





GENERAL NOTES:

1. PROPOSED MANHOLES SHALL CONFORM TO THE CITY OF LEE'S SUMMIT DETAILS AND SPECIFICATIONS.
2. ALL WORK IN PUBLIC EASEMENTS AND RIGHT-OF-WAY AND ALL EROSION CONTROL WORK MUST COMPLY WITH THE LATEST EDITION OF THE TECHNICAL PROVISIONS & STANDARD DRAWINGS FOR ROADS AND SEWERS, OF LEE'S SUMMIT, MISSOURI.
3. WATER MAINS AND SANITARY SEWER MAINS/STRUCTURES SHALL HAVE AT LEAST 10' OF HORIZONTAL SEPARATION FROM EDGE OF WATER PIPE TO EDGE OF SEWER PIPE OR SEWER STRUCTURE.
4. WATER MAINS AND SANITARY SEWERS SHALL HAVE AT LEAST 18" OF VERTICAL SEPARATION FROM EDGE OF PIPE TO EDGE OF PIPE. THE CROSSING SHALL BE ARRANGED SO THAT THE SEWER JOINTS WILL BE EQUIDISTANT AND AS FAR AS POSSIBLE FROM THE WATER MAIN JOINTS.
5. ALL SEWER MANHOLES WITHIN PROPOSED ASPHALT PAVEMENT SHALL INCLUDE CONCRETE COLLAR TO MATCH MANHOLE RIM FLUSH WITH PAVEMENT PER THE CITY OF LEE'S SUMMIT, MISSOURI STANDARD DETAIL.
6. ALL SANITARY SEWER LATERALS SHALL HAVE A TRENCH CHECK, CONSISTING OF FLOWABLE BACKFILL INSTALLED DURING CONSTRUCTION. TRENCH CHECK SHALL EXTEND TO BOTTOM OF TRENCH, TO WIDTH OF TRENCH TO 12 INCHES ABOVE PIPE, FOR A MINIMUM LENGTH OF 12 INCHES. TRENCH CHECK SHALL BE LOCATED AT LEAST 5 FEET FROM SANITARY SEWER MAIN.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT THE PLANS IN THEIR POSSESSION ARE THE MOST CURRENT VERSION ISSUED, ARE FULLY COORDINATED WITH ALL SUBCONTRACTORS, AND PRESENT ON SITE AT ALL TIMES.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DEVIATIONS FROM THESE PLANS UNLESS WRITTEN APPROVAL FROM ENGINEER, OWNER, OR DEVELOPER.
9. ALL WORK AND MATERIALS SHALL BE SUBJECT TO INSPECTION AND APPROVAL BY THE OWNER OR THE OWNER'S REPRESENTATIVE.
10. ALL ESTIMATES OF QUANTITIES ARE FOR INFORMATIONAL PURPOSED ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING QUANTITIES AND ITEMS OF WORK.
11. PRIOR TO COMMENCEMENT OF WORK THE CONTRACTOR SHALL NOTIFY AND COORDINATE WITH ALL UTILITY COMPANIES AND OBTAIN ANY RELEVANT INFORMATION. NOTIFY ENGINEER OF ANY DISCREPANCIES.
12. THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF ALL BOUNDARY CORNERS AND SECTION CORNERS. ANY BOUNDARY CORNER AND/OR SECTION CORNER DISTURBED OR DAMAGED BY CONSTRUCTION ACTIVITIES SHALL BE RESET BY A LAND SURVEYOR LICENSED IN THE STATE OF MISSOURI, AT THE CONTRACTOR'S EXPENSE.

REFERENCE:

1. UNLESS EXPLICITLY DESCRIBED OTHERWISE WITHIN THESE PLANS THE FOLLOWING SHALL APPLY:

ALL CONSTRUCTION, INCLUDING THOSE LISTED BELOW, SHALL CONFORM TO THE LATEST CODES AND ORDINANCES OF THE CITY OF LEE'S SUMMIT, MISSOURI.

ALL TRAFFIC CONTROL SIGNAGE SHALL CONFORM WITH THE CURRENT EDITION OF THE MANUAL FOR UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).

ALL UTILITY EXTENSIONS AND CONSTRUCTION SHALL CONFORM TO THE STANDARDS AND SPECIFICATIONS OF THE UTILITY COMPANIES.

ALL EXTERIOR PAVEMENT (PCC, ASPHALT, ETC.) SHALL BE IN CONFORMANCE WITH THE SPECIFICATIONS OF THE CITY OF LEE'S SUMMIT, MISSOURI.

EXISTING CONDITIONS:

1. THE CONTRACTOR SHALL VISIT THE SITE AND BECOME FAMILIAR WITH THE EXISTING CONDITIONS OF THE PROJECT AREA.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PERFORMING THEIR OWN INVESTIGATIONS AND MAKE THEIR OWN ASSUMPTIONS REGARDING SITE SURFACE AND SUBSURFACE CONDITIONS. THIS INCLUDE THE LOCATION AND CONSISTENCY OF ANY EXISTING ROCK LAYERS UNDERLYING THE PROJECT SITE. CONTACT THE ENGINEER REGARDING ANY DISCREPANCIES THAT MAY AFFECT THE ABILITY TO CONSTRUCT FROM THESE PLANS AS DESIGNED.
3. EXISTING CONDITIONS WERE DETERMINED THROUGH A VARIETY OF METHODS THAT MAY INCLUDE SURVEY, AERIAL IMAGERY, AVAILABLE RECORDS, GIS DATA, ETC. SUBSURFACE CONDITIONS ARE APPROXIMATE AND MAY NOT INCLUDE ALL UTILITIES AND OTHER SITE IMPROVEMENTS PRESENT ON SITE. THE CONTRACTOR SHALL MAKE EXPLORATION EXCAVATIONS AND LOCATED EXISTING UNDERGROUND UTILITIES SUFFICIENTLY AHEAD OF CONSTRUCTION TO PERMIT REVISIONS TO PLANS WHEN CONFLICTS AND DISCREPANCIES ARE FOUND.

CONSTRUCTION:

1. THE CONTRACTOR SHALL DISPOSE OF ALL WASTE MATERIAL RESULTING FROM THE PROJECT OFF-SITE AND IN STRICT CONFORMANCE WITH ALL LOCAL CODES AND ORDINANCES.
2. ALL MANHOLES, CATCH BASINS, UTILITY VALVES AND METER PITS ARE TO BE ADJUSTED OR REBUILT TO GRADE AS REQUIRED. NOT ALL ADJUSTMENTS ARE INDICATED IN THE PLANS.
3. THE CONTRACTOR SHALL STREET SWEEP OR OTHERWISE CLEAN ALL ACCESS ROADS TO THE SITE AT THE CONCLUSION OF THE PROJECT.

CONSTRUCTION:

1. THE CONTRACTOR SHALL SUBMIT SHOP DRAWING A MINIMUM OF 7 DAYS PRIOR TO THE REQUIRED DATE OF APPROVAL ENGINEER SHALL REVIEW SHOP DRAWINGS OR SAMPLE CONFORMANCE WITH THE DESIGN FOR THIS PROJECT AS DESCRIBED IN THE PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ERRORS OF OMISSIONS IN SHOP DRAWINGS. THE ENGINEER'S REVIEW SHALL NOT EXTEND TO MEANS OR METHODS OF CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY VARIATION FROM THE REQUIREMENTS OF THE CONTRACT DOCUMENTS UNLESS CONTRACTOR HAS NOTIFIED ENGINEER OF EACH SUCH VARIATION AT THE TIME OF SUBMISSION, AND OBTAIN ENGINEER'S WRITTEN APPROVAL OF EACH SUCH VARIATION. PRIOR TO SUBMITTING EACH SHOP DRAWING OR SAMPLE, CONTRACTOR SHALL HAVE REVIEWED AND VERIFIED:

ALL FIELD MEASUREMENTS, QUANTITIES, DIMENSIONS, SPECIFIED PERFORMANCE CRITERIA, INSTALLATION REQUIREMENTS, MATERIALS, CATALOG NUMBERS AND SIMILAR INFORMATION WITH RESPECT THERETO;

ALL MATERIALS WITH RESPECT TO INTENDED USE, FABRICATION, SHIPPING, HANDLING, STORAGE, ASSEMBLY AND INSTALLATION PERTAINING TO PERFORMANCE OF THE WORK;

ALL INFORMATION RELATIVE TO MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES OF CONSTRUCTION AND SAFETY PRECAUTIONS AND PROGRAMS INCIDENT THERETO;

CONTRACTOR SHALL ALSO HAVE REVIEWED AND COORDINATED EACH SHOP DRAWING OR SAMPLE WITH OTHER SHOP DRAWINGS AND SAMPLES, AND WITH THE REQUIREMENTS OF THE WORK AND THE CONTRACT DOCUMENTS.

ALL SUBMITTED SHOP DRAWINGS SHALL BEAR A STAMP OR SPECIFIC WRITTEN INDICATION AND SIGNATURE THAT CONTRACTOR HAS FULLY COMPLETED THE ABOVE TASKS.
2. SHOP DRAWINGS AS DESCRIBED ABOVE ARE REQUIRED FOR, BUT NOT LIMITED TO, THE FOLLOWING:

ALL SANITARY SEWER STRUCTURES TO BE INSTALLED WITH THE PROJECT.

ANY ITEMS IN THESE PLANS THAT ALLOW FOR AN "APPROVED EQUAL" ALTERNATIVE.

SANITARY SEWER GENERAL NOTES:

1. PRIOR TO COMMENCEMENT OF WORK THE CONTRACTOR SHALL NOTIFY AND COORDINATE CONSTRUCTION WITH THE CITY OF LEE'S SUMMIT, MISSOURI.
2. ALL PIPE LENGTHS ARE CALCULATED LINEARLY FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE.
3. ALL STRUCTURE DIMENSIONS ARE TO INSIDE FACE OF STRUCTURE.
4. COORDINATES ARE PROVIDED AT CENTER OF STRUCTURE. ADDITIONAL COORDINATES PROVIDED ARE PER LOCAL CODES AND ORDINANCES OR AS AN AID WHEN ORIENTING THE LID DURING INSTALLATION.
5. THE CONTRACTOR SHALL EXPOSE EXISTING UTILITIES AT LOCATIONS OF POSSIBLE CONFLICT AND POINTS OF CONNECTION PRIOR TO ANY CONSTRUCTION OF SANITARY SEWER.
6. SANITARY SEWER TRENCHES SHALL BE CONSTRUCTED SUCH THAT UNDISTURBED EXISTING SOIL OR FILL COMPACTED TO 95% PROCTOR DENSITY IS AT A DEPTH THAT IS 18" ABOVE TOP OF PROPOSED PIPE.
7. MANHOLE INVERT CHANNELS SHALL BE SMOOTH, CIRCULAR, AND CONFORMING TO  $\frac{1}{8}$  THE ADJACENT PIPE SECTION (INVERT TO CENTER). CHANGES IN DIRECTION OF FLOW SHALL BE MADE WITH A SMOOTH CURVE AND MAINTAIN SHAPE THROUGHOUT. CHANGES IN GRADE OF ADJACENT PIPES SHALL BE TRANSITIONED SMOOTHLY AND EVENLY THROUGH THE MANHOLE.
8. PIPE PENETRATIONS SHALL USE GASKETS TO ENSURE WATERTIGHT SEALS.
9. TRACING TAPE SHALL BE INSTALLED ALONG ALL NON-METALLIC SURFACES OR AS DIRECTED BY LOCAL CODES AND ORDINANCES.
10. SEWER LINE INSPECTIONS AND TESTING MUST BE SCHEDULED A MINIMUM OF TWO FULL BUSINESS DAYS IN ADVANCE. CONTRACTOR SHALL FURNISH ALL TESTING EQUIPMENT. TESTING SHALL INCLUDE:

MANDEREL TEST OF ALL GRAVITY SEWERS. IN THE MANDREL TEST FAILS ON ANY SECTION OF PIPE, THAT SECTION SHALL BE UNCOVERED AND REPLACED.

AIR PRESSURE TEST OF ALL GRAVITY SEWERS.

VACUUM TEST OF ALL MANHOLES.
11. REFER TO CURRENT CITY SPECIFICATIONS FOR MINIMUM PIPE SLOPES.
12. CONTRACTOR MAY BE REQUIRED TO RECONSTRUCT PIPE AND STRUCTURE IF MINIMUM INVERT DROP OR PIPE SLOPE REQUIREMENTS ARE NOT MET.
13. SANITARY STRUCTURES SHALL BE PER CURRENT CITY DETAILS. IF CITY DOES NOT HAVE PUBLISHED DETAILS STRUCTURES SHALL BE PER CURRENT APWA SPECIFICATIONS.
14. GRAVITY SANITARY SEWER AND WATER LINES SHALL BE SEPARATED BY A MINIMUM OF 10' HORIZONTALLY WHEN PARALLEL AND 2' VERTICALLY WHEN CROSSING. WATER LINES SHALL CROSS ABOVE SANITARY SEWERS.
15. RAIN WATER FROM ROOFS, STREETS, AND OTHER AREAS AND GROUNDWATER FROM FOUNDATION DRAINS SHALL BE EXCLUDED FROM ALL NEW SEWERS.

WATER PLAN NOTES:

1. PRIOR TO COMMENCEMENT OF WORK THE CONTRACTOR SHALL NOTIFY AND COORDINATE CONSTRUCTION WITH THE UTILITY OWNER AND THE CITY OF LEE'S SUMMIT, MISSOURI.
2. ALL PIPE LENGTHS ARE CALCULATED LINEARLY FROM ENTER OF FITTING OR WALL OF VAULT.
3. COORDINATED ARE PROVIDED ALONG PIPE CENTERLINE. ADDITIONAL COORDINATES PROVIDED ARE PER LOCAL CODE AND ORDINANCES OR AS AN AID WHEN ORIENTING INSTALLATIONS.
4. THE CONTRACTOR SHALL EXPOSE EXISTING UTILITIES AT LOCATIONS OF POSSIBLE CONFLICT AND POINTS OF CONNECTION PRIOR TO ANY CONSTRUCTION OF WATER.
5. WATER PIPE TRENCHES SHALL BE CONSTRUCTED SUCH THAT UNDISTURBED EXISTING SOIL OR FILL COMPACTED TO 95% PROCTOR DENSITY IS AT A DEPTH THAT IS 18" ABOVE TOP OF PROPOSED PIPE.
6. ALL PRIVATE WATER LINES SHALL BE A MINIMUM OF 42" AND MAXIMUM OF 60" BELOW THE FINISHED GRADE ELEVATIONS SHOWN HEREIN UNLESS OTHERWISE NOTED.
7. IF AN AS-BUILT OF A WATER LINE IS REQUIRED OR EXPECTED THE CONTRACTOR SHALL NOT BACKFILL THE TRENCH UNTIL AN AS-BUILT SURVEY IS CONDUCTED.
8. DISINFECTION AND PRESSURE TESTING OF WATER LINES SHALL BE PREFORMED AND PAID FOR BY THE CONTRACTOR AND AS REQUIRED BY THE UTILITY OWNER.
9. ALL EXISTING FIRE HYDRANTS ON SITE OR IN THE RIGHT-OF-WAY BETWEEN PROPERTY AND ROADWAY SHALL BE REPAINTED PER LOCAL CODE AND ORDINANCES.
10. TRACING TAPE SHALL BE INSTALLED ALONG ALL NON-METALLIC SURFACES OR AS DIRECTED BY LOCAL CODES AND ORDINANCES.

| ESTIMATE OF QUANTITIES          |                                                            |      |          |          |
|---------------------------------|------------------------------------------------------------|------|----------|----------|
| PRIVATE SANITARY SEWER - LINE F |                                                            |      |          |          |
| ITEM NO.                        | DESCRIPTION                                                | UNIT | QUANTITY | AS-BUILT |
| 1                               | 8" SANITARY PVC (SDR-26)                                   | L.F. | 780      |          |
| 2                               | MANHOLE, STANDARD 4" DIA.                                  | E.A. | 3        |          |
| 3                               | CONNECT TO EXISTING MANHOLE                                | E.A. | 1        |          |
| 4                               | REMOVAL OF VERTICAL MANHOLE SECTIONS ON EXISTING STRUCTURE | E.A. | 1        |          |
| 5                               | AS-BUILTS                                                  | E.A. | 1        |          |
| PRIVATE WATERMAIN - LINES A & B |                                                            |      |          |          |
| ITEM NO.                        | DESCRIPTION                                                | UNIT | QUANTITY | AS-BUILT |
| 6                               | 8" C900 PVC PIPE                                           | L.F. | 1275     |          |
| 7                               | 8" x 8" TEE                                                | E.A. | 3        |          |
| 8                               | 8" - 45° BEND                                              | E.A. | 10       |          |
| 9                               | 8" GATE VALVE                                              | E.A. | 6        |          |
| 10                              | FIRE HYDRANT ASSEMBLY (INCLUDING TEE)                      | E.A. | 7        |          |
| 11                              | AIR RELEASE ASSEMBLY (NOT INCLUDING TEE)                   | E.A. | 1        |          |
| 12                              | CONNECTION TO EXISTING WATERMAIN                           | E.A. | 2        |          |
| 13                              | AS-BUILTS                                                  | E.A. | 1        |          |

SUMMARY OF QUANTITIES AS INDICATED ABOVE AND ANY QUANTITIES AS SHOWN WITHIN THE PLANS HAVE BEEN PROVIDED FOR PERMITTING PURPOSES ONLY AND ARE NOT INTENDED FOR USE IN PREPARATION OF CONTRACT DOCUMENTS. QUANTITIES INTENDED FOR, BUT NOT LIMITED TO, THE PREPARATION OF PROPOSALS AND BID DOCUMENTS SHALL BE INDEPENDENTLY EVALUATED BY THE ESTIMATING PARTY BASED UPON THE CONTENTS OF THESE PLANS.



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PRIVATE SANITARY SEWER AND WATER MAIN EXTENSION - THE VILLAGE AT DISCOVERY PARK

LOTS 9, 10, 11, AND 12  
- THE VILLAGE AT DISCOVERY PARK  
NW GOLBERN RD & NE DOUGLAS ST

| REVISIONS |                    |         |
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| NO.       | DESCRIPTION        | DATE    |
| 1         | INITIAL SUBMISSION | 4/30/24 |
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GENERAL NOTES

SHEET NUMBER

C101

2 OF 14





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# PRIVATE SANITARY SEWER AND WATER MAIN EXTENSION - THE VILLAGE AT DISCOVERY PARK

LOTS 9, 10, 11, AND 12  
- THE VILLAGE AT DISCOVERY PARK  
NW COLBERN RD & NE DOUGLAS ST

## REVISIONS

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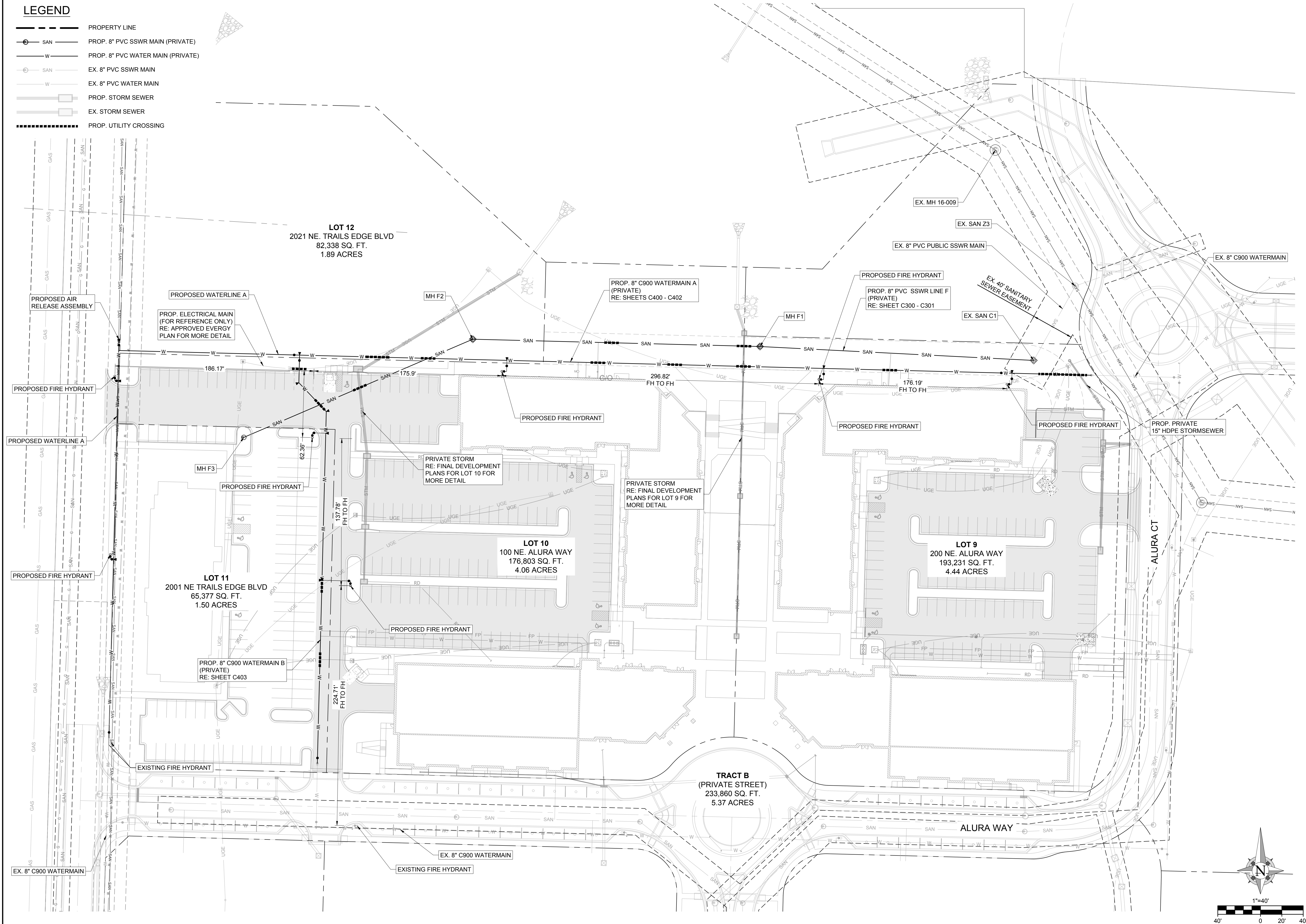
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## GENERAL LAYOUT

**SHEET NUMBER**

## C200

3 OF 14







**PRIVATE SANITARY  
SEWER AND WATER  
MAIN EXTENSION -  
THE VILLAGE AT  
DISCOVERY PARK**

LOTS 9, 10, 11, AND 12  
- THE VILLAGE AT DISCOVERY PARK  
NW COLBURN RD & NE DOUGLAS ST

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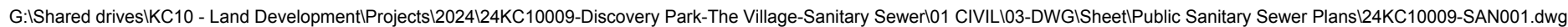
SHEET TITLE

**SANITARY PLAN  
& PROFILE - 1**

**SHEET NUMBER**

**C300**

**4 OF 14**







LOTS 9, 10, 11, AND 12  
- THE VILLAGE AT DISCOVERY PARK  
NW COLBERN RD & NE DOUGLAS ST

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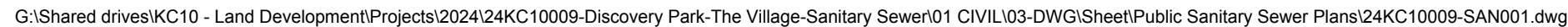
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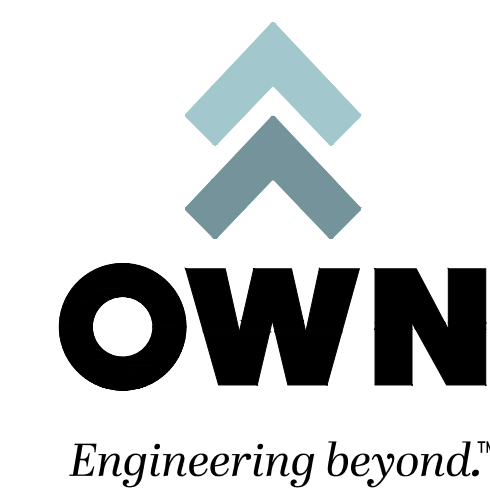
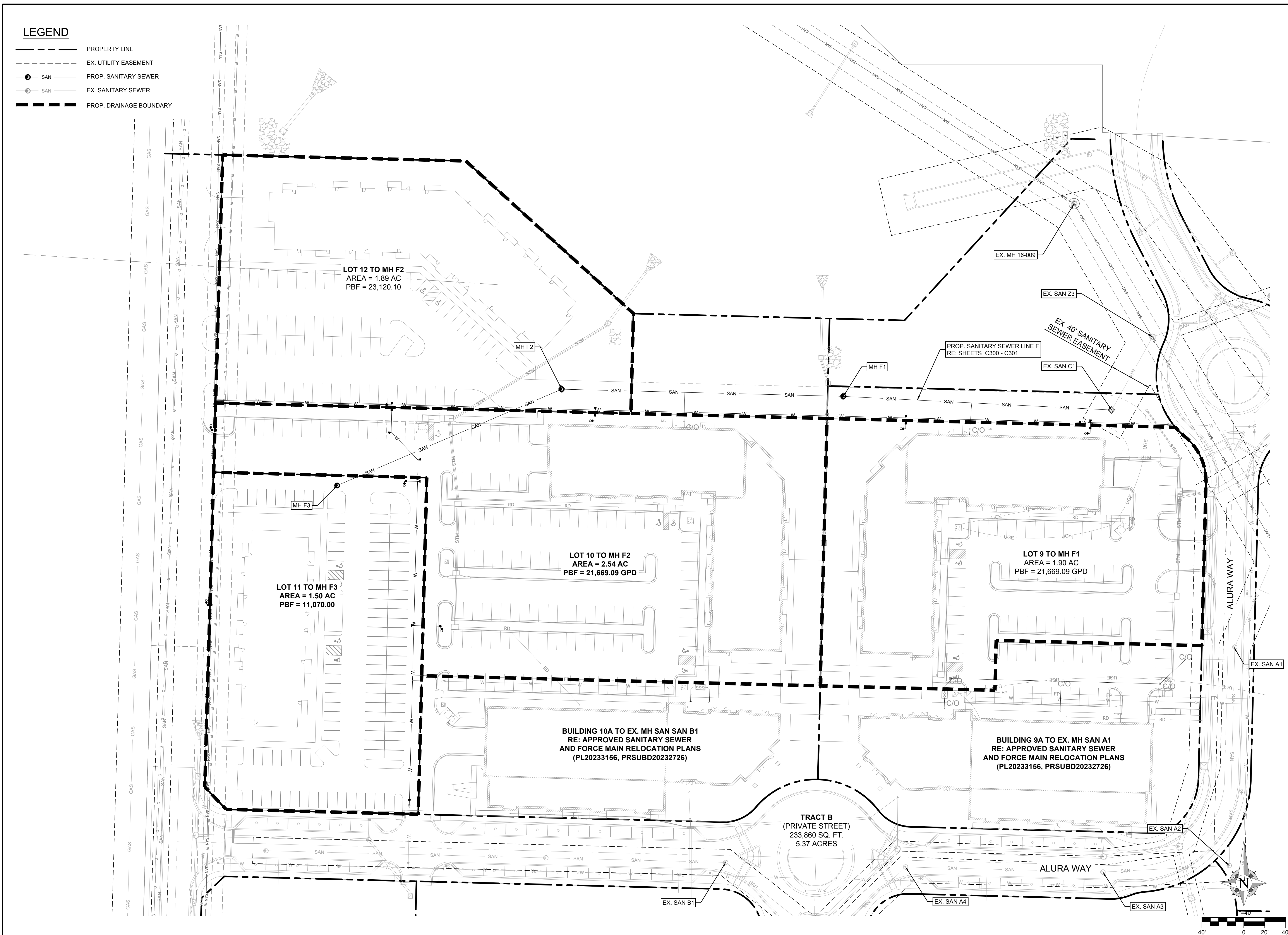
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## PRIVATE SANITARY SEWER AND WATER MAIN EXTENSION - THE VILLAGE AT DISCOVERY PARK

LOTS 9, 10, 11, AND 12  
- THE VILLAGE AT DISCOVERY PARK  
NW COLBERN RD & NE DOUGLAS ST

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## DRAINAGE MAP

**SHEET NUMBER**

**C302**

6 OF 14



| 10-yr Peak Flow Calculation Table (Inflow & Infiltration) |       |       |                   |       |       |       |       |
|-----------------------------------------------------------|-------|-------|-------------------|-------|-------|-------|-------|
| Upstream Manhole                                          | K     | Tc    | Intensity (in/hr) | Q     | A     | W     | R     |
|                                                           |       | (min) | (10-yr)           | (cfs) | (sf)  | (ft)  | (ft)  |
| F-3                                                       | 0.004 | 20.56 | 4.75              | 0.029 | 0.247 | 1.273 | 0.194 |
| F-2                                                       | 0.004 | 27.02 | 4.63              | 0.082 | 0.247 | 1.273 | 0.194 |
| F-1                                                       | 0.004 | 21.82 | 4.09              | 0.031 | 0.247 | 1.273 | 0.194 |
| SAN. C1                                                   | 0.004 | 29.57 | 3.83              | 0.097 | 0.247 | 1.273 | 0.194 |
| MH 16-009                                                 | 0.004 | 29.57 | 3.83              | 0.097 | 0.247 | 1.273 | 0.194 |

| Peak Base Flow Calculation Table |          |  |                   |          |  |                |         |  |                |          |
|----------------------------------|----------|--|-------------------|----------|--|----------------|---------|--|----------------|----------|
| 9B Residential                   |          |  | 10B Residential   |          |  | 11 Residential |         |  | 12 Residential |          |
| EDU (per 1000 SF)                | 1.00     |  | EDU (per 1000 SF) | 1.00     |  | EDU (per room) | 1.00    |  | EDU (per room) | 1.00     |
| Area (1000 SF)                   | 24.08    |  | Area (1000 SF)    | 24.08    |  | Area (1000 SF) | 11.06   |  | Area (1000 SF) | 19.27    |
| Stories                          | 3.00     |  | Stories           | 3.00     |  | Stories        | 3.00    |  | Stories        | 3.00     |
| gpd                              | 300.00   |  | gpd               | 300.00   |  | gpd            | 300.00  |  | gpd            | 300.00   |
| PBFNon-Res                       | 21669.09 |  | PBFRes            | 21669.09 |  | PBFNon-Res     | 9951.30 |  | PBFRes         | 17340.08 |

| Sanitary Sewer Design Information (10-yr) |                       |                          |                          |                        |                |                        |             |                 |                |                           |                                     |                                    |
|-------------------------------------------|-----------------------|--------------------------|--------------------------|------------------------|----------------|------------------------|-------------|-----------------|----------------|---------------------------|-------------------------------------|------------------------------------|
| Upstream Manhole                          | Downstream Pipe Slope | Downstream Pipe Diameter | Proposed Cumulative Area | Future Cumulative Area | Peak Base Flow | Peak Infiltration Flow | Peak Inflow | Total Peak Flow | Cum. Peak Flow | Downstream Pipe Manning N | Downstream Pipe Capacity (2/3 full) | Downstream Pipe Full Flow Velocity |
|                                           | (%)                   | (in)                     | (Ac.)                    | (Ac.)                  | (gpd)          | (gpd)                  | (cfs)       | (cfs)           | (cfs)          |                           | (cfs)                               | (fps)                              |
| F-3                                       | 0.99%                 | 8                        | 1.50                     | 0.00                   | 9951.30        | 750.00                 | 0.029       | 0.05            | 0.05           | 0.014                     | 0.87                                | 3.54                               |
| F-2                                       | 1.02%                 | 8                        | 4.43                     | 0.00                   | 39009.17       | 2215.00                | 0.082       | 0.15            | 0.19           | 0.014                     | 0.89                                | 3.59                               |
| F-1                                       | 0.99%                 | 8                        | 1.90                     | 0.00                   | 21669.09       | 950.00                 | 0.031       | 0.07            | 0.21           | 0.014                     | 0.87                                | 3.54                               |
| SAN. C1                                   | 4.43%                 | 8                        | 6.33                     | 0.00                   | 89160.00       | 3165.00                | 0.097       | 0.24            | 0.31           | 0.014                     | 1.85                                | 7.49                               |
| MH 16-009                                 | 1.24%                 | 8                        | 6.33                     | 0.00                   | 347130.00      | 3165.00                | 0.097       | 0.64            | 0.88           | 0.014                     | 0.98                                | 3.96                               |



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SEWER AND WATER  
MAIN EXTENSION -  
THE VILLAGE AT  
DISCOVERY PARK

LOTS 9, 10, 11, AND 12  
- THE VILLAGE AT DISCOVERY PARK  
NW GOLBERN RD & NE DOUGLAS ST

| REVISIONS |                    |         |
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| 1         | INITIAL SUBMISSION | 4/30/24 |
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LOTS 9, 10, 11, AND 12  
- THE VILLAGE AT DISCOVERY PARK  
NW COLBERN RD & NE DOUGLAS ST

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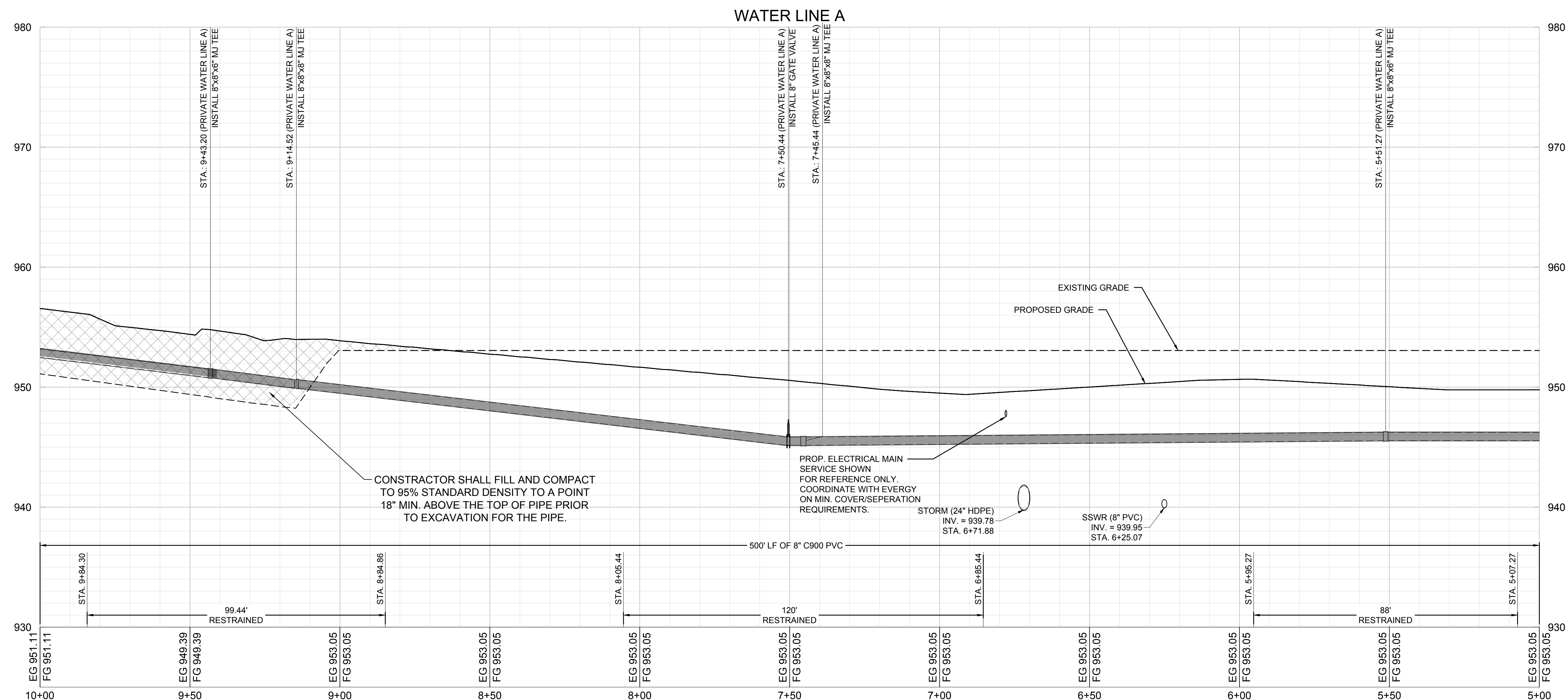
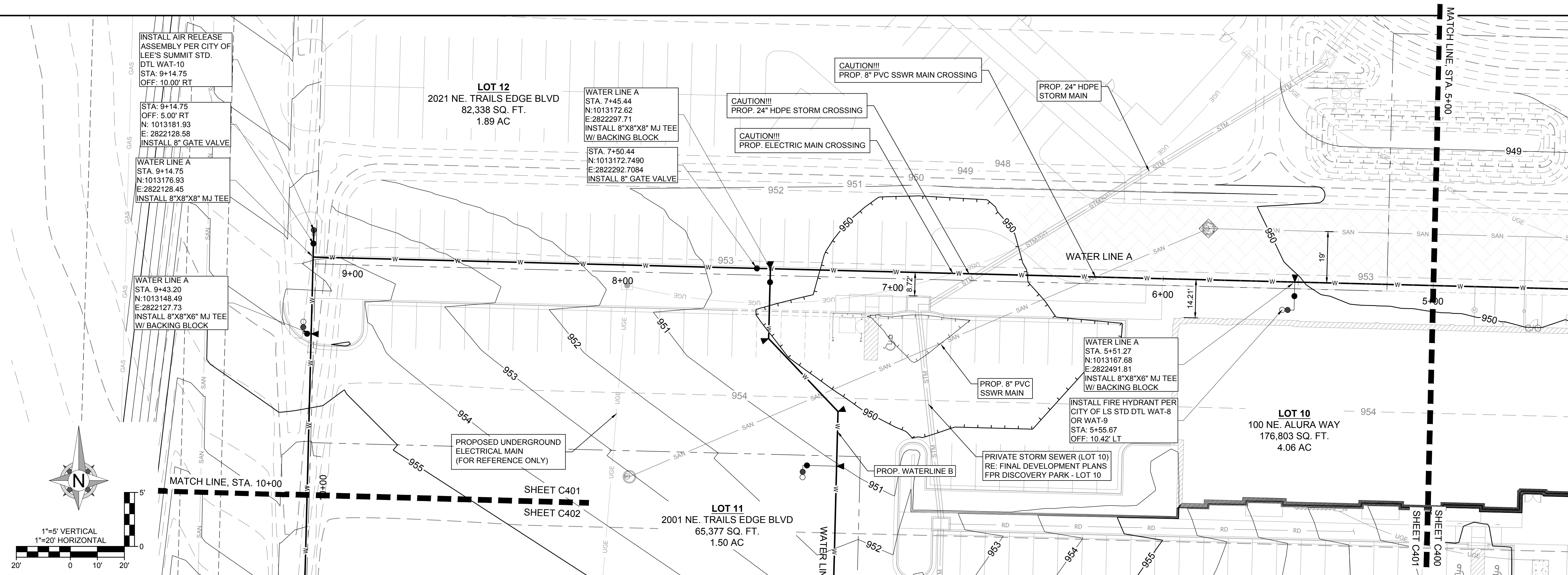
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## WATER PLAN & PROFILE - 2

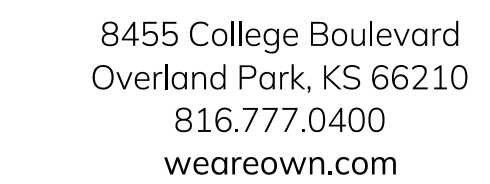
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9 OF 14







**PRIVATE SANITARY  
SEWER AND WATER  
MAIN EXTENSION -  
THE VILLAGE AT  
DISCOVERY PARK**

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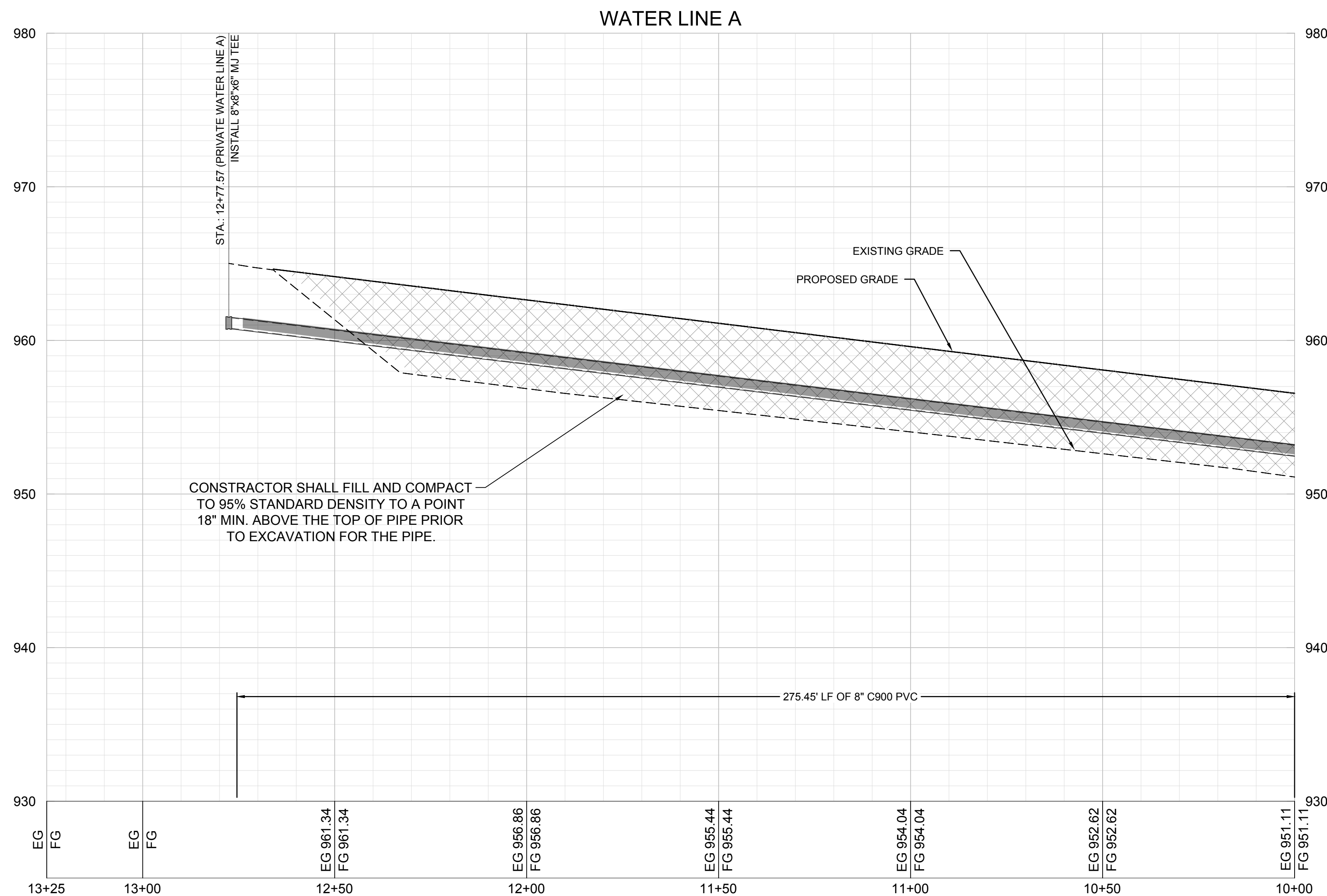
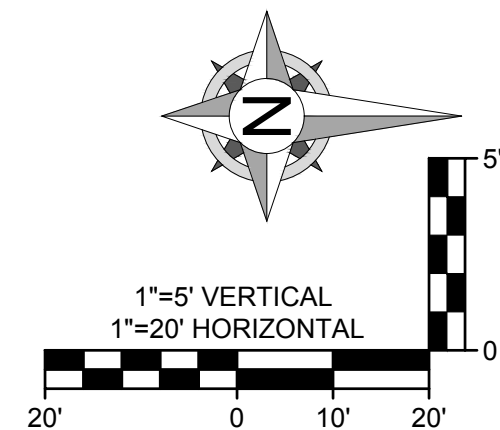
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COA# 00062

## WATER PLAN & PROFILE - 3

# C402

10 OF 14







LOTS 9, 10, 11, AND 12  
- THE VILLAGE AT DISCOVERY PARK  
NW COLBERN RD & NE DOUGLAS ST

[illegible]

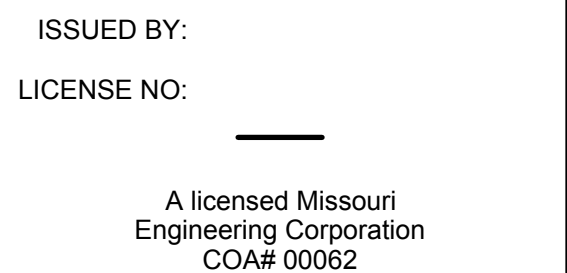
PROJECT NO: 24KC10009

DRAWN BY: JGD

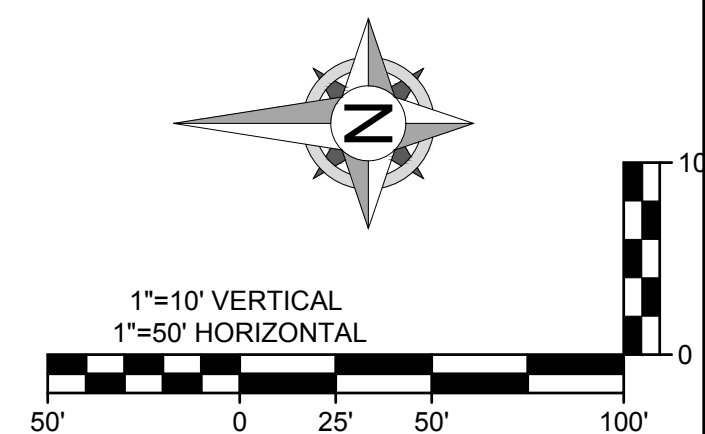
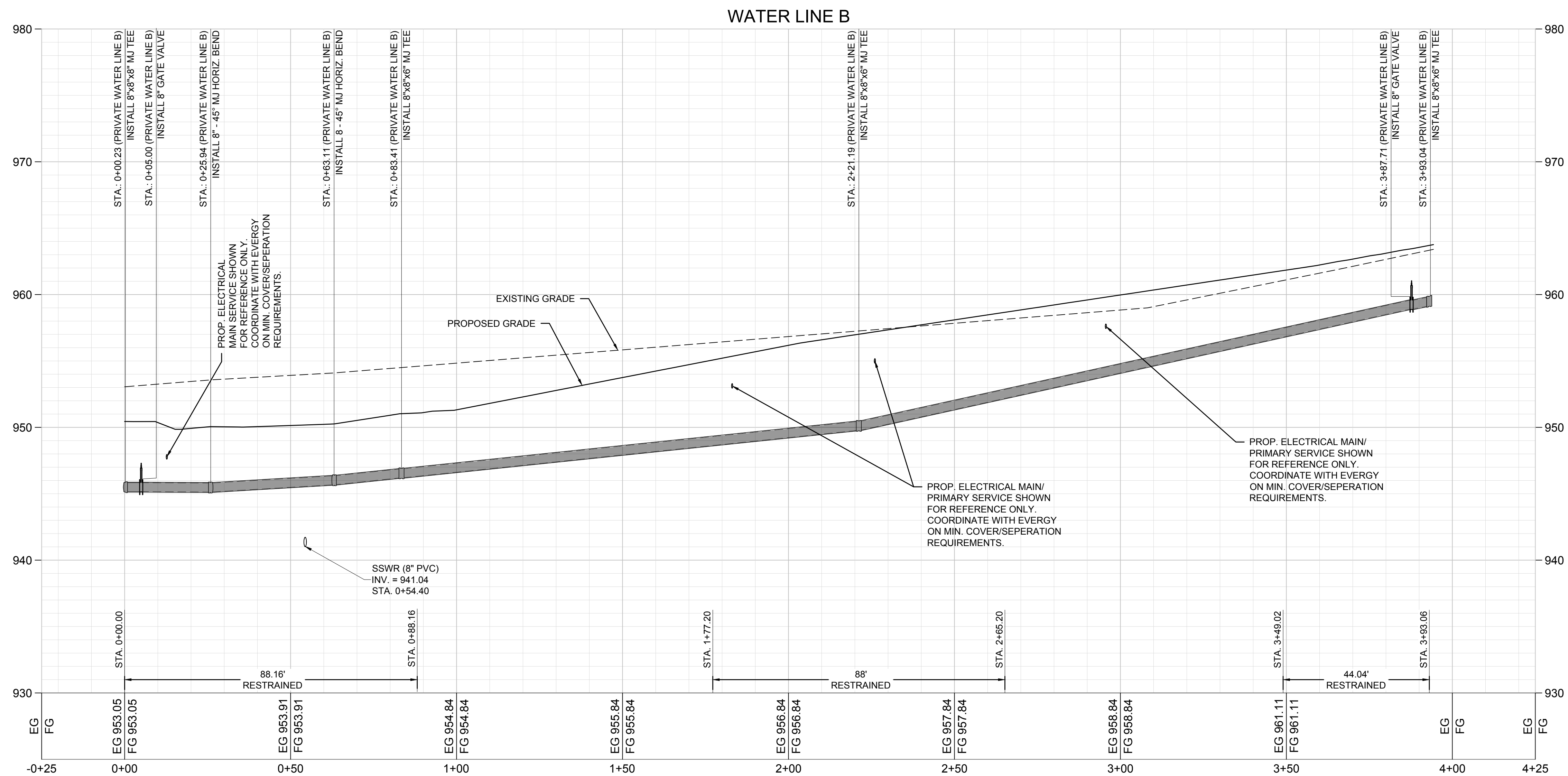
CHECK BY: JWB

ISSUED DATE: 4/30/2024

FIELD BOOK:



**C403**  
11 OF 14





NOTES:

1. PRECAST CONCRETE MANHOLES SHALL CONFORM TO ASTM C478 EXCEPT AS MODIFIED BY THE SPECIFICATIONS.
2. A WALL THICKNESS NOT LESS THAN ONE-TWELFTH ( $\frac{1}{12}$ ) OF THE INSIDE DIAMETER OR 4", WHICHEVER IS GREATER, SHALL BE USED WHEN THE MANHOLE DEPTH IS LESS THEN 15'.
3. WATERPROOFING SHALL BE REQUIRED ON THE OUTSIDE OF MANHOLES. THE WATERPROOFING SHALL CONSIST OF A TOTAL DRY FILM THICKNESS OF NOT LESS THAN 14 MILS OF BITUMINOUS COATING.
4. ONLY ECCENTRIC MANHOLE CONES WILL BE ALLOWED UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER.
5. THE FILL CONCRETE FLOW CHANNEL FOR SIDE BRANCHES SHALL BE PLACED TO PROVIDE A SMOOTH TRANSITION INTO THE FLOW LINE.
6. REFER TO THE APPROVED PRODUCTS LIST FOR WATER UTILITIES FOR APPROVED MANHOLE GASKET MODELS.
7. REFER TO THE APPROVED PRODUCTS LIST FOR APPROVED STEPS.

LS

LEE'S SUMMIT  
MISSOURI

PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063

DATE: 08/2023

DRAWN BY: MF

CHECKED BY: AB

SAN-2

STANDARD SANITARY PRECAST MANHOLE

NOTES:

- MINIMUM 2" CLEAR ON REINFORCEMENT. CENTER CASTING WITHIN BOXOUT AREA.
- CONCRETE SHALL BE KCMMB 4K MIX.
- ALL STEEL SHALL BE EPOXY COATED.
- FOR CONSTRUCTION JOINT DETAIL, SEE DETAIL 2 ON SHEET GEN-10, TYPICAL PAVEMENT JOINT DETAILS.

1] CONSTRUCTION JOINT.

2] 4'-8"(TYP) #4 BAR. PLACE AT MID-SLAB.

3] #4 DOWELS @ 12" O.C. INTO CONCRETE PAVEMENT MIN. LENGTH 12".

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MISSOURI

PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063

DATE: 08/2023

DRAWN BY: MIF

CHECKED BY: AB

SAN-5

MANHOLE WALL CONNECTION

NOTES:

- MINIMUM 2" CLEAR ON REINFORCEMENT. CENTER CASTING WITHIN BOXOUT AREA.
- CONCRETE SHALL BE KCMMB 4K MIX.
- ALL STEEL SHALL BE EPOXY COATED.
- FOR CONSTRUCTION JOINT DETAIL, SEE DETAIL 2 ON SHEET GEN-10, TYPICAL PAVEMENT JOINT DETAILS.

1] CONSTRUCTION JOINT.

2] 4'-8"(TYP) #4 BAR. PLACE AT MID-SLAB.

3] #4 DOWELS @ 12" O.C. INTO CONCRETE PAVEMENT MIN. LENGTH 12".

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SAN-9

MANHOLE BOXOUT IN PAVEMENT DETAIL

NOTES:

1. FOR TRENCHING AND PAVEMENT PATCHING REPAIRS WITHIN EXISTING OR FUTURE STREETS SEE STANDARD DETAIL GEN-5.
2. EXCAVATION DEPTH, SLOPES, SHORING, AND STOCKPILE LOCATIONS SHALL COMPLY WITH OSHA REGULATIONS.

LS

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MISSOURI

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DATE: 08/2023

DRAWN BY: MIF

CHECKED BY: GMB

GEN-6

PIPE BEDDING DETAIL

8455 College Boulevard  
Overland Park, KS 66210  
816.777.0400  
weareown.com

FORMERLY ANDERSON ENGINEERING

PRIVATE SANITARY SEWER AND WATER MAIN EXTENSION - THE VILLAGE AT DISCOVERY PARK

LOTS 9, 10, 11, AND 12  
- THE VILLAGE AT DISCOVERY PARK  
NW GOLBERN RD & NE DOUGLAS ST

| REVISIONS |                    |         |
|-----------|--------------------|---------|
| NO.       | DESCRIPTION        | DATE    |
| 1         | INITIAL SUBMISSION | 4/30/24 |
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DRAWING INFORMATION

PROJECT NO: 24KC10009

DRAWN BY: JGD

CHECK BY: JWB

ISSUED DATE: 4/30/2024

FIELD BOOK:

ISSUED BY:

LICENSE NO: \_\_\_\_\_

A licensed Missouri  
Engineering Corporation  
COA# 00062

SHEET TITLE

SANITARY SEWER DETAILS

SHEET NUMBER

C500

12 OF 14

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