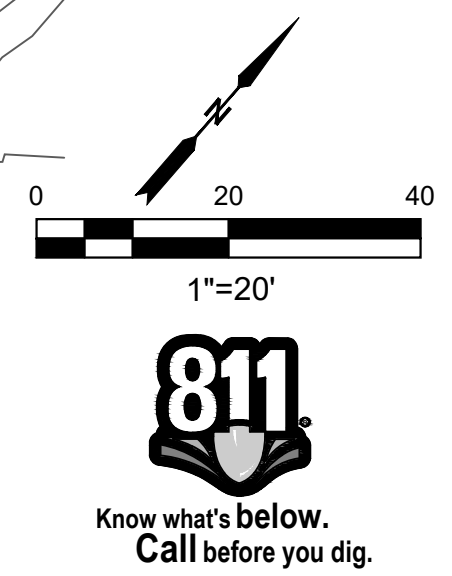
S 2nd Ave

**Water Main Quantities**

710	Ft	Water Main, Rem
500	Ft	Water Main, DI 12 inch, Tr Det G, Mod
210	Ft	Water Main, DI 8 inch, Tr Det G, Mod
4	Ea	Gate Valve and Box, 12 inch, Modified
4	Ea	Gate Valve and Box, 8 inch, Modified
2	Ea	Bend, DI, Cross, 12 inch by 6 inch
2	Ea	Fire Hydrant Assembly
2	Ea	Fire Hydrant Assembly, Rem
4	Ea	Connect to Existing Water Main
10	Ea	Water Service, Varies 1 inch to 6 inch

**Miscellaneous Quantities This Sheet**

1250	Cyd	Excavation, Earth, LM, Modified
1120	Ton	Aggregate Base, 22A, Modified
120	Ton	HMA Approach
340	Ton	HMA, 13A, Modified
600	Syd	Driveway, Nonreinf Conc, 6 inch
1064	Ft	Curb and Gutter, Conc, Det C4
1086	Sft	Curb Ramp, Conc, 6 inch
1330	Sft	Sidewalk, Conc, 6 inch
127	Sft	Sidewalk, Conc, 4 inch
160	Ft	Detectable Warning Surface, Modified
1500	Syd	Slope Restoration, Modified



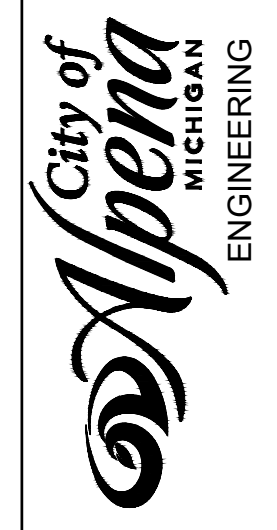
Design By:	RER
Drawn By:	RER
Checked By:	
Printed:	
Date:	
Time:	

Location:  
Second Ave  
Alfred Street & Bosley Street  
Sta 43+00 to Sta 48+00

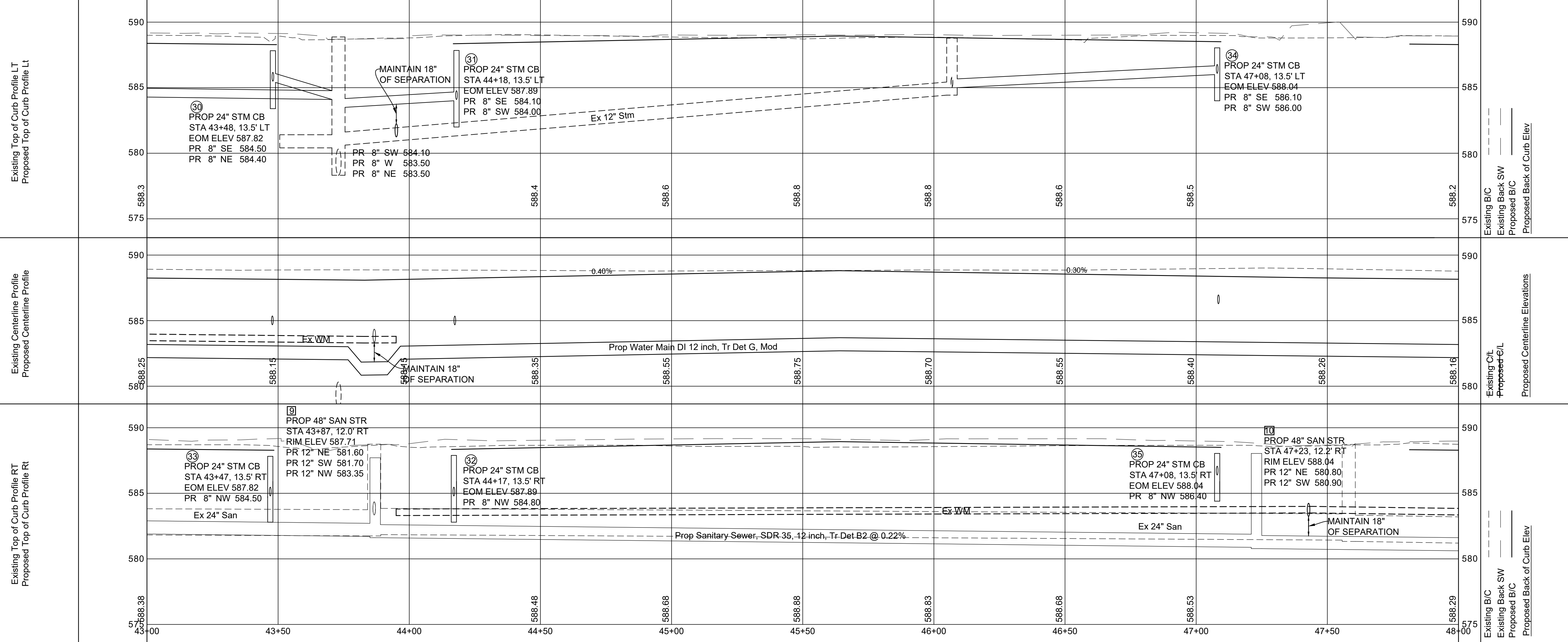
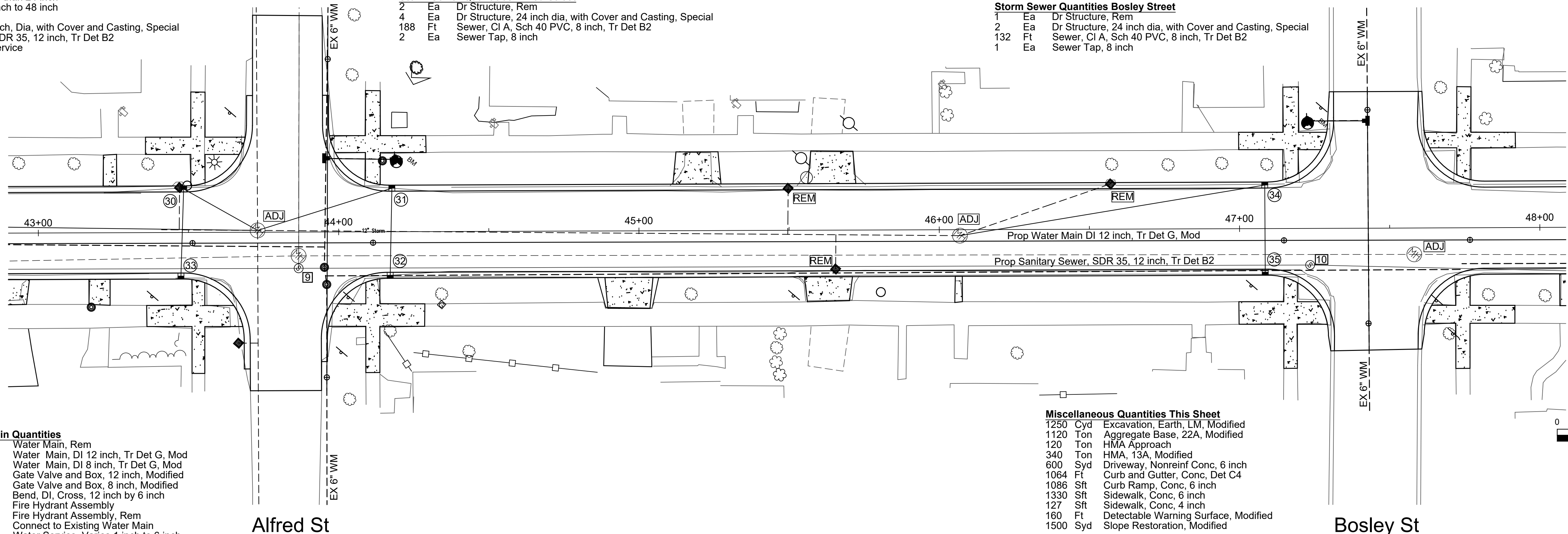
Project:  
Second Avenue Road and  
Infrastructure Upgrades



Alpena City Hall  
108 N First  
Alpena, MI 49707  
Ph: 989-354-1730  
Fax: 989-354-1709



Street Code/Location  
92G  
Scale:  
Horizontal: 1"=20'  
Vertical: 1"=4'  
Sheet No.



**Sanitary Sewer Quantities**

- 75 Ft Sewer, Rem, Less than 24 inch
- 530 Ft Sewer, Rem, 24 inch to 48 inch
- 3 Ea Dr Structure, Rem
- 1 Ea Dr Structure, 48 inch, Dia, with Cover and Casting, Special
- 624 Ft Sanitary Sewer, SDR 35, 12 inch, Tr Det B2
- 25 Ft Sanitary Sewer, SDR 35, 6 inch, Tr Det B2
- 10 Ea Sanitary Sewer Service

**Storm Sewer Quantities Hueber Street**

- 3 Ea Dr Structure, Rem
- 3 Ea Dr Structure, 24 inch dia, with Cover and Casting, Special
- 147 Ft Sewer, Cl A, Sch 40 PVC, 8 inch, Tr Det B2
- 1 Ea Sewer Tap, 8 inch

**Water Main Quantities**

- 482 Ft Water Main, Rem
- 374 Ft Water Main, DI 12 inch, Tr Det G, Mod
- 108 Ft Water Main, DI 8 inch, Tr Det G, Mod
- 2 Ea Gate Valve and Box, 12 inch, Modified
- 2 Ea Gate Valve and Box, 8 inch, Modified
- 1 Water Reducer, 12 inch to 4 inch
- 2 Tee, 12 inch by 8 inch
- 1 Fire Hydrant Assembly
- 1 Fire Hydrant Assembly, Rem
- 3 Connect to Existing Water Main
- 10 Ea Water Service, Varies 1 inch to 6 inch

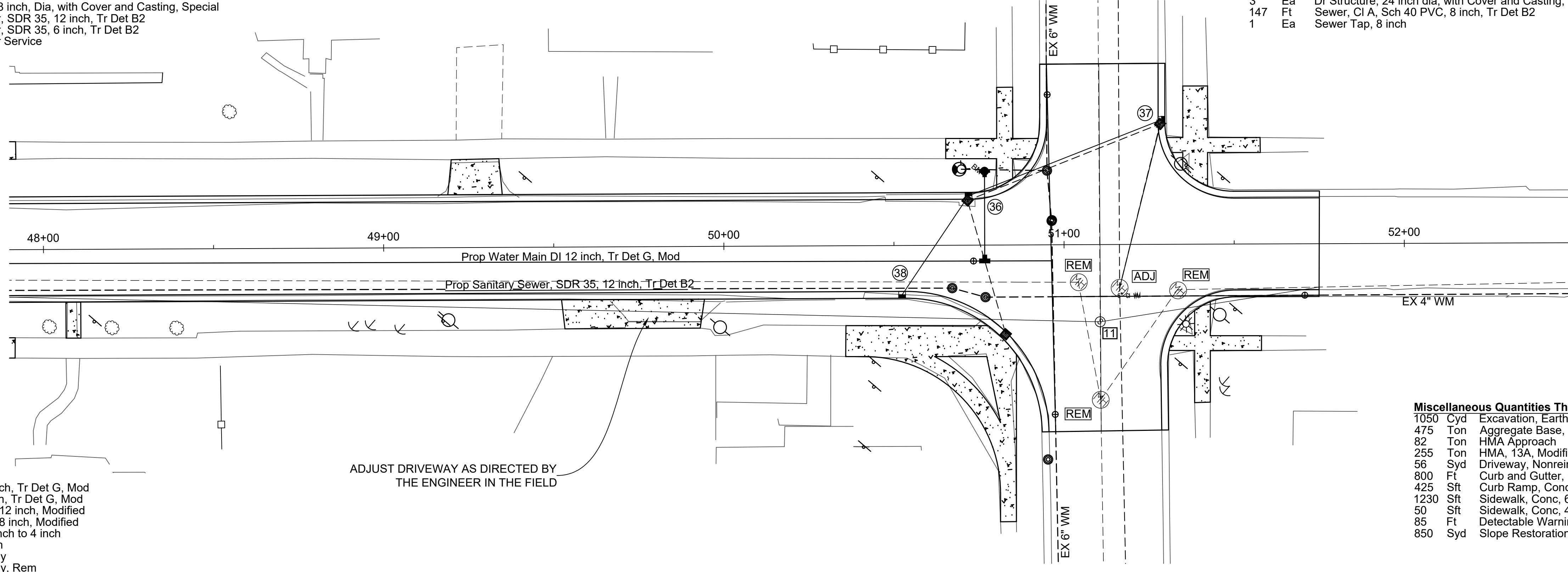
**Miscellaneous Quantities This Sheet**

- 1050 Cyd Excavation, Earth, LM, Modified
- 475 Ton Aggregate Base, 22A, Modified
- 82 Ton HMA Approach
- 255 Ton HMA, 13A, Modified
- 56 Syd Driveway, Nonreinf Conc, 6 inch
- 800 Ft Curb and Gutter, Conc, Det C4
- 425 Sft Curb Ramp, Conc, 6 inch
- 1230 Sft Sidewalk, Conc, 6 inch
- 50 Sft Sidewalk, Conc, 4 inch
- 85 Ft Detectable Warning Surface, Modified
- 850 Syd Slope Restoration, Modified

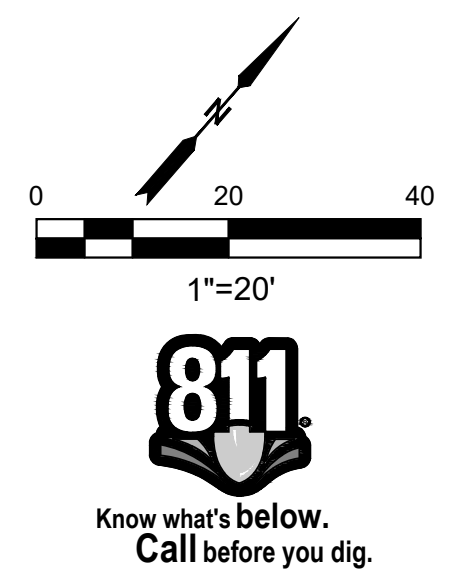
S 2nd Ave

Hueber St

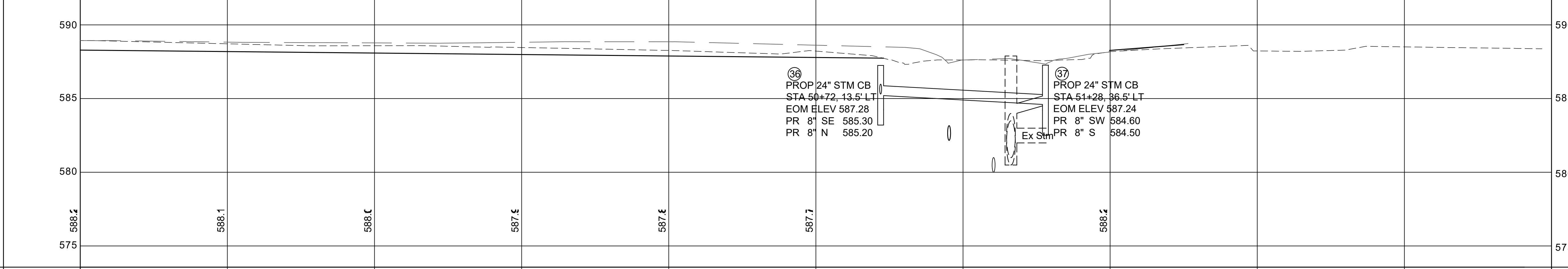
Huber St



ADJUST DRIVEWAY AS DIRECTED BY THE ENGINEER IN THE FIELD

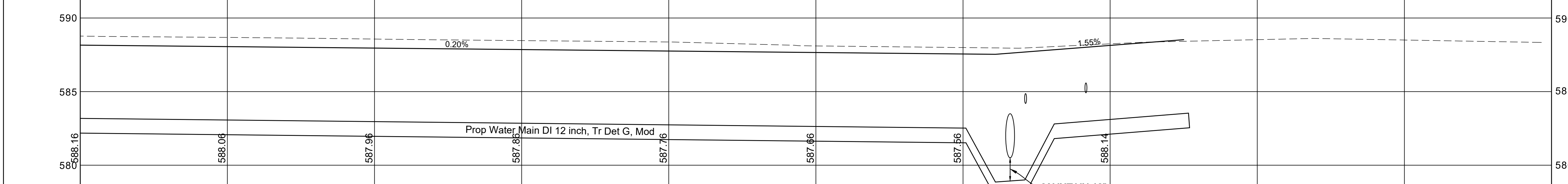


Existing Top of Curb Profile LT  
Proposed Top of Curb Profile LT



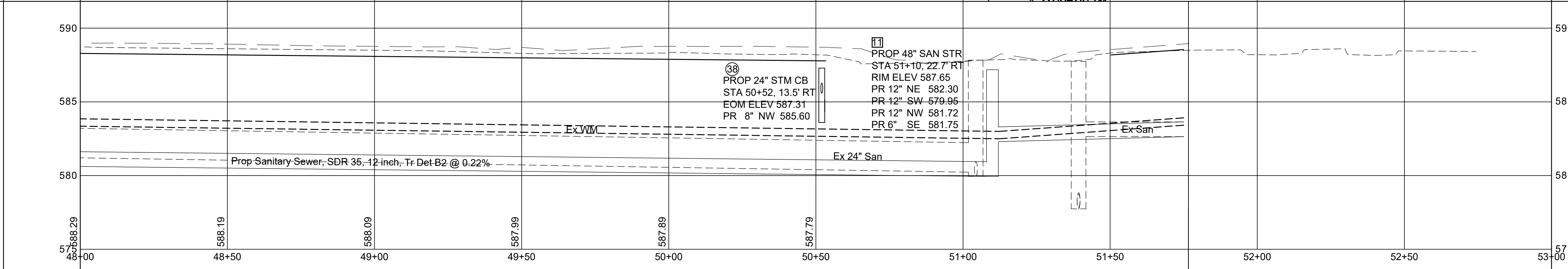
Existing B/C  
Existing Back SW  
Proposed B/C  
Proposed Back of Curb Elev

Existing Centerline Profile  
Proposed Centerline Profile



Existing C/L  
Proposed C/L  
Proposed Centerline Elevations

Existing Top of Curb Profile RT  
Proposed Top of Curb Profile RT



Existing B/C  
Existing Back SW  
Proposed B/C  
Proposed Back of Curb Elev

Design By:	RER	Auth:	RER	Date:	No:	Final Plans
Drawn By:		Checked By:		Printed:	1	Revision
Date:		Date:		Date:	2	
Time:		Date:		Date:	3	
		Date:		Date:	4	

Location: Second Ave at Hueber Street  
Sta 48+00 to Sta 51+75

Project: Second Avenue Road and Infrastructure Upgrades

Alpena City Hall  
108 N First  
Alpena, MI 49707  
Ph: 989-354-1730  
Fax: 989-354-1709

City of Alpena  
MICHIGAN  
ENGINEERING

Street Code/Location: 92G  
Scale: Horizontal: 1"=20 Vertical: 1"=4'  
Sheet No. 11 OF 12

SECOND AVENUE FROM FLETCHER ST TO HUEBER ST

Pay Item	Description	Quantity	Units	Page 4	Page 5	Page 6	Page 7	Page 8	Page 9	Page 10	Page 11	Page 12	Misc
<b>Street Items</b>													
1100001	Mobilization, Max	1	LSUM									1	
2030011	Dr Structure, Rem	17	Ea		1	3	4	3		3	3		
2057021	Excavation, Earth, LM, Modified	8465	Cyd	350	1165	1350	1200	950	1150	1250	1050		
2057021	Subgrade Undercutting, Type II, Modified	500	Cyd									500	
2050010	Embankment, CIP	100	Cyd									100	
2080014	Erosion Control, Filter Bag	20	Ea									20	
2090001	Project Cleanup	1	LSUM									1	
3010002	Subbase, CIP	500	Cyd									500	
3027031	Aggregate Base, 22A, Modified	4984	Ton	190	782	836	635	471	475	1120	475		
4021202	Sewer Tap, 8 inch	16	Ea		2	4	4	2		3	1		
4027001	Sewer, CI A, Sch 40 PVC, 8 inch, Tr Det B2	1634	Ea		170	337	135	180	345	320	147		
4027050	Sewer Bulkhead, 8 inch	9	Ea		4							5	
4037050	Dr Structure, 24 inch dia, with Cover and Casting, Special	29	Ea			8	6	4	2	6	3		
4037050	Dr Structure, Repl and Adj, Case 1, Modified	8	Ea		1	3	2	2					
4040073	Underdrain, Subgrade, 6 inch	1600	Ft									1600	
4047050	Underdrain Outlet to Dr Structure, 6 inch	10	Ea									10	
5010061	HMA Approach	527	Ton		57	90	50	63	65	120	82		
5017031	HMA, 13A, Modified	2750	Ton	135	557	505	406	272	280	340	255		
8010005	Driveway, Nonreinf Conc, 6 inch	3429	Syd		627	676	809	541	120	600	56		
8020023	Curb and Gutter, Conc, Det C4	6878	Ft	264	998	967	1020	885	880	1064	800		
8032002	Curb Ramp, 6 inch	3634	Sft			1440	740	486	543		425		
8030040	Sidewalk, Conc, 4 inch	12108	Sft	1380	4445	3000	3050		56	127	50		
8030046	Sidewalk, Conc, 4 inch, Stamped	13481	Sft	1315	3525	2315	2360	736	670	1330	1230		
8037001	Detectable Warning Surface, Modified	745	Ft		100	150	90	80	80	160	85		
8107051	Remove and Replace Permanent Signage	1	LSUM									1	
8120012	Barricade, Type III, High Intensity, Double Sided, Lighted, Furn	18	Ea									18	
8120013	Barricade, Type III, High Intensity, Double Sided, Lighted, Oper	18	Ea									18	
8120026	Pedestrian Type II Barricade, Temp	20	Ea									20	
8120170	Minor Traf Devices	1	LSUM									1	
8120252	Plastic Drum, Fluorescent, Furn	25	Ea									25	
8120253	Plastic Drum, Fluorescent, Oper	25	Ea									25	
8120350	Sign, Type B, Temp, Prismatic, Furn	550	Sft									550	
8120351	Sign, Type B, Temp, Prismatic, Furn	550	Sft									550	
8120370	Traf Regulator Control	1	LSUM									1	
8167011	Slope Restoration, Modified	9650	Syd	1000	1500	1500	1500	900	900	1500	850		
8247051	Contractor Staking, Modified	1	LSUM									1	
2020002	Tree, Rem, 6 inch to 18 inch	5	Ea									5	

Pay Item	Description	Quantity	Units	Page 4	Page 5	Page 6	Page 7	Page 8	Page 9	Page 10	Page 11	Page 12	Misc
<b>Sanitary Sewer Items</b>													
2030015	Sewer, Rem, Less than 24 inch	480	Ft					75	50	80	75	200	
2030016	Sewer, Rem, 24 inch to 48 inch	3784	Ft	270	500	500	500	450	450	584	530		
2030011	Dr Structure, Rem	11	Ea		1	2	1	1	1	2	3		
4037050	Dr Structure, 48 inch Dia, with Cover and Casting, Special	9	Ea		1	2	1	1	1	2	1		
4021207	Sewer Tap, 12 inch	1	Ea					1					
4027001	Sanitary Sewer, SDR 35, 12 inch, Tr Det B2	4008	Ft	270	500	500	500	450	500	664	624		
4027001	Sanitary Sewer, SDR 35, 6 inch, Tr Det B2	25	Ft								25		
4027050	Sanitary Sewer Service	62	Ea	2	10	9	6	6	9	10	10		
4027001	Dr Structure, Add Depth of 48 inch dia, 8 feet to 15 feet	6	Ft		3	3							

Pay Item	Description	Quantity	Units	Page 4	Page 5	Page 6	Page 7	Page 8	Page 9	Page 10	Page 11	Page 12	Misc
<b>Water Items</b>													
8237001	Water Main, DI 12 inch, Tr Det G, Modified	3294	Ft	120	500	500	500	400	400	500	374		
8237001	Water Main, DI 8 inch, Tr Det G, Modified	772	Ft		95	114	90	160	95	110	108		
8237001	Water Main, DI 6 inch, Tr Det G, Modified	80	Ft			20		20	20	20			
8237001	Water, Reducer, 12 inch to 8 inch	3	Ft	1	2								
8237001	Water, Reducer, 12 inch to 4 inch	1	Ft								1		
8237050	Gate Valve and Box, 12 inch, Modified	18	Ea		2	4	2	2	2	4	2		
8237050	Gate Valve and Box, 8 inch, Modified	18	Ea		2	4	2	2	2	4	2		
8237050	Gate Valve and Box, 6 inch, Modified	0	Ea										
8237050	Bend, DI, Cross, 12 inch x 8 inch	2	Ea		1	1							
8237050	Bend, DI, Cross, 12 inch x 8 inch	4	Ea			1	1			2			
8237050	Tee, DI 12 inch by 6 inch	10	Ea					1	2				
8237050	Tee, DI 12 inch by 8 inch	6	Ea					1			2		
8237050	Fire Hydrant Assembly	10	Ea		1	2	2	1	1	2	1		
8237050	Fire Hydrant Assembly, Rem	10	Ea		1	2	2	1	1	2	1		
8237050	Connect to Existing Water Main	20	Ea	1	2	4	2	2	2	4	3		
8237050	Water Service, Varies 1 inch to 6 inch	62	Ea	2	10	9	6	6	9	10	10		
8237050	Fittings Not Shown on Plans	15	Ea									15	
8237051	Testing and Chlorination	1	LSUM									1	

Design By: RER	AUTH: RER	Date: 1	No: 1	Final Plans
Drawn By: 2				Revision
Checked By: 3				
Printed: 4				
Date:				
Time:				
Location: Quantity Sheet				
Project: Second Avenue Road and Infrastructure Upgrades				
<b>HURON</b> ENGINEERING & SURVEYING, INC.				
Alpena City Hall 208 N First Ave Alpena, MI 49707 Ph: 989-354-1730 Fax: 989-354-1709 <b>City of Alpena</b> MICHIGAN ENGINEERING				
Street Code/Location				
92G				
Scale:				
Horizontal: 1"=20'				
Vertical: 1"=4'				
Sheet No.				
12 OF 12				

SECOND AVENUE FROM FLETCHER ST TO HUEBER ST