419 S. PINE AVENUE
TWO-LOT SUBDIVISION
SUBDIVISION IMPROVEMENT PLANS

SECTION 32 TOWNSHIP 42 NORTH RANGE 11 EAST
ARLINGTON HEIGHTS, ILLINOIS
COOK COUNTY

OWNER / SUBDIVIDER:
Landmark Custom Homes
401 W. Pierce Road
Itasca, IL 60143

CIVIL ENGINEERS / LAND SURVEYORS:
Haeger Engineering LLC
Illinois Prof. Design Firm #184-003152
100 East State Parkway
Schaumburg, IL 60173
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33 S. Arlington Heights Rd.
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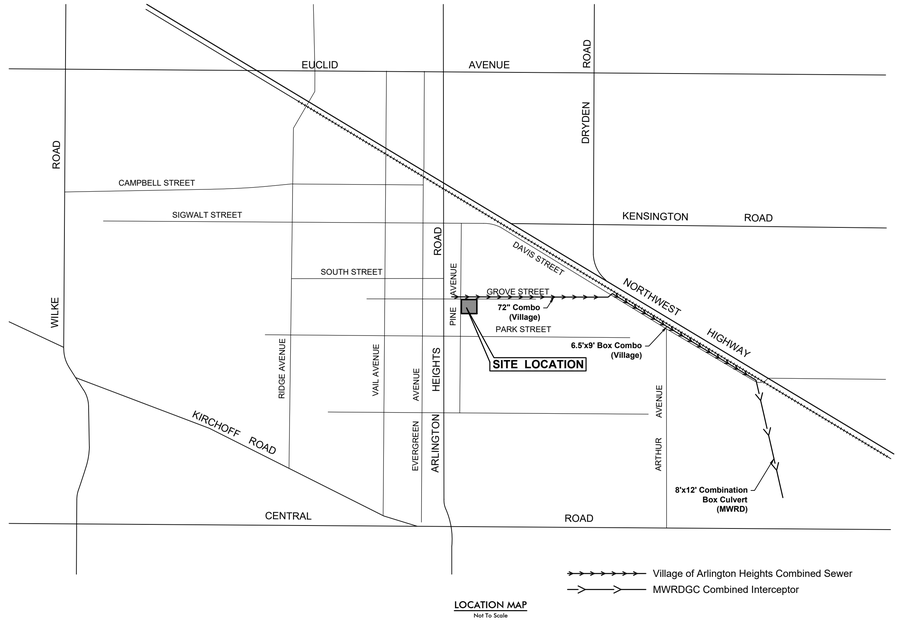

LOCATION MAP
Not To Scale

BENCHMARKS:

ELEVATION REFERENCE MARKS

COOK COUNTY BM DM3899 - FLANGE ENCASED ROD LOCATED ALONG THE EAST RIGHT OF WAY OF WILKE ROAD, NORTH OF THE INTERSECTION OF WILKE ROAD AND CENTRAL ROAD, NEAR THE WESTERN PARKING LOT FOR SUNSET MEADOWS PARK.

ELEVATION = 690.96 (NAVD 88)

SITE BENCHMARK:

SET CROSS IN TOP OF CURB ALONG WESTERN RIGHT OF WAY OF PINE AVENUE, NEAR SOUTHWEST CORNER OF SUBJECT PROPERTY, AS SHOWN HEREON.

ELEVATION = 751.39 (NAVD 88)

Know what's **below.**
Call before you dig.

Note:
Call 811 at least 48 hours, excluding weekends and holidays, before you dig.

INDEX TO SHEETS

LEGEND

Existing Symbol	Description	Proposed Symbol
	Storm Sewer Manhole	
	Catch Basin	
	Sanitary Sewer Manhole	
C.O.	Clean Out	C.O.
	Storm Sewer	
	Sanitary Sewer	
	Combined Sewer	
W	Water Main	W
	Fire Hydrant	
	Valve Vault	
	Valve Box	
	B-Box	
	Light Pole	
	Hand Hole	
	Fence	
	Pipe Bollard	
	Sign	
OHW	Overhead Utility Line	
	Electric Meter	
	Guy Wire	
	Utility Pole	
T	Telephone Pedestal	
	Cable TV Pedestal	
	Handicapped Parking Stall	
	Curb & Gutter	
	Reverse Pitch Curb & Gutter	
	Depressed Curb	
	Retaining Wall	
C XXX.XX	Curb Elevation and	C XXX.XX
G/P XXX.XX	Gutter Elevation	G XXX.XX
XXX.XX	Pavement Elevation	P XXX.XX
XXX.XX	Sidewalk Elevation	W XXX.XX
XXX.X +	Ground Elevation	XXX.X
XXX	Contour Line	XXX
	Deciduous Tree	
	Coniferous Tree	
	Bush	
	Brushline	

SURFACE WATER DRAINAGE CERTIFICATE

TO THE BEST OF MY KNOWLEDGE AND BELIEF, THE DRAINAGE OF THE SURFACE WATERS WILL NOT BE CHANGED BY THE CONSTRUCTION OF THIS PROJECT OR ANY PART THEREOF, OR, THAT IF DRAINAGE WILL BE CHANGED, REASONABLE PROVISION HAS BEEN MADE FOR COLLECTION AND DIVERSION OF SUCH SURFACE WATERS INTO PUBLIC AREAS, OR DRAINS APPROVED FOR USE BY THE DIRECTOR OF PUBLIC WORKS AND ENGINEERING, AND THAT SUCH SURFACE WATERS ARE PLANNED FOR IN ACCORDANCE WITH GENERALLY ACCEPTED ENGINEERING PRACTICES SO AS TO REDUCE THE LIKELIHOOD OF DAMAGE TO ADJOINING PROPERTIES BECAUSE OF THE CONSTRUCTION OF THIS PROJECT.

MICHAEL L. ANDERSON 062-053214 LICENSED PROFESSIONAL ENGINEER OF STATE OF ILLINOIS

BY: _____ DATED: 05.16.2024

MICHAEL ANDERSON, P.E.
ILLINOIS PROFESSIONAL ENGINEER
NO.062-053214

EXPIRES 11-30-25

No.	Revision	Date
1	Revised per Village Review	05.16.2024

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TITLE SHEET

419 S. PINE AVENUE
TWO-LOT SUBDIVISION
LANDMARK CUSTOM HOMES

Project Manager:	M L A
Engineer:	M L A
Date:	04.30.2024
Project No.	24-042
Sheet	C1 / C7

Plot Date: May 16, 2024 - 2:44pm Plotted By: mike-a
File Name: P:\2024\24042\Drawings\Final Engineering\24042 Final Engineering.dwg

GENERAL NOTES

1. Definition of Terms:
   a. “Owner” shall mean the person or entity with which Haeger Engineering, LLC has been contracted with to prepare the Plans and Specifications.
   b. “Engineer” shall mean Haeger Engineering, LLC.
   c. “Contractor” shall mean the persons or entities responsible for performing and constructing the work described in the Plans, Specifications and other Construction Documents including but not limited to furnishing all labor, materials, tools, equipments, and other incidentals necessary.
   d. “Plans and Specifications” shall mean the Engineering Drawings and any Specifications prepared by Haeger Engineering, LLC, the Engineer.
   e. “Jurisdictional Agency” shall mean any local, municipal, county, township, state or federal entity of government or other entity having jurisdiction of some aspect of the project from whom approval, permit and/or review and approval was required.
2. The Specifications governing this project are as follows:
   a. All applicable Village/City and other applicable Jurisdictional Agency Ordinances, Codes, Regulations, Requirements, Policies, Specifications, Standards, etc.
   b. Roadway and Earthwork construction shall conform to the Illinois Department of Transportation (IDOT) “Standard Specifications for Road and Bridge Construction”, latest edition and any subsequent “Supplemental Specifications and Recurring Special Provisions” as well as any applicable IDOT Highway Standards. Hereafter these items shall be collectively be referred to as the IDOT Standard Specifications.
   c. Water Main, Storm Sewer, and Sanitary Sewer construction shall conform to the “Standard Specifications for Water and Sewer Construction in Illinois”, latest edition.
   d. Soil Erosion and Sedimentation Control shall conform to the Illinois Environmental Protection Agency (IEPA) “Illinois Urban Manual” (IUM), latest edition and “Illinois Procedures and Standards for Urban Soil Erosion and Sedimentation Control”, latest edition.
   e. Traffic Control shall conform to the “Manual of Uniform Traffic Control Devices” (MUTCD), latest edition, as well as the latest edition of the “Illinois Supplement to the MUTCD”, and IDOT “Quality Standard for Work Zone Traffic Control Devices”, latest edition.
   f. All handicap accessibility items shall conform to the Illinois Accessibility Code (IAC), latest edition.
   g. General Notes and Specifications contained herein or elsewhere as a separate document.

   If a conflict, contradiction, or discrepancy occurs between any of the above Specifications the more stringent requirement shall apply, unless directed otherwise by the applicable Jurisdictional Agency.
3. Contract Documents:
   a. The Engineer's Plans and Specifications shall be included as part of the Contract Documents.
   b. All Contractors shall carefully examine the Plans and Specifications, and other Contract Documents prepared for the work. They shall visit the site of the work and acquaint themselves with all local conditions, codes, and requirements affecting the contract. If awarded the contract, they shall not be allowed extra compensation by reason of any unforeseen difficulties or obstacles which the Contractor could have discovered or reasonably anticipated or inferred prior to bidding or start of construction.
   c. Should it appear that the work covered by the Plans and Specifications or other Contract Documents is not sufficiently detailed or explained, a Request For Information (RFI) Form shall be submitted to the Engineer for further explanations and drawings as may be necessary to clarify the point in question prior to the contract award. It is the intention of the Contract Documents to provide a job complete in every respect. Incidental items or accessories necessary to complete the work may not be specifically noted or shown but that are necessary to complete the project shall be considered incidental to the Contract. The Contractor is responsible for this result and to turn over the project in complete operating condition, irrespective of whether the contract documents cover every individual item in minute detail.
   d. The Contractor shall review the subsurface exploration and geotechnical report (a.k.a. soil boring report) prepared by ____________________ dated __________________, to become familiar with the subsurface soil conditions for the site. Copies of all such soil boring reports for the property can be obtained from the Owner. If any additional soils data is needed to confirm the Contractor's opinions of the subsurface conditions, this shall be done at the Contractor's expense. The Contractor shall obtain the Owner's written authorization to access the site to conduct a supplemental soils investigation. The Owner and Engineer make no representation or warranty regarding the number, location, spacing or depth of borings taken, nor of the accuracy or reliability of the information given in the results thereof. Furthermore, the Owner and Engineer assume no responsibility for the possibility that during construction, the soil and groundwater conditions may vary between borings or are different than previously indicated. Any bracing, sheeting, dewatering or special construction methods deemed necessary by the Contractor in order to install the proposed improvements shall be considered incidental to the Contract and no additional compensation will be allowed.
4. Should any apparent errors, omissions, discrepancies or conflicts be discovered on the Plans, Specifications, Quantities or other Contract Documents by the Contractor, whether prior to or after the award of the contract, the Engineer's attention shall be called to the same before work is begun thereon, so that proper clarification can be provided or revision made. If any work is done without contacting the Engineer, it shall be considered that the Contractor has proceeded at their own risk and expense.
5. Whenever the performance of work is indicated on the Plans, and no specific item is included in the Contract for payment, the work shall be considered incidental to the Contract and no additional compensation will be allowed. The Contractor shall provide all necessary labor, material, equipment, etc. necessary to perform all the work required for construction of the proposed improvements.
6. The base plan/drawing for the Engineering Plans (existing conditions, site topography, utilities, rights-of-way, etc.) was obtained from the topographic survey prepared by Cemcon Ltd.
7. The Owner shall obtain the necessary approvals from the following Jurisdictional Agencies:
   a. Village of Arlington Heights
   b. Metropolitan Water Reclamation District of Greater Chicago (MWRD)
   c. Illinois Environmental Protection Agency (IEPA) - Water and Sewer Division
8. The Contractor, unless otherwise agreed upon in writing with the Owner prior to the start of Construction, shall at his own expense, obtain all other approvals including permits, licenses, etc., as may be required for the execution of this work as well as provide all necessary notices, pay all fees required, post bonds, obtain all necessary insurance, and comply with all laws, ordinances, rules, and regulations relating to the work and to the preservation of public health and safety. The Contractor shall also provide all required insurance and/or bonds as may be required by the Jurisdictional Agencies. In addition, the Contractor shall meet all of the requirements of any permits as might be issued for this work by other Agencies, and shall pay for at their sole expense any surety, insurance or bonds as may be required by the Jurisdictional Agencies.
9. No work shall proceed until the appropriate permit or permits have been obtained for the item or items to be constructed. If any work does proceed without the appropriate permits or approvals, it is being done without the permission or consent of the Engineer. The Contractor and Party authorizing the work to proceed shall be assumed to be proceeding at their own risk and the Engineer shall not be held liable or responsible for any work being performed without a permit.
10. The Contractor shall indemnify and hold harmless the Owner, Engineer, Village/City, and other Jurisdictional Agencies as well as all of their respective officers, employees, agents, and Engineers from and against all losses, claims, demands, payments, suits, actions, recoveries, and judgment of every nature and description brought or recovered against them, by reason of any act, error or omission of said Contractor, their agents or employees in the execution of the work or in the guarding of it.
11. The construction shall be under the general inspection and observation of the designated individual authorized by the Village/City or other applicable Jurisdictional Agencies. The Village/City, Jurisdictional Agencies, Owner, and Engineer shall be notified at least two working days prior to the commencement of work.
12. The location of existing underground utilities such as water mains, sewers, gas lines, electric lines, cable TV lines, fiber optic lines, etc., as shown on the Plans, has been determined from the best available information and has been provided for the convenience of the Contractor. However, the Owner and Engineer do not assume responsibility in the event that during construction, utilities other than those shown may be encountered and that the actual location of those which are shown may be different from the location as shown on the Plans. The Contractor is to verify the location of all utilities prior to the start of work and is responsible for damage to the same. The Contractor shall contact J.U.L.I.E. or Digger by dialing 811 (Outside the City of Chicago - J.U.L.I.E.: 1-800-892-0123 or within the City of Chicago - Digger: 312-744-7000) and the Village/City Public Works Department for utility locates at least 48 hours, excluding weekends and holidays, before digging. For any utility companies which are not members of JULIE or DIGGER, the Contractor shall contact the Owners of each respective utility directly for utility locates at least 48 hours, excluding weekends and holidays, before digging.
13. In some instances, the existing utilities are shown on the Plans according to information obtained from the utility companies (atlas information) and/or surveys performed By Others. The Owner and Engineer do not guarantee the accuracy or completeness of this information. The Contractor shall be aware of potential conflicts with existing or other proposed utilities as indicated on the Plans or that become apparent as the result of field locates By Others. The Contractor shall make their own investigations as necessary to determine the existence, nature, and location of all utility lines and related appurtenances within the limits or adjacent to the proposed improvements. The Contractor shall locate all utilities far enough in advance to avoid all conflicts between existing utilities and proposed improvements and make the Engineer aware of any such conflicts. If the Contractor encounters a conflict between the proposed improvements and existing utility that was not located in advance by the Contractor, then the Contractor shall at no cost to Owner, relocate the proposed improvements and/or utility to avoid the conflict.
14. The Contractor will be required to cooperate with all utility companies involved in connection with the removal, temporary relocation, construction, reconstruction or abandonment by these companies of any and all services or facilities owned or operated by them within the limits or general vicinity of the proposed improvements. Further, at the direction of the Owner and Utility Companies the Contractor shall coordinate the location and install PVC sleeves as necessary under the proposed pavement, curbs, walks, etc. for utility companies to run their proposed utility lines.
15. Before doing any work which will damage, disturb or leave unsupported, or unprotected any utility lines or related appurtenances encountered, the Contractor shall notify the respective Owner thereof, who will make all arrangements for relocating, adjusting, bracing, or otherwise maintaining or abandoning service on lines that fall within the limits of the proposed construction without cost to the Contractor, including the removal of all cables, manhole covers and other related appurtenances which the Owner desires to salvage. After such arrangements have been made, the Contractor will proceed with the work as directed by the Engineer. All utility lines and related appurtenances which are abandoned shall be removed if necessary and legally disposed of legally off-site by the Contractor.
16. No extra compensation will be allowed by the Contractor for any expense incurred for complying with all of these aforementioned utility coordination and cooperation requirements, or because of delays, inconvenience or interruptions in their work resulting from the failure of any utility company to remove, relocate, construct, reconstruct or abandon their services. The responsibility for prompt and timely removal, relocation, reconstruction or abandonment of their facilities by all utility companies involved, and the coordination of their own work with that of these companies to the end that work on this improvement is not delayed because of the necessary changes in the existing utilities, public or private, shall rest upon the Contractor.
17. Prior to commencing work, the Contractor is to field check and verify all critical locations, elevations, materials, sizes, dimensions, and conditions affecting the work, and notify the Engineer immediately if there are any suspected discrepancies. No work shall be performed until the suspected discrepancy has been resolved. The Contractor shall also call to the attention of the Engineer any errors or discrepancies which may be suspected in the lines and grades which are established by the Surveyor, and shall not proceed with the work until any lines and grades which are to believed to be in error have been verified or corrected by the Engineer.
18. The Contactor shall maintain positive drainage at all times during construction. Construction shall not block off-site drainage and the flow from any drainage ways, field tiles, storm sewers or similar draining off-site properties. All on-site existing field tiles, storm sewers, drainage ways or similar encountered or damaged during construction shall be maintained, restored to their original pre-construction condition or better, properly re-routed, and/or connected to the proposed stormwater drainage system. If this can't be accomplished then the field tile should be repaired or re-routed with new pipe of similar diameter to the original line and put back in service. The Contractor shall notify the Engineer if any such field tiles are encountered. Whenever during any construction activities any loose material is deposited in the flow line of gutters, ditches, drainage structures, etc. such that the natural flow of water is obstructed, this material shall be removed by the responsible party.
19. Prior to commencement of construction, on sites that will ultimately result in the disturbance of one (1) acre or more, the Contractor shall be responsible for obtaining a copy of the notice of coverage letter and the IEPA National Pollutant Discharge Elimination System (NPDES) General Permit ILR10 from the Owner. The Owner together along with the Contractor and/or other entities if so designated by the Owner, shall be responsible for ensuring that all the requirements of the General Permit and the Storm Water Pollution Prevention Plan (SWPPP) including but not limited to the installation, maintenance as well as the installation of any additional measures necessary that may be required, and inspections of the soil erosion and sediment control measures as well as completing all of the necessary applicable certifications, reports, logs, etc. Inspections are required to be performed at least once every seven (7) calendar days and within 24 hours of the end of a storm event of 0.5 inches of rain (or equivalent snowfall) or greater. The SWPPP and all the required paperwork shall be kept on-site and be organized and ready for viewing.
20. No construction activities, disturbance or fill shall occur within the limits of natural resources such as wetlands, floodplains, creeks, streams, ponds, lakes, basins, reservoirs, etc. or their respective buffers unless specifically specified on the Plans and further that the work has been permitted. The Contactor shall take sufficient precautions to protect these natural resources that are to remain, whether on-site or on adjacent property, to protect them from sediment, fuels, oils, bitumens, calcium chloride, or other harmful materials that may be a detriment. The Contractor shall conduct and schedule their Construction so as to avoid siltation, or other disturbance or impact to these natural resource areas. The Contractor shall not disturb or otherwise impact these designated natural resource areas, or areas that have been designated to be protected or as essential habitat for State or Federal listed endangered or threatened species, or Prairie or Savannah areas where the Owner has made commitments for protection of these areas. Also, if previously unidentified natural resource areas, prairies, savannahs, or areas or locations suspected of containing protected species are identified during construction, the Contractor shall not disturb them unless written permission to do so is granted by the Owner or applicable Jurisdictional Agency. If the Owner, Engineer, or applicable Jurisdictional Agency determines that additional measures are necessary to prevent or mitigate project effects on natural resource areas, prairies, savannahs, protected species, or essential habitat the Contractor shall cooperate in accomplishing these measures.
21. The Contractor shall confine their activities to within the project boundaries, work areas, or easements specified. No work shall be performed on adjacent private property or outside the project work areas without the written permission of each respective Owner. The Contractor shall be liable for damage caused to existing or newly installed improvements as well as any damage on adjacent property or areas outside designated work areas, provided damage us a result of Contractor action, or lack thereof.
22. The Contractor is responsible for returning all areas affected by equipment, materials and/or laborers to pre-construction condition or better. All existing utilities or improvements, including but not limited to pavements, curbs, drives, trees, and parkways damaged or removed during construction shall be promptly restored to their respective original pre-construction condition or better. The Contractor is also responsible for protecting all newly constructed work from damage until the project has been completed and has been approved and accepted by the Owner.
23. Clean-up and final restoration shall be performed immediately upon completion of each phase of the work or when directed to do so by the Owner, so that these areas will be restored as nearly as possible to their original pre-construction condition or better, and shall include but not be limited to, restoration of maintained lawns and rights-of-way, roadways, driveways, sidewalks, ditches, landscaping, fences, mailboxes, storm sewers, drain tiles, sanitary sewers, water mains, etc. It shall also be the responsibility of the Contractor to remove from the site any and all materials and debris which results from their construction operations at no additional expense to the Owner.
24. All proposed grades shown on the Plans shall be considered to be finished grade surface elevations unless noted otherwise.
25. Construction staking/layout shall be provided by the Contractor and shall be included in the Contract Price unless otherwise agreed upon in writing with the Owner prior to the start of Construction.
26. All Construction means and methods, techniques, procedures, scheduling, sequencing, and job site safety is the sole responsibility of the Contractor.
27. The Contractor shall observe and comply with all the Occupational Safety and Health Administration (OSHA) standards, rules and regulations, as well as any other applicable local, state and federal safety requirements.
28. All trenching, shoring, bracing and construction work performed shall be in accordance with the Occupational Safety and Health Administration (OSHA) standards.
29. The Contractor shall take whatever steps necessary to protect the public from open trenches, excavations, and other site obstructions or hazards. No trenches, excavations or holes in the pavement or parkway are to be left open over a holiday, weekend, or after 3 p.m. on the day preceding a holiday or weekend.
30. During construction the Contractor and their Sub-Contractors shall keep the premises clean by removing all rubbish, debris, waste material and other accumulations as necessary. The Contractor shall clean the premises to the satisfaction of the Village/City and Owner.
31. The Contractor shall have appropriate equipment and material including street sweepers and end loaders available on-site at all times when equipment or vehicles are using existing public or private roads and/or pavement. The Contractor shall immediately remove any sediment or debris including but not limited to dirt, mud, clay, sediment, concrete, gravel, sand, stones, plant material, refuse, garbage, oil, grease, etc. deposited on any roadway, street, walk, alley or other pavement by any equipment, vehicles or personnel associated with this project. This work shall be considered incidental to the Contract.
32. The Contractor shall at all times maintain proper dust control at the site and shall have a watering truck readily available during all working hours. The Contractor shall water the entire site whenever the site conditions become unhealthy due to blowing soil or dust. The site shall be watered as many times per day as necessary to maintain a healthy work site as determined by the Owner or Engineer. Water for non-emergency use shall not be obtained from any fire hydrant, unless the fire hydrant is metered with a proper backflow preventer in accordance with Village/City or Jurisdictional Agency requirements. The cost to furnish dust control shall be incidental to the cost of Construction.
33. Trees not marked for removal shall be protected as necessary by the Contractor. In the event that a tree is damaged by the Contractor during construction, the Contractor shall replace such tree with a tree or trees in accordance with Village/City requirements. If the Village/City does not have specific tree replacement requirements, the damaged existing or newly planted tree shall be replaced in accordance with the procedures outlined in Section 201 of the IDOT Standard Specifications. The Contractor shall ensure that they are familiar with the applicable tree preservation requirements and shall be held responsible for the replacement of all damaged trees not designed for removal, and any penalties associated with the unapproved removal of trees.
34. Where overhanging branches, limbs, or roots interfere with the required construction activities, said branches, limbs, or roots shall be trimmed or pruned as necessary in accordance with Section 201 of the IDOT Standard Specifications. This work shall be performed under the supervision of an approved arborist or landscape architect.
35. The Contractor is responsible for the installation and maintenance of adequate signs, traffic control devices, and warning devices, in accordance with the Plans, applicable IDOT Standard Specifications and the MUTCD Standards to inform and protect the public during all phases of construction. The Contractor shall provide all signage, barricades, devices, equipment, personnel, etc. necessary to provide for safe and efficient traffic flow in all areas where the work will interrupt, interfere or cause to change in any form, the conditions of traffic flow that existed prior to the commencement of any portions of the work. Roadways shall remain open to a degree satisfactory to the Owner or applicable Jurisdictional Agency which at their discretion may require the Contractor to furnish traffic control under these or other circumstances where in their opinion it is necessary for the protection of life and property. Emergency vehicle access along with access to fire hydrants shall be maintained at all times. Further, unless authorized by the Owner, all existing access points shall be maintained at all times by the Contractor.
36. Where noted in the Plans, the Contractor shall have Shop Drawings and any other required supporting documentation or calculations prepared and submitted for review and approval prior to any fabrication, placement, or construction. If structural elements such as retaining walls are required, the drawings and any required supporting design calculations must be prepared, and signed and sealed by an Illinois licensed Structural Engineer.
37. The Contractor is responsible for having a set of approved Plans and Specifications with the latest revision date on the job site at all times during the construction period.
38. The Contractor shall maintain a clean, legible, undamaged set of Field Marked Construction Plans. These Field Marked Construction Plans shall show the location of the actual installed location of all underground utilities including related appurtenances (sanitary, storm, water, service stubs, gas, telephone, electric, cable TV, etc.) giving particular attention to concealed elements that would be difficult to measure and record at a later date. Any approved modifications, deviations, or alterations from the approved Plans should also be noted and shown on these Field Marked Construction Plans. These Field Marked Construction Plans shall be provided to the Owner/Engineer at the completion of construction.
39. All work that is performed that is not in conformity with the Plans, Specifications or other Contract Documents or that is defective shall be removed and replaced, or otherwise corrected or remedied by and at the sole expense of the Contractor. Any unauthorized work or work performed beyond the limits or in excess of that shown on the Plans will not be measured or paid for.
40. All work performed under the Plans, Specifications or other Contract Documents shall be guaranteed against all defects in materials and workmanship of whatever nature by the Contractor and his surety for a minimum period of 12 months from the date of final acceptance of the work by the Village/City, other applicable Jurisdictional Agencies, and the Owner, unless otherwise agreed upon in writing with the Owner prior to the start of construction,.
41. Before acceptance by the Owner and prior to final payment all work shall be inspected and approved by the Owner or designated representative. Final payment will be made after the Contractor's work has been approved and accepted or as required by the Contract Documents.
42. If required, the Owner shall have As-built or Record Drawings prepared and submitted to the Village/City and all other applicable Jurisdictional Agencies for approval after the completion of construction. These drawings shall be prepared in accordance with the Village/City and other applicable Jurisdictional Agency requirements. The As-built or Record Drawings must be prepared, and signed and sealed by a registered professional Engineer in Illinois.

DEMOLITION AND CLEARING

1. The Contractor shall perform all demolition, clearing, grubbing, and tree removal and protection work in accordance with all applicable Federal, State, County and Local requirements or as noted in the Plans.
2. Prior to the commencement of any demolition or clearing activities, the Owner or Contractor shall obtain all applicable permits to disconnect the existing utility services to each building proposed for demolition.
3. The Contractor shall coordinate all demolition work with the Village/City, utility companies, and other Jurisdictional Agencies, so as to ensure the protection of all existing sewer, water main, and other utilities, and further to ensure that proper stormwater conveyance is attained until the proposed improvements can be installed and placed into operation.
4. Clearing shall consist of the removal and legal disposal of all obstructions such as trees, hedges, fences, walls, accumulations of rubbish of whatever nature, and all logs, shrubs, brush, grass, weeds, and other vegetation and stumps. These items shall be removed whenever they are found within the street right-of-ways or within the limits of construction. Trees to be saved or protected shall be identified by the Engineer on the Plans or in the field. All trees except those designated to be saved or protected, as well as all stumps and hedges within the limits of construction, shall be removed completely and legally disposed of off-site or as otherwise designated on the Plans or authorized by the Owner. Trees designated to be saved or protected as indicated on the Plans or as directed by the Engineer, shall be protected from damage in accordance with the procedures outlined in Section 201 of the IDOT Standard Specifications.
5. All items shown to be removed on the Plans including items not specifically noted but necessary to be removed to construct the proposed improvements shall be demolished or removed as necessary and disposed of legally off-site or as approved by the Owner.
6. Existing utilities to be disconnected shall be done so at the main or as directed by the applicable Jurisdictional Agency or as noted on the Plans.
7. Utilities marked to be abandoned shall be abandoned as required by the applicable Jurisdictional Agency or as noted on the Plans.
8. All existing pavement or concrete to be removed shall be saw-cut along the limits of the proposed removal to provide a clean vertical edge. The cost of saw-cutting shall be considered incidental to the removal of each item.
9. All voids left by any item removed under any proposed building, pavement walk or other structural areas or within zones of influence thereof shall be properly backfilled with suitable backfill material and/or compacted as necessary by the Contractor.
10. The Contractor shall implement a daily program for dust control as it relates to the demolition and clearing activities. This program is to be approved by the Village/City prior to the start of any demolition or clearing work.
11. All existing building services serving buildings that are to be removed shall be disconnected and removed as required by the applicable Jurisdictional Agency.
12. All existing wells shown on the Plans to be abandoned or that are discovered during the course of construction shall be exposed and cut-off three (3) feet below the proposed finished grade and sealed by the Contractor in accordance with Section 920 of the “Illinois Water Well Construction Code”, latest edition, or as required by the Health Department or by any other Local, County, State or Federal rules and regulations.
13. All existing septic tanks, grease traps or similar shown on the Plans to be abandoned or that are discovered during the course of construction shall have all liquids and solids removed and disposed of legally off-site by a licensed commercial waste hauler in accordance with the requirements of the Health Department or as required by any Local, County, State or Federal rules and regulations. The structures shall then be removed and disposed legally off-site or broken in-place, so as not to hold liquid, and back-filled with suitable materials by the Contractor or as required by the Health Department or by any other Local, County, State or Federal rules and regulations.
14. Any material containing asbestos or other hazardous materials found within existing structures or other items shown to be removed in order to construct the proposed improvements shall be removed from the site and legally disposed of off-site by the Contractor in accordance with applicable County, State or Federal rules or regulations.
15. All fire access lanes or routes located within the existing project area shall remain in service, clean of debris, and accessible for use by emergency vehicles at all times while demolition and clearing work is being performed.
16. It shall be the responsibility of the Contractor to legally remove from the site any and all materials and debris which results from their demolition or clearing operations at no additional expense to the Owner. Burning or incineration on the site is not permitted.

EARTHWORK AND GRADING

1. All earthwork and grading activities shall be performed in accordance with the IDOT Standard Specifications or as noted in the Plans. Included in this work, but not necessarily limited to the following are: stripping and stockpiling of topsoil, mass grading and fine grading of the site and roadways, excavation of unsuitable materials and adequate disposal of unsuitable materials and their replacement with suitable materials where required, construction of detention ponds, berm construction, and miscellaneous topsoil respread and seeding.
2. Any earthwork quantities, calculations, summaries that have been furnished by the Engineer are for information purposes only and are provided without any guarantee by the Owner or Engineer whatsoever as to their sufficiency or accuracy. They are intended to be used solely as a guide for the Contractor in determining the scope of the completed project. It is the responsibility of the Contractor to determine all material quantities and apprise themselves of all site conditions. The Contractor warrants that he has performed his own investigations as necessary and his own calculations to determine site soil conditions and earthwork quantities. The Engineer makes no representation or guarantee regarding earthwork quantities or that the earthwork for this project will balance due to the varying field conditions, changing soil types, allowable construction tolerances and construction methods that are beyond the control of the Engineer. In the event that the Earthwork is indicated to be Lump Sum then the Contract Price submitted by the Contractor shall be considered as Lump Sum and shall include all items necessary for the complete project and no claims for extra work will be recognized unless authorized in writing by the Owner.
3. The soil boring reports for the subject property can be obtained from the Owner. The information presented in these reports is solely for the guidance of the Contractor. The Owner and the Engineer make no representation or warranty regarding the information contained in the boring logs or soils report. The Contractor shall make their own investigations and shall plan their work accordingly. Arrangements to enter the property during the bidding phase may be made upon request of the Owner. There will be no additional payment for expenses incurred by the Contractor resulting from adverse soil or ground water conditions.
4. The initial establishment of soil erosion and sediment control measures such as the placement of erosion control silt fence, stabilized construction entrance, inlet protection, etc. shall be installed by the Contractor prior to the start of demolition, clearing and mass grading.
5. All earthwork and grading operations are to be supervised and inspected by a qualified Geotechnical/Soils Engineer or their designated representative. All testing, inspection, observation, and supervision of soil quality, unsuitable soil removal and its replacement, compaction testing, ensuring ponds and retention areas hold/retain water and other soils related operations shall be entirely the responsibility of the Geotechnical/Soils Engineer. Furthermore, no undercut or other recommended remediation work shall be performed without authorization by the Owner and documentation of extent by the Geotechnical/Soils Engineer.
6. A qualified Geotechnical/Soils Engineer or their designated representative shall observe the construction of the retention and detention areas including berming to ensure the areas will be capable of holding the designated normal and high water levels. Gravel or sand seams, or other conditions which may be encountered and which might tend to dewater the area shall be remedied as directed by the Geotechnical/Soils Engineer.
7. Topsoil stripping or excavation shall initially consist of the removal of the uppermost layers of organic soil and stockpiling at a location shown on the Plans, in another area deemed appropriate by the Contractor and approved by the Owner, or at a location specified by the Owner or Engineer. No stockpile location shall be finalized without the explicit approval from the Owner. Further, stockpiles shall not be located within flood prone areas or within designated buffer areas.
8. Stripping of vegetation or ground cover, grading, or other soil disturbance activities shall be done in a manner which will minimize soil erosion. Further, the disturbance shall be kept to a minimum and all disturbed areas shall be stabilized with temporary or permanent measures within fourteen (14) days of active hydrologic disturbance or re-disturbance.
9. The Contractor shall take precautionary measures to minimize earthwork and other activities in the areas where trees are to be saved or protected as to not cause injury to roots or trunks.
10. Embankment placement including preparation of existing ground surface prior to embankment placement and compaction shall be in accordance with Section 205 of the IDOT Standard Specifications. All embankments located within structural fill areas or zones of influence thereof shall be constructed to a minimum 95% of the modified proctor density in accordance with ASTM D1557. Embankments located in non-structural fill areas shall be constructed to a minimum of 90% of the modified proctor density in accordance with ASTM D1557.
11. Topsoil respread shall consist of placing a minimum of a four (4) inch layer of topsoil or depth indicated on the Plans over the disturbed unpaved areas within the construction limits. These areas shall then be seeded, sodded, landscaped, stabilized, etc. as indicated on the Plans.
12. Sod shall be placed on all disturbed areas within the right-of-way and at other locations indicated on the Plans.
13. Refer to the Landscape Plans prepared By Others for additional information on the landscaping and ground cover requirements.
14. Completed subgrade grading and final finished grading for all proposed improvements shall be within a tolerance of plus or minus one-tenth (0.1) foot of the design elevation.
15. Contractor shall provide uniform slopes between proposed grades and smooth vertical curves/transitions through all high and low points. Smooth transitions shall be provided where any proposed improvements match into or abut existing improvements.
16. The subgrade for the proposed streets and other pavement areas shall be proof-rolled by the Contractor in the presence of the Village/City Engineer or applicable Jurisdictional Agency and the Geotechnical/Soils Engineer. Any unstable areas or failures encountered shall be removed and replaced or remediated as directed by the Village/City Engineer or applicable Jurisdictional Agency and Geotechnical/Soils Engineer. Any unstable areas or failures encountered and remediation method including approximate size, quantity, etc. shall be documented by the Geotechnical/Soils Engineer.
17. It shall be the responsibility of the Contractor to legally remove from the site any and all materials and debris which results from their construction operations at no additional expense to the Owner. Burning or incineration on the site is not permitted.

SEWER AND WATER MAIN GENERAL NOTES

1. All sanitary sewers, storm sewers and water mains as well as their services and other related appurtenances shall be constructed and tested in accordance with the “Standard Specifications for Water and Sewer Construction in Illinois”, latest edition, the requirements of the applicable Jurisdictional Agency, and the applicable Typical Details.
2. Rough grading shall be within one (1) foot of finished subgrade elevation shall be completed prior to the commencement of the underground utility construction.
3. Trench excavation, bedding and backfill, and compaction for sanitary sewers, storm sewers, water mains as well as their services and other related appurtenances shall be in accordance with applicable Trench Section Details.
4. When in the opinion of the Geotechnical/Soils Engineer, unsuitable soil conditions are encountered within utility trenches which require the removal of unsuitable materials below the depth of the bedding specified, the Contractor shall remove the unsuitable soils and replace the material with granular compacted bedding material as directed by the Geotechnical/Soils Engineer, Village/City or other applicable Jurisdictional Agency. The depth of the required removal and replacement shall be documented by the Geotechnical/Soils Engineer and witnessed by the Contractor. This work, when approved by the Owner and Geotechnical/Soils Engineer, will be measured and paid for at the contract unit price per cubic yard in place for unsuitable soil which price shall include the removal and off-site disposal of unsuitable soil, the additional bedding material, and all labor, materials and equipment required to perform the work as specified.
5. All utility trenches for the proposed sanitary sewer, storm sewer, water main and services lying under or where the inner edge of the trench is within two (2) feet of any pavement area, curb, curb and gutter, stabilized shoulder, sidewalk, building, utility crossing or other structural area shall be backfilled with select granular backfill material and compacted as noted on the Plans.
6. The Contractor shall be responsible for dewatering any excavation for the installation of sanitary sewers, storm sewers, water mains as well as their services and other related appurtenances. Any dewatering required to construct the proposed underground improvements shall be considered incidental to the respective underground improvement.
7. Connections to an existing sewer main shall be to an existing service stub, wye, tee, or manhole where possible. Sewer connections to existing sanitary manholes shall be machine cored. All pipe connections to sanitary structures shall be made with flexible waterstop gasket/boot (resilient connector) conforming to ASTM C923.
8. When connecting to an existing sewer main by means other than an existing service stub, wye, tee, or manhole, one of the following methods shall be used:
   a. Circular saw-cut of sewer main by proper tools (“shewer-tap” machine or similar) and proper installation of a suitable hub-wye saddle or hub-tee saddle.
   b. Remove the entire Section of pipe breaking only the top of one bell and replace with a wye or tee branch Section.
   c. With pipe cutter, neatly and accurately cut out the desired length of pipe for insertion of proper fittings, using “Band-Seal” or similar flexible type couplings to hold it firmly in place.
   d. Other method approved by Jurisdictional Agency.
9. “Band-Seal” or similar flexible type couplings shall be used in the connection of sewer pipe of dissimilar materials.
10. The Contractor shall mark the locations of the ends of the service stubs with 4”x4” wood posts extending a minimum of three (3) feet above the ground. The top twelve (12) inches of post shall be painted green for sanitary, white for storm, and blue for water. The Contractor shall keep accurate records of all service connection locations.
11. All structures including but not limited to frames and lids or grates, cleanouts, b-boxes, etc. shall be adjusted as necessary by the Contractor to final finished grade elevation.
12. All sanitary sewers, storm sewers, water mains as well as their services and other related appurtenances shall be thoroughly cleaned to the satisfaction of the Village/City, Owner, and Engineer as necessary during construction, prior to inspection and testing, and at the end of the project.
13. The Contractor shall coordinate the testing and televising so that it can be witnessed by the applicable Jurisdiction Agency.
14. The cost of the cleaning, televising, and testing shall be considered incidental to the Contract.
15. All deficiencies and defects observed as well as any necessary corrective work required as the result of testing or television inspection shall be performed by the Contractor at no additional cost to the Owner and without delay. All dips, cracks, leaks, improperly sealed joints and departures from the approved grades and alignment shall be repaired by removing and replacing the involved sections of pipe. Upon completion thereof, the sewer shall be retested and/or re-televised and such further inspection made as may appear warranted by the Owner or as required by the Jurisdictional Agency.
16. Refer to Sanitary Sewer, Storm Sewer, Water Main and Water Main Protection Requirements for additional requirements.

SANITARY SEWER

1. Refer to Sewer and Water Main General Notes for additional requirements.
2. Gravity Sanitary Sewer Pipe shall be constructed from one or more of the following materials as specified on the Plans:
   a. Polyvinyl Chloride (PVC) Pipe conforming to ASTM D3034 with a Standard Dimension Ratio (SDR) of 26 unless noted otherwise on the Plans with elastomeric gasket joints conforming to ASTM D3212 and F477.
   b. Ductile Iron Pipe (DIP), Class 52, conforming to ANSI A21.51 and AWWA C151 with rubber gasket joints conforming to ANSI A21.11 and AWWA C111. The interior of the pipe and fittings shall be cement-mortar lined in accordance with ANSI A21.4 and AWWA C104. The exterior of all pipes and fittings shall be coated with an asphaltic coating per ANSI A21.51 and AWWA C151 for ductile iron pipe, and ANSI A21.10/A21.53 and AWWA C110/C153 for fittings.
3. Where water main quality pipe and joints are required to meet the water main protection requirements the sanitary sewer pipe shall be constructed from one or more of the following materials as specified on the Plans:
   a. Polyvinyl Chloride (PVC) Pipe conforming to ASTM D2241 with a Standard Dimension Ratio (SDR) of 26 unless noted otherwise on the Plans with elastomeric gasket joints conforming to ASTM D3139 and F477.
   b. Ductile Iron Pipe (DIP), Class 52, conforming to ANSI A21.51 and AWWA C151 with rubber gasket joints conforming to ANSI A21.11 and AWWA C111. The interior of the pipe and fittings shall be cement-mortar lined in accordance with ANSI A21.4 and AWWA C104. The exterior of all pipes and fittings shall be coated with an asphaltic coating per ANSI A21.51 and AWWA C151 for ductile iron pipe, and ANSI A21.10/A21.53 and AWWA C110/C153 for fittings.
4. All sanitary manholes shall be constructed of precast reinforced concrete sections with tongue and groove joints conforming to ASTM C478 and shall have a minimum inside diameter of 48-inches. If manhole diameter is not specified in the Plans the required manhole diameter shall be determined by size of pipes and their orientation. The precast reinforced concrete base and bottom section shall be monolithically cast. All pipe openings in the structure shall be precast into the structure walls at the proper invert elevation and orientation. Benches and defined channel invert flow lines shall be provided at bottom of structures to provide smooth defined flow path between all inlet and outlet pipe inverts. Sanitary manholes shall have eccentric offset cones, except where necessary due to height and opening restrictions, where a precast reinforced concrete flat top slab section shall be provided in-lieu of an eccentric cone section. Flat top slabs shall conform to IDOT Standard Detail 602601 as well as meet the H-20/HS-20 loading requirement. Concrete adjusting rings will be permitted where necessary and shall be limited to two (2) adjusting rings totaling not more than eight (8) inches in height or as permitted by the applicable Jurisdictional Agency. All joints between structure sections, adjusting rings and frames shall be securely sealed to one another using a resilient, flexible, non-hardening bituminous mastic or butyl sealing compound in accordance with ASTM C990, or flexible rubber gasket in accordance with ASTM C443 in order to provide a watertight joint. The Contractor shall remove all excess mastic on inside of structure and butter joints with mortar.
5. External chimney seals shall be provided on all sanitary manholes and all sanitary manholes shall be watertight.
6. Sanitary manhole frames and lids shall be Neenah R-1713 with Type B, self-sealing, watertight lids with concealed pick holes or approved equal, unless noted otherwise in the Plans. Sanitary manhole lids shall be imprinted with the word “SANITARY” cast into the lid.
7. Manhole steps shall be furnished and installed in all Sanitary and Storm structures in accordance with the “Standard Specifications for Water and Sewer Construction”, latest edition and as shown on the Plans. Steps shall be polypropylene coated steel core reinforced steps with slip, load, and pullout ratings in accordance with ASTM C478 and OSHA requirements. The steps shall be placed uniformly at twelve (12) to sixteen (16) inches on-center and shall be located directly below the manhole frame opening and shall not be located directly over a pipe opening with the alignment of the steps generally perpendicular to the pipe flow direction wherever possible.
8. An external drop manhole structure in accordance with Plans or other Jurisdictional Agency requirements shall be provided where the difference between inverts is greater than or equal to two (2) feet.
9. The minimum cover over sanitary sewer lines and services shall be three (3) feet.
10. The minimum sanitary service line size shall be 6-inch diameter pipe at a 1.0% minimum slope. All services stubs shall be capped with a watertight plug until connection is ready to be made. The plug shall be properly secured to withstand the required test pressures.
11. Sanitary sewer service risers shall be installed where the mainline sewer depth is greater than twelve (12) feet or in locations indicated on the Plans.
12. Cleanouts shall be provided in locations shown on the Plans or as required by the Jurisdictional Agency.
13. All floor drains shall discharge into the sanitary sewer.
14. External grease traps, if applicable, shall be provided in accordance with the Jurisdictional Agency requirements at the locations shown on Plans. Contractor shall submit shop drawings for review and approval prior to ordering or fabricating the grease trap.
15. Sanitary sewers and related appurtenances shall be tested and televised in accordance with the following:
   a. All sanitary sewers shall be tested for acceptability by either an air test, infiltration of water test, or exfiltration of water test or a combination thereof in accordance with the “Standard Specifications for Water and Sewer Construction”, latest edition or in accordance with the requirements of the Village/City or applicable Jurisdictional Agency, whichever is more restrictive. The maximum allowable rate of infiltration or exfiltration shall not exceed 200 gallons per inch diameter of pipe per mile of pipe per day.
   b. All flexible pipe sanitary sewers shall be deflection tested in accordance with the “Standard Specifications for Water and Sewer Construction”, latest edition or in accordance with the requirements of the Village/City or applicable Jurisdictional Agency, whichever is more restrictive. Deflection shall not exceed the manufacturer's recommended deflection limits or a maximum of 5% of the internal diameter of the pipe, whichever is more stringent.
   c. All sanitary manholes shall be tested for watertightness using a leakage test in accordance with ASTM C969 - “Standard Practice for Infiltration and Exfiltration Acceptance Testing of Installed Precast Concrete Pipe Sewer Lines” or ASTM C1244 - “Standard Test Method for Concrete Sewer Manholes by the Negative Pressure (Vacuum) Test Prior to Backfill”.
   d. The Contractor shall televise all newly constructed sanitary sewers in accordance with applicable Jurisdictional Agency requirements prior to the completion of the project and final acceptance. A copy of the inspection video shall be provided to the applicable Jurisdictional Agency and the Engineer for review.

No.	Date	Revision
1	05.16.2024	Revised per Village Review

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GENERAL NOTES & SPECIFICATIONS

419 S. PINE AVENUE TWO-LOT SUBDIVISION
LANDMARK CUSTOM HOMES

Project Manager: M L A
Engineer: M L A
Date: 04.30.2024
Project No. 24-042
Sheet C2.0 / C7

STORM SEWER

1. Refer to Sewer and Water Main General Notes for additional requirements.
2. Storm Sewer Pipe shall be constructed from one or more of the following materials as specified on the Plans:
   a. Reinforced Concrete Pipe (RCP) conforming to ASTM C76 with O-Ring gasket joints conforming to ASTM C443. Pipe class shall be per Section 550 of IDOT Standard Specifications, except that pipe shall be a minimum Class III in non-structural areas (i.e., grass, parkway, etc.) and a minimum of Class IV in or within zone of influence of all structural areas (i.e., roadways, parking lots, curbs, walks, etc.).
   b. Polyvinyl Chloride (PVC) Pipe conforming to ASTM D3034 with a Standard Dimension Ratio (SDR) of 26 unless noted otherwise on the Plans with elastomeric gasket joints conforming to ASTM D3212.
   c. High Density Polyethylene (HDPE) Pipe with smooth wall interior conforming to ASTM D3350 with joints conforming to ASTM D3212 and ASTM D3350.
   d. Ductile Iron Pipe (DIP), Class 52, conforming to ANSI A21.51 and AWWA C151 with rubber gasket joints conforming to ANSI A21.11 and AWWA C111. The interior of the pipe and fittings shall be cement-mortar lined in accordance with ANSI A21.4 and AWWA C104. The exterior of all pipes and fittings shall be coated with an asphaltic coating per ANSI A21.51 and AWWA C151 for ductile iron pipe, and ANSI A21.10/A21.53 and AWWA C110/C153 for fittings.
3. Where water main quality pipe and joints are required to meet the water main protection requirements the storm sewer pipe shall be constructed from one or more of the following materials as specified on the:
   a. Reinforced Concrete Pipe (RCP) conforming to ASTM C361 with O-Ring gasket joints conforming to ASTM C443 and C361. Pipe class shall be per Section 550 of IDOT Standard Specifications, except that pipe shall be a minimum Class III in non-structural areas (i.e., grass, parkway, etc.) and a minimum of Class IV in or within zone of influence of all structural areas (i.e., roadways, parking lots, curbs, walks, etc.).
   b. Polyvinyl Chloride (PVC) Pipe conforming to ASTM D2241 with a Standard Dimension Ratio (SDR) of 26 unless noted otherwise on the Plans with elastomeric gasket joints conforming to ASTM D3139 and F477.
   c. High Density Polyethylene (HDPE) pressure pipe with smooth wall interior and joints conforming to AWWA C-906.
   d. Ductile Iron Pipe (DIP), Class 52, conforming to ANSI A21.51 and AWWA C151 with rubber gasket joints conforming to ANSI A21.11 and AWWA C111. The interior of the pipe and fittings shall be cement-mortar lined in accordance with ANSI A21.4 and AWWA C104. The exterior of all pipes and fittings shall be coated with an asphaltic coating per ANSI A21.51 and AWWA C151 for ductile iron pipe, and ANSI A21.10/A21.53 and AWWA C110/C153 for fittings.
4. Non-circular reinforced concrete pipe shall be constructed from one or more of the following materials as specified on the Plans:
   a. Reinforced Concrete Arch Pipe in accordance with ASTM C506 and AASHTO M206.
   b. Reinforced Concrete Elliptical Pipe in accordance with ASTM C507 and AASHTO M207.
   c. Reinforced Concrete Box Culvert Sections in accordance with ASTM C1433.
5. All storm structures shall be constructed of precast reinforced concrete sections with tongue and groove joints conforming to ASTM C478. If the structure diameter is not specified in the Plans the required manhole diameter shall be determined by size of pipes and their orientation. The precast reinforced concrete base and bottom section shall be monolithically cast. All pipe openings in the structure shall be precast into the structure walls at the proper invert elevation and orientation. Benches and defined channel invert flow lines shall be provided at bottom of structures to provide smooth defined flow path between all inlet and outlet pipe inverts. Storm manholes and catch basins shall have eccentric offset cones, except where necessary due to height and opening restrictions, where a precast reinforced concrete flat top slab section shall be provided in-lieu of an eccentric cone section. Flat top slabs shall conform to IDOT Standard Detail 602601 as well as meet the H-20/HS-20 loading requirement. Catch Basins shall have the sump depth as specified in the Plans. Concrete adjusting rings will be permitted where necessary and shall be limited to two (2) adjusting rings totaling not more than eight (8) inches in height. All joints between structure sections, adjusting rings and frames shall be securely sealed to one another using a resilient, flexible, non-hardening bituminous mastic or butyl sealing compound in accordance with ASTM C990, or flexible rubber gasket in accordance with ASTM C443 in order to provide a watertight joint. The Contractor shall remove all excess mastic on inside of structure and butter joints with mortar.
6. Manhole steps shall be furnished and installed in all Sanitary and Storm structures in accordance with the "Standard Specifications for Water and Sewer Construction", latest edition and as shown on the Plans. Steps shall be polypropylene coated steel core reinforced steps with slip, load, and pullout ratings in accordance with ASTM C478 and OSHA requirements. The steps shall be placed uniformly at twelve (12) to sixteen (16) inches on-center and shall be located directly below the manhole frame opening and shall not be located directly over a pipe opening with the alignment of the steps generally perpendicular to the pipe flow direction wherever possible.
7. Open lid storm structures are designated with "Gr" on the Plans and closed lid storm structures are designated with "Rim" on the Plans.
8. Closed lid storm structures frames and lids shall be Neenah R-1713 with Type B lid, or approved equal, unless noted otherwise in the Plans. Closed lid storm lids shall be imprinted with the word "STORM" cast into the lid.
9. Open lid storm structures frames and lids shall be Neenah R-2504-D, or approved equal, unless noted otherwise in the Plans.
10. Yard area drain structures shall be Nyloplast inline drains or drain basin structures, or approved equal, unless noted otherwise in the Plans.
11. Concrete flared end sections shall be precast reinforced concrete with an end block cast separate to anchor flared end section in place in accordance with IDOT Standard 542301 for circular concrete pipe and IDOT Standard 542306 for elliptical concrete pipe. Grating for flared end sections shall be in accordance with IDOT Standard 542311 and shall be provided at all flared end sections twelve (12) inches or greater.
12. Rip-Rap with filter fabric in accordance with Section 281 of the IDOT Standard Specifications shall be provided at locations shown on the Plans.
13. Cleanouts shall be provided in locations shown on the Plans or as required by the Jurisdictional Agency.
14. All downspouts, footing drains, and outside storm drains shall discharge to the storm sewer or discharge at grade. No stormwater shall be discharged into the sanitary sewer system.
15. Perforated pipe underdrains shall be corrugated flexible HDPE pipe conforming to AASHTO M252 or M294, perforated polyethylene pipe of diameter specified on the Plans with a smooth interior and wrapped in a soil filter fabric sock supplied and installed by the Contractor.
16. Elevations of structures located in curb and gutter are flow line elevations.
17. Elevations of flared end sections are provided at the extreme outer end of the flared end section.

WATER MAIN

1. Refer to Sewer and Water Main General Notes for additional requirements.
2. Water Main Pipe shall be constructed from one or more of the following materials as specified on the Plans:
   a. Ductile Iron Pipe (DIP), Class 52 conforming to ANSI A21.51 and AWWA C151 with a 150 psi working pressure, with push-on double sealing rubber gasket joints conforming to ANSI A21.11 and AWWA C111. The interior of the pipe and fittings shall be cement-mortar lined in accordance with ANSI A21.4 and AWWA C104. The exterior of all pipes and fittings shall be coated with an asphaltic coating per ANSI A21.51 and AWWA C151 for ductile iron pipe, and ANSI A21.10/A21.53 and AWWA C110/C153 for fittings. If specified, the ductile iron pipe and fittings shall be encased by a polyethylene encasement with an 8 mil thickness, Class C (Black) conforming to ANSI A21.5 and AWWA C105. Installation of DIP and fittings shall be in accordance with AWWA C600.
   b. Polyvinyl Chloride (PVC) Pipe, SDR 18 conforming to AWWA C900 (4"-12" diameters) and AWWA C905 (14"-48" diameters) with a pressure rating of 235 conforming to ASTM D2241 and joints in accordance with ASTM D3139 with elastomeric seals in accordance with ASTM F477. Installation of PVC pipe and fittings shall be in accordance with AWWA C605.
   c. High Density Polyethylene (HDPE) pressure pipe and fittings for water main in accordance with AWWA C906, DR 11, 160 psi, with ductile iron pipe outside dimension.
3. Ductile iron fittings or cast iron fittings shall conform to ANSI A21.10 and AWWA C111; and compact ductile iron fittings shall conform to ANSI A21.53 and AWWA C153.
4. All water structures shall be constructed of precast reinforced concrete sections with tongue and groove joints conforming to ASTM C478 and shall have a minimum inside diameter of 48-inches. If structure diameter is not specified in the Plans the required structure diameter shall be determined by size of pipes and appurtenances that need to be located within said structure. The precast reinforced concrete base and bottom section shall be monolithically cast. All pipe openings in the structure shall be precast into the structure walls at the proper invert elevation and orientation. Water structures shall have concentric cones, except where necessary due to height and opening restrictions, where a precast reinforced concrete flat top slab section shall be provided in-lieu of an eccentric cone section. Flat top slabs shall conform to IDOT Standard Detail 602601 as well as meet the H-20/HS-20 loading requirement. Concrete adjusting rings will be permitted where necessary and shall be limited to two (2) adjusting rings totaling not more than eight (8) inches in height. All joints between structure sections, adjusting rings and frames shall be securely sealed to one another using a resilient, flexible, non-hardening bituminous mastic or butyl sealing compound in accordance with ASTM C990, or flexible rubber gasket in accordance with ASTM C443 in order to provide a watertight joint. The Contractor shall remove all excess mastic on inside of structure and butter joints with mortar. All water structures shall be watertight.
5. Valve vaults shall have minimum inside diameter of forty-eight (48) inches for eight (8) inch diameter and smaller valves, and have a minimum inside diameter of sixty (60) inches for ten (10) inch and larger valves.
6. Water services 2 ½ inches in diameter and smaller shall be Type K Copper for underground services conforming to ASTM B88 and ASTM B251. Larger diameter water services shall be of same pipe and joint materials as the mainline water main or as noted on the Plans.
7. The minimum cover from finished grade to the top of the water main and water services shall be 5.5 feet.
8. Water main fittings (i.e., bends, elbows, tees, reducers, etc.) may not be specifically referenced on the Plans and are to be considered incidental and included in the linear footage cost of the watermain.
9. The standards for maximum deflection at pipe joints and laying radius for the various pipe types and lengths shall be per the following:
   a. Ductile Iron Pipe (DIP) - AWWA C600.
   b. Polyvinyl Chloride (PVC) Pipe - AWWA C900.
   c. High Density Polyethylene (HDPE) - Per Manufacturer's requirements.
10. Thrust blocking shall be installed on water mains at all tees, elbows, plugs, and bends 11 ¼ degrees or greater etc. per the "Standard Specifications for Water and Sewer Construction", latest edition. Thrust blocking shall be poured in place Portland Cement Concrete.
11. All bends greater than 10 degrees, hydrants, tees, and fittings shall be mechanical joint with Mega-Lug retaining glands or Field Lok gasket in casings, between fittings and at grade changes.
12. All bolts and nuts shall be stainless steel.
13. A tracer wire shall be installed on all non-metallic water mains. The wire shall be continuous from valve vault to valve vault.
14. Frame and lids for water structures shall be Neenah R-1713 or approved equal and lids shall be imprinted with the word "WATER" cast into the lid.
15. All water valves, fire hydrants, b-boxes, corporation stops, curb stops, ground key stops, service boxes, tapping sleeves, and other water main related appurtenances shall conform to Village/City or applicable Jurisdictional Agency Requirements and shall furnish and install the same. Contractor shall verify exact model, style, type, and manufacturer required prior to ordering. All fire hydrants shall be painted in accordance with the applicable Jurisdictional Agency requirements.
16. Valves shall be non-rising stem type and shall close by turning clockwise. All valves shall be resilient wedge gate or ball valves, except that butterfly valves shall be installed on all water mains 16" diameter and larger, conforming to AWWA C500 with a minimum rated working pressure of 200 psi and in accordance with applicable Jurisdictional Agency requirements. Specialty valves and fittings such as cut-in-valves, tapping sleeves and valves, pressure reducing valves, insertion valves, and air release valves shall conform to the requirements of the applicable Jurisdictional Agency requirements and shall be installed at locations indicated on the Plans.
17. When making connections to existing water mains requires a shutdown that requires an interruption in service, the Contractor shall contact the Owner of the water main and they shall mutually agree upon a date and a time for connections which will allow ample time to perform the work required in order to make the required connection. Notifications of all users to be affected by the interruption shall be provided a minimum of twenty-four (24) hours prior to the service interruption. All water mains opened to atmosphere must be disinfected prior to returning the water main to service.
18. Water Main and related appurtenances shall be tested in accordance with the following:
   a. All water mains shall be tested by means of a pressure test and leakage test, in accordance with the "Standard Specifications for Water and Sewer Construction", latest edition, AWWA C600, and in accordance with applicable Jurisdictional Agency requirements.
   b. All water structures (i.e., valve vaults) shall be subject to a leakage test in accordance with IEPA guidelines and Jurisdictional Agency requirements.
19. After completion of the water main testing, the water mains and related appurtenances shall be flushed clean and disinfected (chlorinated) in accordance with the "Standard Specifications for Water and Sewer Construction", latest edition and in accordance with applicable Jurisdictional Agency requirements.

WATER MAIN PROTECTION REQUIREMENTS

Water mains, water services and related appurtenances shall be protected from any existing or proposed drains, sanitary sewers, storm sewers, combined sewers, force mains, and sewer services. All these previously mentioned items shall collectively be referred to as "sewer(s)" for the remainder of this section. Horizontal and vertical separation requirements between water mains and sewers as well as other water main protection requirements shall be in accordance with "Standard Specifications for Water and Sewer Construction in Illinois", latest edition and per the following:

1. Horizontal Separation:
   a. Whenever possible, an existing or proposed water main must be at least ten (10) feet horizontally from any existing or proposed drain, storm sewer, sanitary sewer, combined sewer or sewer service.
   b. Should local conditions exist which would prevent a lateral separation of ten (10) feet, an existing or proposed water main may be closer than ten (10) feet to a sewer provided that the water main invert is at least eighteen (18) inches above the crown of the sewer, and is either in a separate trench or in the same trench on an undisturbed earth shelf located to one side of the sewer.
   c. If it is impossible to obtain proper horizontal and vertical separation as described in Items 1a and 1b above, both the water main and sewer must be constructed of pipe and joint material that conforms to water main quality pipe and joint standards, and be pressure tested to the maximum expected surcharge head to assure water tightness before backfilling.
2. Vertical Separation:
   a. Whenever water mains cross sewers, the water main shall be laid at such an elevation that the invert of the water main is at least eighteen (18) inches above the crown of the sewer. This vertical separation shall be maintained for that portion of the water main located within ten (10) feet horizontally of any sewer crossed. This must be measured as the perpendicular distance from the water main to the sewer. A length of water main pipe shall be centered over the sewer to be crossed with joints placed equidistant from the sewer.
   b. Where conditions exist that the minimum vertical separation set forth in Item 2a above cannot be maintained, or it is necessary for the water main to pass under a sewer, one of the following two measures must be taken:
   i. The water main shall be installed within a PVC casing pipe that conforms to water main quality pipe and joint standards and the casing pipe shall extend on each side of the crossing until the normal distance from the water main to the sewer is at least ten (10) feet.
   ii. The involved sewer shall be constructed of pipe and joint material which would conform to water main quality pipe and joint standards until the normal distance on either side of the crossing from the water main to the sewer is at least ten (10) feet.
   c. In making such crossings, a length of water main pipe shall be centered over the sewer to be crossed with joints equidistant from the sewer. Where a water main must cross under a sewer, a vertical separation of eighteen (18) inches between the invert of the sewer and the crown of the water main shall be maintained, along with means to support the sewer to prevent their settling and breaking the water main.
3. The horizontal and vertical separation between water service lines and sewers or related service lines should be the same as for water mains, as detailed above, except that when minimum horizontal and vertical separation cannot be maintained, water main quality pipe and joints as described under Vertical Separation above, may be used for sewer or related service lines.
4. Water mains or services shall not be allowed to pass through or come into contact with sewer structures.
5. Water mains shall be separated from septic tanks, disposal fields, seepage beds, and sewage lift stations by a minimum of twenty-five (25) feet.
6. Water mains shall be separated from sanitary sewer force mains by a minimum of at least ten (10) feet horizontally and there shall be an eighteen (18) inch vertical separation at crossings.
7. The Contractor shall protect water mains and service lines from the entrance of hydrocarbons through diffusion through any material used in the construction of the line.
8. Casing pipe shall be installed in locations and of material specified on the Plans or where necessary to meet the water main protection requirements. The carrier pipe shall be securely blocked and banded with appropriately spaced spacers, and sanitary and storm sewers shall maintain the specified gradient. Upon installing the carrier pipe the voids between the casing and carrier pipe shall be filled with sand, pea gravel or flowable fill and the ends shall be sealed.

PAVEMENT, CURB & GUTTER, AND WALKS

1. All work under this Section shall be performed in accordance the IDOT Standard Specifications or as specified in the Plans.
2. Concrete curb or curb and gutter shall be constructed in accordance with the Plans and Section 606 of the IDOT Standard Specifications. A ¾" pre-molded fiber joint filler along with two (2) 18" long x ½" (#4) epoxy coated smooth round dowel bars with greased end caps, centered on joint, shall be provided at expansion joints. Expansion joints shall be provided at a maximum of sixty (60) foot intervals and at all points of curvature and tangency, curb returns, five (5) feet either side of edge of structures, and at the end of each pour. Construction joints shall be provided at maximum twenty (20) foot intervals.
3. Where proposed curb or curb and gutter connects to an existing curb or curb and gutter, the existing curb or curb and gutter shall be saw-cut and then two 18" long x ½" (#4) epoxy coated smooth round dowel bars with greased end caps shall be drilled and installed nine (9) inches into the existing and proposed curb. Bars shall be installed in a location similar to that of the expansion joint in the curb or curb and gutter as applicable.
4. All curb and curb and gutter constructed over a utility trench shall be reinforced with two (2) #4 epoxy coated reinforcing bars for a length of ten (10) feet centered over the trench or as shown on the plans.
5. Reversed pitched curb and gutter shall be installed in areas where pavement slopes away from the curb.
6. Sidewalks and walks shall be constructed in accordance with the Plans and Section 424 of the IDOT Standard Specifications. Concrete sidewalks and walks shall be thickened to a minimum of 6" at all driveways. All sidewalks and walks shall be IDOT Portland Cement Concrete, Class SI, on compacted aggregate base course as shown on the Plans. Scored contraction joints shall be provided at five (5) foot intervals or as specified in the Plans. Expansion joints consisting of a ½" pre-molded fiber joint filler shall be provided at maximum fifty (50) foot intervals, and adjacent to concrete curbs, drives, foundations, ramps, etc. as well as when meeting existing concrete walks.
7. Sidewalks and walks constructed over a utility trench shall be reinforced with three (3) #4 round epoxy coated reinforcing bars for a length of ten (10) feet centered over the utility trench or as shown on the plans.
8. Curb ramps accessible to the disabled with raised truncated dome detectable warning surface of standard brick red color or other contrasting color shall be provided at all locations where sidewalk meets curb and at other locations shown on the Plans in accordance with the Illinois Accessibility Code (IAC), latest edition and IDOT Standard 424001, latest revision.
9. Curing and protection of all exposed concrete surfaces shall be in accordance with the IDOT Standard Specifications. No "honey-combing" or other similar failures of the concrete surfaces will be accepted.
10. Aggregate base course shall be in accordance with the Plans and Section 351 of the IDOT Standard Specifications. Aggregate base course material shall be CA-6, Type B, 100% crushed gravel conforming to Section 1004 of the IDOT Standard Specifications.
11. Bituminous binder and surface courses shall be Hot Mix Asphalt (HMA) of type and compacted thickness as specified in the Plans and shall be constructed in accordance with Section 406 of the IDOT Standard Specifications. The surface course shall be made with virgin materials; no recycled materials shall be allowed unless specified otherwise on the Plans. The Contractor shall provide and pay for the services of a competent paving laboratory to design and supervise the control of the paving mixture. All paving materials and mixes shall be IDOT certified.
12. Portland cement concrete (PCC) pavement shall be Class PV with reinforcement as specified on Plans and be constructed in accordance with Section 420 of the IDOT Standard Specifications.
13. All concrete work shall be finished with a broom finish unless specified otherwise in the Plans.
14. The Contractor shall saw-cut the exposed edges of all existing pavement adjacent to any proposed pavement, apron, sidewalk, curb and gutter or similar to provide a smooth, clean edge that is free of loose material. A proper transition butt joint and/or taper shall also be provided as necessary. Refer to butt joint detail for additional information.
15. The testing of the subgrade, aggregate base course, bituminous aggregate material, binder course, surface course, and concrete work shall be required and be performed in accordance with the IDOT Standard Specifications and requirements of the applicable Jurisdictional Agency. A qualified testing firm shall be employed to perform the required tests, ensure quality and conformance, and provide the results to the Engineer, Owner, and Jurisdictional Agency. The Contractor shall provide the Owner with a construction schedule and shall coordinate all required testing with the testing firm.
16. Prior to the commencement of any paving activities, a proof-roll must be performed by the Contractor and approved by the Village/City or applicable Jurisdictional Agency, and the Owner. All areas not passing the proof-roll shall be remediated as recommended by the Soils/Geotechnical Engineer and approved by the Owner. Any remediate areas shall be re-tested.
17. Prior to installation of the aggregate base course:
   a. The subgrade shall be prepared in accordance with Section 301 of the IDOT Standard Specifications.
   b. The Contractor shall be responsible for all subgrade compaction and preparation to within 0.1-ft of the proposed subgrade elevation. Subgrade shall be compacted to a minimum 95% of the modified proctor density in accordance with ASTM D1557.
   c. Sub-grade shall pass a proof-roll and any unsuitable areas in the subgrade shall be remediated as recommended by the Soils/Geotechnical Engineer and approved by the Owner.
18. Prior to the installation of the binder course:
   a. The aggregate base course shall be prepared in accordance with Section 351 of the IDOT Standard Specifications.
   b. The aggregate base course shall be clean and dry.
   c. The bituminous priming material shall be prepared and applied according to Section 403 of the IDOT Standard Specifications.
   d. The Contractor shall prime the aggregate base course at a rate of 0.25 gallons per square yard prior to the placement of the binder course.
   e. The binder course shall be placed only when the temperature in the shade is at least 40º F and the forecast is for rising temperatures.
19. Prior to the installation of the surface course:
   a. The Contractor shall patch and repair all damaged and failed areas in the binder course to the satisfaction of the Village/City or applicable Jurisdictional Agency, and the Owner.
   b. The Contractor shall repair all damaged curb and gutter or other concrete pavement to the satisfaction of the Village/City or applicable Jurisdictional Agency, and the Owner.
   c. Structures within pavement shall be adjusted to final surface grade.
   d. The Contractor shall clean and prime the binder course at a rate of 0.05 gallons per square yard prior to the placement of the surface course.
   e. The surface course shall be placed only when the air temperature in the shade is at least 45º F and the forecast is for rising temperatures.
20. Pavement marking/striping:
   a. All Pavement markings shall be in accordance with Section 780 of the IDOT Standard Specifications and the MUTCD, and be of the material type, size and color specified on the Plans.
   b. Pavement marking on freeways shall be placed with truck-mounted equipment. Markings on roads other than freeways may be placed with either truck-mounted or hand-operated equipment.
   c. Before applying the pavement marking material, the pavement shall be clean, dry, and free of debris or any other material that would reduce the adhesion of the markings on the pavement.
   d. Pavement markings shall be applied in accordance with the manufacturer's recommended instructions.
   e. Pavement markings shall be uniform and have clean, straight edges.
   f. Pavement marking words and symbols shall conform closely to the dimensions and spacing specified in the MUTCD, IDOT Standard Details, and the Plans.
   g. Deviations from the required dimensions and spacing or other departures from reasonable standards of professionalism will be cause for rejection by the Engineer.
21. Handicapped stalls shall be striped and signed in accordance with the Illinois Accessibility Code (IAC), latest edition and any other applicable ADA guidelines. Handicapped stalls shall be a minimum of sixteen (16) feet wide and signage shall be affixed to a post permanently mounted in the ground or wall and located in the center of the space no further than five (5) feet from the front of the accessible space. The minimum height to the bottom of the fine sign shall be four (4) feet. Handicapped stall striping shall be yellow in color.
22. All signs shall be in accordance with Section 720 of the IDOT Standard Specifications and the MUTCD, and be of the material type, size, and color specified on the Plans.
23. Raised reflective pavement markers shall be in accordance with Section 781 of the IDOT Standard Specifications and be recessed into the pavement as required by the applicable Jurisdictional Agency.
24. Pavement marking and marker removal shall be in accordance with Section 783 of the IDOT Standard Specifications.
25. All pavements, curb, curb and gutters, walks, etc. shall be cleaned to the satisfaction of the Village/City or applicable Jurisdictional Agency, Owner, and Engineer as necessary during construction and at the end of the project prior to the final acceptance.

SOIL EROSION AND SEDIMENTATION CONTROL GENERAL NOTES

1. All soil erosion and sedimentation control (SESC) measures shall be installed and properly maintained in accordance with the Illinois Environmental Protection Agency's (IEPA) "Illinois Urban Manual", latest edition and "Illinois Procedures and Standards for Urban Soil Erosion and Sedimentation Control", latest edition, and shall be followed as directed by the Village/City and Engineer. In addition, on sites that will ultimately result in the disturbance of one (1) acre or more the provisions outlined in the General National Pollutant Discharge Elimination System (NPDES) General Permit No. ILR10, latest edition, shall also be followed.
2. Prior to commencement of construction, on sites that will ultimately result in the disturbance of one (1) acre or more, the Contractor shall be responsible for obtaining a copy of the notice of coverage letter and the IEPA National Pollutant Discharge Elimination System (NPDES) General Permit ILR10 from the Owner. The Owner together along with the Contractor and/or other entities if so designated by the Owner, shall be responsible for ensuring that all the requirements of the General Permit and the Storm Water Pollution Prevention Plan (SWPPP) including but not limited to the installation, maintenance as well as the installation of any additional measures necessary that may be required, and inspections of the soil erosion and sediment control measures as well as completing all of the necessary applicable certifications, reports, logs, etc. Inspections are required to be performed at least once every seven (7) calendar days and within 24 hours of the end of a storm event of 0.5 inches of rain (or equivalent snowfall) or greater. The SWPPP and all the required paperwork shall be kept on-site and be organized and ready for viewing.
3. All erosion control measures are to be installed prior to any demolition, earth moving activities or other disturbance.
4. Soil Erosion Control measures shall include the provision of an erosion control fence as required along the area of disturbance, a stabilized construction entrance, and sediment traps or other inlet protection method at each inlet or catch basin.
5. Contractor to establish a temporary stabilized construction entrance as well as install all perimeter silt fence prior to the start of any clearing or grading activities.
6. Temporary gravel stabilized construction entrance shall be maintained, adjusted, and/or relocated as necessary to prevent mud and other debris from being tracked onto adjacent public roadways. Any mud or other debris that is tracked onto a public road shall be properly removed as soon as practical, but before the end of each working day.
7. After the start of mass grading and before all storm water conveyance improvements are in place and functional, all on-site storm water shall be temporarily diverted into the detention basin or a properly constructed temporary sedimentation basin or collection device, as per local requirements, so as to prevent surface waters from flowing onto adjacent property.
8. Disturbed areas shall be stabilized by seeding within seven (7) calendar days of the completion of disturbance. If construction activity on a portion of the site is to resume within fourteen (14) calendar days of the end of the last disturbance, then stabilization measures do not have to be initiated on that portion of the site by the 7th day after the completion of said disturbance. Areas with slopes 3H:1V or greater shall be stabilized with erosion control blanket or mat in addition to seeding.
9. The Contractor shall provide adequate planning and supervision during the project construction period for implementing construction methods, processes and cleanup procedures necessary to prevent water pollution and control erosion.
10. No sediment or debris shall be allowed to enter the existing storm sewer system or flow off-site.
11. All temporary and permanent erosion and sedimentation control measures shall be maintained, repaired and/or replaced as necessary to ensure effective performance. If required, a designated erosion control inspector shall inspect all measures every seven (7) calendar days, or within twenty-four (24) hours of a 0.5-inch rain event or equivalent snowfall, and report where items are in non-compliance. Otherwise, the Contractor shall be responsible for the inspection as well as maintenance of all measures and shall be subject to the terms of Federal, State, and local requirements.
12. All temporary erosion and sedimentation control measures are to remain in place and be functioning until final stabilization. After final stabilization, the Contractor is to remove and properly dispose of all erosion and sedimentation measures according to Jurisdictional Agency requirements within thirty (30) days. All disturbed areas or trapped sediment that accumulates from said measures shall be permanently stabilized.
13. Topsoil stockpiles shall not be located in flood prone areas or buffers protecting wetlands, or waters of the United States or County. Stockpiles shall be protected from erosion by installing silt fence around the perimeter of the stockpile(s). Stockpiles shall be seeded within seven (7) calendar days of completion.
14. If dewatering services are used, adjoining properties and discharge locations shall be protected from erosion. Discharges shall be routed through an effective sediment control measure (i.e., sediment Trap, sediment Basin, or other appropriate measure).
15. All storm sewers, drainage structures, catch basin sumps and/or retention/detention/sedimentation basins provided within this project are to be cleaned at the end of construction and prior to final acceptance. Cleaning may also be required during the course of construction if it is determined that the structures are not properly functioning and their performance is impaired.
16. Storm water conveyance swales, channels, streams or similar, if disturbed, are to be stabilized within 48 hours after the end of active disturbance.
17. Extreme caution shall be taken by the Contractor to prevent erosion and siltation during construction. The Contractor shall inspect catch basins and clean out if necessary. The contractor shall use silt/erosion control fence staked in place to prevent siltation of all drainage structures.
18. The Contractor shall water the site, as required during dry weather to control dust.
19. Erosion Control Maintenance and Replacement Notes:
   a. Silt fences are to be cleaned as required during the course of the construction of the project or if the Engineer determines that they are not properly functioning and their performance is impaired.
   b. Sediment traps and basins shall be inspected immediately after each rainfall and at least daily during prolonged rainfall. Any required repairs shall be made immediately.
   c. Should the fabric decomposed or become ineffective prior to the end of the expected life and the barrier still be necessary, the fabric shall be replaced promptly.
   d. Sediment deposits should be removed after each storm event. They must be removed when deposits reach approximately half the height of the barrier.
   e. Mud or dust which is deposited on adjacent roadways shall be removed at the end of each day.
20. The sediment and erosion control measures indicated on the plans are the minimum requirements. Additional measures may be required, as directed by the Engineer or Jurisdictional Agency.
21. The Contractor shall assume responsibility for maintenance of all soil erosion and sedimentation control measures during and after construction. However, the Contractor shall not transfer these improvements for the purpose of maintenance until they have completed with the above and until they have received final inspection and approval from the Jurisdictional Agency or designated erosion control inspector and a Notice of Termination has been filed (NOT).
22. The work shall generally follow the following typical Construction Sequencing:
   a. Installation of them soil erosion and sediment control (SE/SC) measures:
      1. Selective vegetation removal for silt fence installation
      2. Silt fence installation
      3. Construction fencing around areas not to be disturbed
      4. Stabilized construction entrance
   b. Install tree protection fencing and tree removal where necessary (clear & grub)
   c. Construct sediment trapping devices (sediment traps, basins, etc.)
   d. Construct detention facilities and outlet control structure with restrictor.
   e. Strip and stockpile topsoil and mass grade the site
   f. Temporarily stabilize topsoil stockpiles (seed and silt fence around toe of slope)
   g. Install sanitary sewer, storm sewer, watermain and associated inlet & outlet protection
   h. Permanently stabilize detention basins with seed and erosion control blanket
   i. Temporarily stabilize all areas including lots that have reached temporary grade
   j. Install roadways, parking areas, etc.
   k. Final grade and permanently stabilize all outlot areas with topsoil and seed
   l. Install structures and grade individual lots
   m. Permanently stabilize site with topsoil and seed
   n. Remove all temporary SE/SC measures after the site is stabilized with vegetation

MWRD GENERAL NOTES

A. Referenced Specifications
1. All construction shall be in accordance with the applicable sections of the following, except as modified herein or on the Plans:
   - Standard Specifications for Road and Bridge Construction (Latest Edition), by the Illinois Department of Transportation (IDOT SS) for all improvements except Sanitary Sewer and Water Main construction.
   - Standard Specification for Water and Sewer Main Construction in Illinois, Latest Edition (SSWS) for Sanitary Sewer and Water Main construction.
   - Village of Arlington Heights Municipal Code.
   - The Metropolitan Water Reclamation District of Greater Chicago (MWRD) Watershed Management Ordinance and Technical Guidance Manual.
   - In case of a conflict between the applicable Ordinances noted, the more stringent shall take precedence and shall control all construction.

B. Notifications
1. The MWRD Local Sewer Systems Section Field Office must be notified at least two (2) working days prior to the commencement of any work (Call 708-588-4055 or send email notification with Project Name, Location and Permit Number to WMOJOBSTART@MWRD.ORG).
2. The Village of Arlington Heights Engineering Department and Public Works Department must be notified at least 24 hours prior to the start of construction and prior to each phase of work. Contractor shall determine items requiring inspection prior to start of construction or each phase of work
3. The Contractor shall notify all utility companies prior to beginning construction for the exact locations of utilities and for their protection during construction. If existing utilities are encountered that conflict in location with new construction, immediately notify the engineer so that the conflict can be resolved. Call J.U.L.I.E. at 1-800-892-0123.

C. General Notes
1. All elevations shown on plans reference the North American vertical datum of 1988 (NAVD88). Conversion factor is ZERO ft.
2. MWRD, the municipality and the owner or owner's representative shall have the authority to inspect, approve, and reject the construction improvements.
3. The contractor(s) shall indemnify the owner, engineer, municipality, MWRD, and their agents, etc., from all liability involved with the construction, installation, or testing of this work on the project.
4. The proposed improvements must be constructed in accordance with the engineering plans as approved by MWRD and the municipality unless changes are approved by MWRD, the municipality, or authorized agent. The construction details, as presented on the plans, must be followed. Proper construction techniques must be followed on the improvements indicated on the plans.
5. The location on various underground utilities which are shown on the plans are for information only and represent the best knowledge of the engineer. Verify locations and elevations prior to beginning the construction operations.
6. Any existing pavement, sidewalk, driveway, etc., damaged during construction operations and not called for to be removed shall be replaced at the expense of the contractor.
7. Material and compaction testing shall be performed in accordance with the requirements of the municipality, MWRD, and owner.
8. The underground contractor shall make all necessary arrangements to notify all inspection agencies.
9. All new and existing utility structures on site and in areas disturbed during construction shall be adjusted to finish grade prior to final inspection.
10. Record drawings shall be kept by the contractor and submitted to the engineer as soon as underground improvements are completed. Final payments to the contractor shall be held until they are received. Any changes in length, location or alignment shall be shown in red. All wyes or bends shall be located from the downstream manhole. All valves, B-boxes, tees or bends shall be tied to a fire hydrant.

D. Sanitary Sewer
1. The contractor shall take measures to prevent any polluted water, such as ground and surface water, from entering the existing sanitary sewers.
2. A water-tight plug shall be installed in the downstream sewer pipe at the point of sewer connection prior to commencing any sewer construction. The plug shall remain in place until removal is authorized by the municipality and/or MWRD after the sewers have been tested and accepted.
3. Discharging any unpolluted water into the sanitary sewer system for the purpose of sewer flushing of lines for the deflection test shall be prohibited without prior approval from the municipality or MWRD.
4. All sanitary sewer construction shall be in accordance with the standard specifications for water and sewer main construction in Illinois (latest edition).
5. All floor drains shall discharge to the sanitary sewer system.
6. All downspouts and footing drains shall discharge to the storm sewer system.
7. All sanitary sewer pipe materials and joints (and storm sewer pipe materials and joints in a combined sewer area) shall conform to the following:

Pipe Material	Pipe Specifications	Joint Specifications
Vitrified Clay Pipe	ASTM C-700	ASTM C-425
Reinforced Concrete Sewer Pipe	ASTM C-76	ASTM C-443
Cast Iron Soil Pipe	ASTM A-74	ASTM C-564
Ductile Iron Pipe	ANSI A21.51	ANSI A21.11
Polyvinyl Chloride (PVC) Pipe		
6-inch to 15-inch Diameter SDR 26	ASTM D-3034	ASTM D-3212
18-inch to 27-inch Diameter F/DY=46	ASTM F-679	ASTM D-3212
High Density Polyethylene (HDPE)	ASTM D-3350	ASTM D-3261, F-2620 (Heat Fusion)
	ASTM D-3035	ASTM D-3212, F-477 (Gasketed)
Water Main Quality PVC SDR 26		
4-inch to 36-inch	ASTM D-2241	ASTM D-3139
4-inch to 12-inch	AWWA C900	ASTM D-3139
14-inch to 48-inch	AWWA C905	ASTM D-3139

The following materials are allowed on a qualified basis subject to district review and approval prior to permit issuance. A special condition will be added to the permit when the pipe material is used for sewer construction or a connection is made.

Pipe Material	Pipe Specifications	Joint Specifications
Polypropylene (PP) Pipe		
12-inch to 24-inch Double Wall	ASTM F-2736	ASTM D-3212, F-477
30-inch to 60-inch Triple Wall	ASTM F-2764	ASTM D-3212, F-477

8. All sanitary sewer construction (and storm sewer construction in combined sewer areas), requires stone bedding with stone 1/4" to 1" in size, with minimum bedding thickness equal to 1/4 the outside diameter of the sewer pipe, but not less than four (4) inches nor more than eight (8) inches. Material shall be CA-7, CA-11 or CA-13 and shall be extended at least 12" above the top of the pipe when using PVC.
9. Non-shear flexible-type couplings shall be used in the connection of sewer pipes of dissimilar materials.
10. All manholes shall be provided with bolted, watertight covers. Sanitary lids shall be constructed with a concealed pickhole and watertight gasket with the word "SANITARY" cast into the lid.
11. When connecting to an existing sewer main by means other than an existing wye, tee, or an existing manhole, one of the following methods shall be used:
   a. A circular saw-cut of sewer main by proper tools ("Shewer-tap" machine or similar) and proper installation of hubwye saddle or hub-tee saddle.
   b. Remove an entire section of pipe (breaking only the top of one bell) and replace with a wye or tee branch section.
   c. With pipe cutter, neatly and accurately cut out desired length of pipe for insertion of proper fitting, using "Band Seal" or similar couplings to hold it firmly in place.
12. Whenever a sanitary/combined sewer crosses under a watermain, the minimum vertical distance from the top of the sewer to the bottom of the watermain shall be 18 inches. Furthermore, a minimum horizontal distance of 10 feet between sanitary/combined sewers and watermains shall be maintained unless: the sewer is laid in a separate trench, keeping a minimum 18" vertical separation; or the sewer is laid in the same trench with the watermain located at the opposite side on a bench of undisturbed earth, keeping a minimum 18" vertical separation. If either the vertical or horizontal distances described cannot be maintained, or the sewer crosses above the water main, the sewer shall be constructed to water main standards or it shall be encased with a water main quality carrier pipe with the ends sealed.
13. All existing septic systems shall be abandoned. Abandoned tanks shall be filled with granular material or removed.
14. All sanitary manholes, (and storm manholes in combined sewer areas), shall have a minimum inside diameter of 48 inches, and shall be cast in place or pre-cast reinforced concrete.
15. All sanitary manholes, (and storm manholes in combined sewer areas), shall have precast "rubber boots" that conform to ASTM C-923 for all pipe connections. Precast sections shall consist of modified groove tongue and rubber gasket type joints.
16. All abandoned sanitary sewers shall be plugged at both ends with at least 2 feet long non-shrink concreted or mortar plug.
17. Except for foundation/footing drains proved to protect buildings, or perforated pipes associated with volume control facilities, drain tiles/field tiles/underdrains/perforated pipes are not allowed to be connected to or tributary to combined sewers, sanitary sewers, or storm sewers tributary to combined sewers in combined sewer areas. Construction of new facilities of this type is prohibited; and all existing drain tiles and perforated pipes encountered within the project area shall be plugged or removed, and shall not be connected to combined sewers, sanitary sewers, or storm sewers tributary to combined sewers.
18. A backflow preventer is required for all detention basins tributary to combined sewers. Required backflow preventers shall be inspected and exercised annually by the property owner to ensure proper operation, and any necessary maintenances shall be performed to ensure functionality. In the event of a sewer surcharge into an open detention basin tributary to combined sewers, the permittee shall ensure that clean up and wash out of sewage takes place within 48 hours of the storm event.

E. Erosion and Sediment Control
1. The contractor shall install the erosion and sediment control devices as shown on the approved erosion and sediment control plan.
2. Erosion and sediment control practices shall be functional prior to hydrologic disturbance of the site.
3. All design criteria, specifications, and installation of erosion and sediment control practices shall be in accordance with the Illinois Urban Manual.
4. A copy of the approved erosion and sediment control plan shall be maintained on the site at all times.
5. Inspections and documentation shall be performed, at a minimum:
   a. Upon completion of initial erosion and sediment control measures, prior to any soil disturbance.
   b. Once every seven (7) calendar days and within 24 hours of the end of a storm event with greater than 0.5 inch of rainfall or liquid equivalent precipitation.
6. Soil disturbance shall be conducted in such a manner as to minimize erosion. If stripping, clearing, grading, or landscaping are to be done in phases, the co-permittee shall plan for appropriate soil erosion and sediment control measures.
7. A stabilized mat of crushed stone meeting the standards of the Illinois Urban Manual shall be installed at any point where traffic will be entering or leaving a construction site. Sediment or soil reaching an improved public right-of-way, street, alley or parking area shall be removed by scraping or street cleaning as accumulations warrant and transported to a controlled sediment disposal area.
8. Concrete washout facilities shall be constructed in accordance with the Illinois Urban Manual and shall be installed prior to any on site construction activities involving concrete.
9. Mortar washout facilities shall be constructed as necessary to direct all runoff from hydrologically disturbed areas to an appropriate sediment trap or basin.
10. Temporary diversions shall be constructed as necessary to direct all runoff from hydrologically disturbed areas to an appropriate sediment trap or basin. Volume control facilities shall not be used as temporary sediment basins.
11. Disturbed areas of the site where construction activities have temporarily or permanently ceased shall be stabilized with temporary or permanent measures within seven (7) days.
12. All flood protection areas and volume control facilities shall, at a minimum, be protected with a double-row of silt fence (or equivalent).
13. Volume control facilities shall not be constructed until all of the contributing drainage area has been stabilized.
14. Soil stockpiles shall, at a minimum, be protected with perimeter sediment controls. Soil stockpiles shall not be placed in flood protection areas or their buffers.
15. Earthen embankment side slopes shall be stabilized with appropriate erosion control blanket.
16. Storm sewers that are or will be functioning during construction shall be protected by appropriate sediment control measures.
17. The contractor shall either remove or replace any existing drain tiles and incorporate them into the drainage plan for the development. Drain tiles cannot be tributary to a sanitary or combined sewer. Drain tiles allowed in combined sewer area for green infrastructure practices.
18. If dewatering services are used, adjoining properties and discharge locations shall be protected from erosion and sedimentation. Dewatering systems should be inspected daily during operational periods. The site inspector must be present at the commencement of dewatering activities.
19. The contractor shall be responsible for trench dewatering and excavation for the installation of sanitary sewers, storm sewers, water mains as well as their services and other appurtenances. Any trench dewatering, which contains sediment shall pass through a sediment settling pond or equally effective sediment control device. Alternatives may include dewatering into a sump pit, filter bag or existing vegetated upslope area. Sediment laden waters shall not be discharged to waterways, flood protection areas or the combined sewer system.
20. All permanent erosion control practices shall be initiated within seven (7) days following the completion of soil disturbing activities.
21. All erosion and sediment control measures shall be maintained and repaired as needed on a year-round basis during construction and any periods of construction shutdown until permanent stabilization is achieved.
22. All temporary erosion and sediment control measures shall be removed within thirty (30) days after permanent site stabilization.
23. The erosion and sediment control measures shown on the plans are the minimum requirements. Additional measures may be required, as directed by the engineer, site inspector, or MWRD.

No.	Date	Revision
1	05.16.2024	Revised per Village Review

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GENERAL NOTES & SPECIFICATIONS

419 S. PINE AVENUE TWO-LOT SUBDIVISION

LANDMARK CUSTOM HOMES

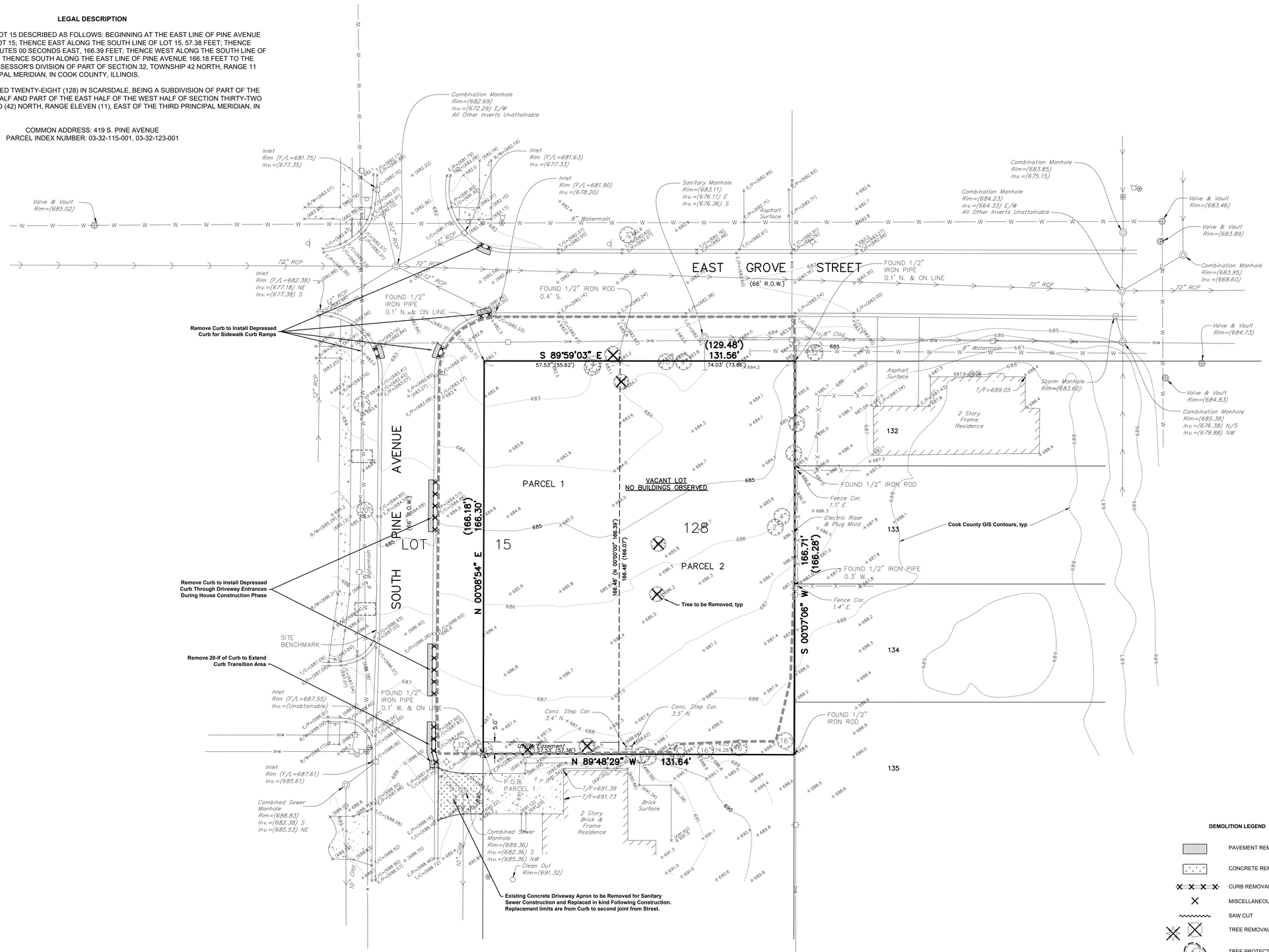
Project Manager: M L A
Engineer: M L A
Date: 04.30.2024
Project No. 24-042
Sheet C2.1 / C7

LEGAL DESCRIPTION

PARCEL 1: THAT PART OF LOT 15 DESCRIBED AS FOLLOWS: BEGINNING AT THE EAST LINE OF PINE AVENUE AND THE SOUTH LINE OF LOT 15, THENCE EAST ALONG THE SOUTH LINE OF LOT 15, 57.38 FEET; THENCE NORTH 00 DEGREES 00 MINUTES 00 SECONDS EAST, 166.39 FEET; THENCE WEST ALONG THE SOUTH LINE OF GROVE STREET 55.62 FEET; THENCE SOUTH ALONG THE EAST LINE OF PINE AVENUE 166.18 FEET TO THE POINT OF BEGINNING, IN ASSESSOR'S DIVISION OF PART OF SECTION 32, TOWNSHIP 42 NORTH, RANGE 11 EAST OF THE THIRD PRINCIPAL MERIDIAN, IN COOK COUNTY, ILLINOIS.

PARCEL 2: LOT ONE HUNDRED TWENTY-EIGHT (128) IN SCARSDALE, BEING A SUBDIVISION OF PART OF THE WEST HALF OF THE EAST HALF AND PART OF THE EAST HALF OF THE WEST HALF OF SECTION THIRTY-TWO (32), TOWNSHIP FORTY-TWO (42) NORTH, RANGE ELEVEN (11), EAST OF THE THIRD PRINCIPAL MERIDIAN, IN COOK COUNTY, ILLINOIS.

COMMON ADDRESS: 419 S. PINE AVENUE
PARCEL INDEX NUMBER: 03-32-115-001, 03-32-123-001



DEMOLITION LEGEND

- PAVEMENT REMOVAL
- CONCRETE REMOVAL
- CURB REMOVAL
- MISCELLANEOUS REMOVAL
- SAW CUT
- TREE REMOVAL
- TREE PROTECTION

NOTE:
1) 3' min. patches required for all curb and gutter replacement.
2) Contractor shall plug any abandoned service connections with, at minimum, 2' of non-shrink concrete.

NORTH
10 0 20
Scale: 1" = 20'

No.	Revision	Date
1	Revised per Village Review	05.16.2024

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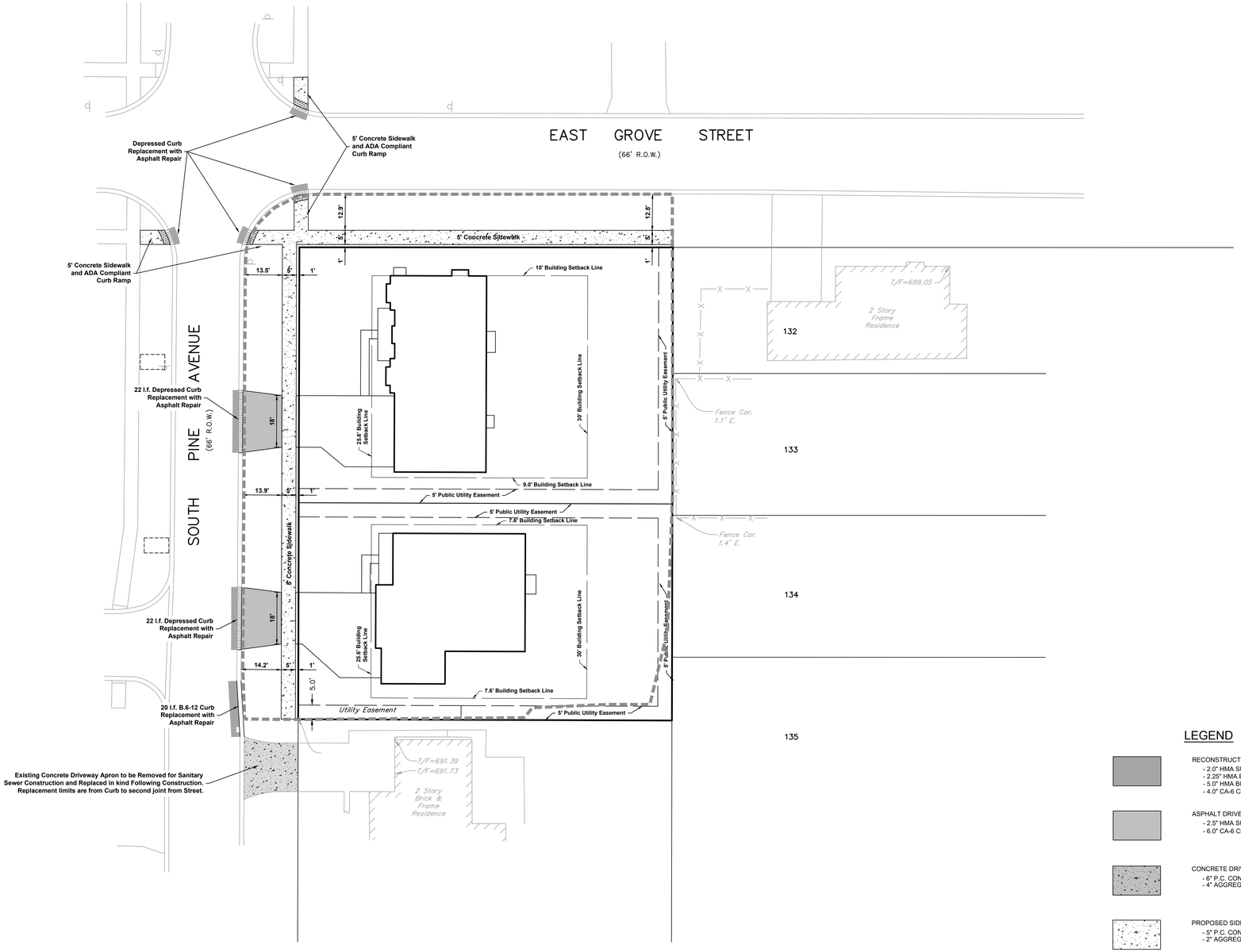
EXISTING CONDITIONS & DEMOLITION PLAN

419 S. PINE AVENUE TWO-LOT SUBDIVISION

LANDMARK CUSTOM HOMES

Project Manager:	M L A
Engineer:	M L A
Date:	04.30.2024
Project No.	24-042
Sheet	C3/C7

Plot Date: May 16, 2024 - 2:44pm Plotted By: mike-o
File Name: P:\2024\24042\Drawings\Final Engineering\24042 Final Engineering.dwg



NORTH

10 0 20

Scale: 1" = 20'

LEGEND

RECONSTRUCT PUBLIC STREET PAVEMENT
- 2.0" HMA SURFACE COURSE
- 2.25" HMA BINDER COURSE, N-50
- 5.0" HMA BINDER COURSE, N-30
- 4.0" CA-6 CRUSHED AGGREGATE BASE

ASPHALT DRIVEWAY APRON
- 2.5" HMA SURFACE COURSE
- 6.0" CA-6 CRUSHED AGGREGATE BASE

CONCRETE DRIVEWAY APRON
- 6" P.C. CONCRETE
- 4" AGGREGATE BASE COURSE

PROPOSED SIDEWALK
- 5" P.C. CONCRETE
- 2" AGGREGATE BASE COURSE

DETECTABLE WARNING
- EXTEND FULL WIDTH OF DEPRESSED CURB NO GAPS PERMITTED.

No.	Date	Revision
1	05.16.2024	Revised per Village Review

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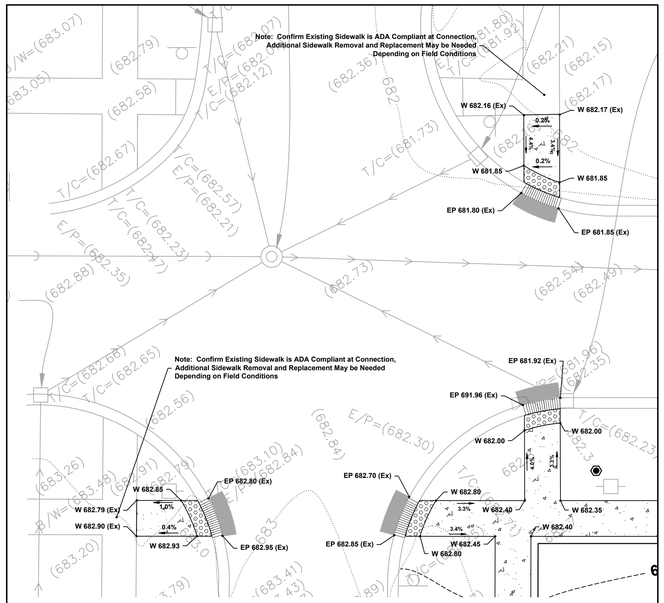
GEOMETRY & PAVING PLAN

419 S. PINE AVENUE TWO-LOT SUBDIVISION

LANDMARK CUSTOM HOMES

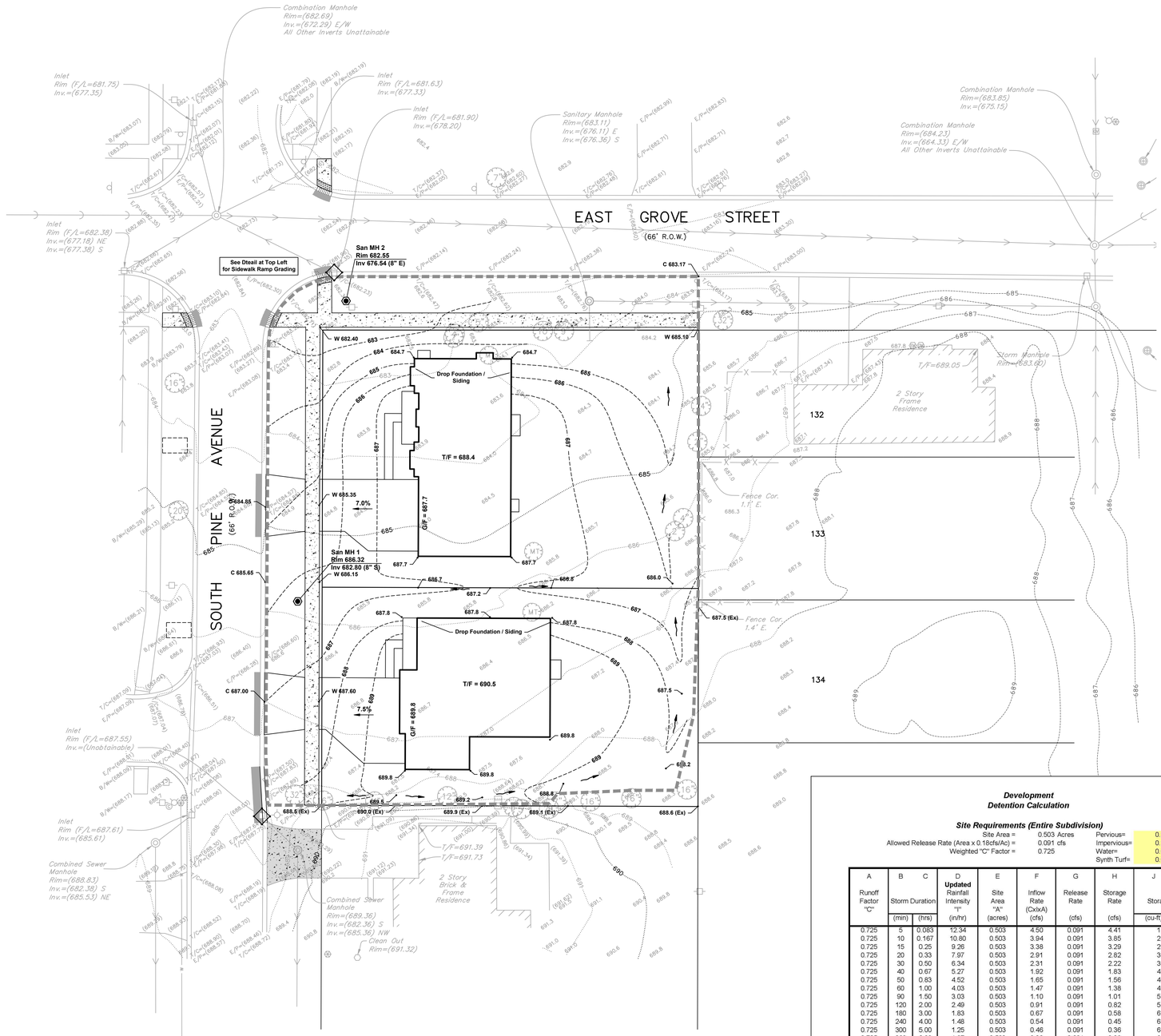
Project Manager:	M L A
Engineer:	M L A
Date:	04.30.2024
Project No.	24-042
Sheet	C4/C7

Plot Date: May 16, 2024 - 2:44pm Plotted By: mike-a
File Name: P:\2024\24042\Drawings\Final Engineering\24042 Final Engineering.dwg



SIDEWALK ADA RAMP DETAIL

SCALE: 1" = 10'



EROSION CONTROL LEGEND

- Inlet Basket
- Silt Fence

NORTH

10 0 20

Scale: 1" = 20'

Development Detention Calculation

4/30/2024

Site Requirements (Entire Subdivision)

Site Area =	0.503 Acres	Pervious=	0.252 Acres
Allowed Release Rate (Area x 0.18cfs/Ac) =	0.091 cfs	Impervious=	0.252 Acres
Weighted "C" Factor =	0.725	Water=	0.000 Acres
		Synth Turf=	0.000 Acres

A	B	C	D	E	F	G	H	J	K
Runoff Factor "C"	Storm Duration		**Updated** Rainfall Intensity "I"	Site Area "A"	Inflow Rate (CxIxA)	Release Rate	Storage Rate	Storage Required	
	(min)	(hrs)	(in/hr)	(acres)	(cfs)	(cfs)	(cfs)	(cu-ft)	(Ac-ft)
0.725	5	0.083	12.34	0.503	4.50	0.091	4.41	1317	0.030
0.725	10	0.167	10.80	0.503	3.94	0.091	3.85	2313	0.053
0.725	15	0.25	9.26	0.503	3.38	0.091	3.29	2957	0.068
0.725	20	0.33	7.97	0.503	2.91	0.091	2.82	3345	0.077
0.725	30	0.50	6.34	0.503	2.31	0.091	2.22	3998	0.092
0.725	40	0.67	5.27	0.503	1.92	0.091	1.83	4416	0.101
0.725	50	0.83	4.52	0.503	1.65	0.091	1.56	4653	0.107
0.725	60	1.00	4.03	0.503	1.47	0.091	1.38	4963	0.114
0.725	90	1.50	3.03	0.503	1.10	0.091	1.01	5475	0.126
0.725	120	2.00	2.49	0.503	0.91	0.091	0.82	5883	0.135
0.725	180	3.00	1.83	0.503	0.67	0.091	0.58	6225	0.143
0.725	240	4.00	1.48	0.503	0.54	0.091	0.45	6462	0.148
0.725	300	5.00	1.25	0.503	0.46	0.091	0.36	6567	0.151
0.725	360	6.00	1.07	0.503	0.39	0.091	0.30	6463	0.148
0.725	420	7.00	0.97	0.503	0.35	0.091	0.26	6621	0.152
0.725	480	8.00	0.87	0.503	0.32	0.091	0.23	6516	0.150
0.725	540	9.00	0.79	0.503	0.29	0.091	0.20	6386	0.147
0.725	600	10.00	0.72	0.503	0.26	0.091	0.17	6176	0.142
0.725	660	11.00	0.67	0.503	0.24	0.091	0.15	6072	0.139
0.725	720	12.00	0.62	0.503	0.23	0.091	0.14	5836	0.134
0.725	1080	18.00	0.45	0.503	0.16	0.091	0.07	4737	0.109
0.725	1440	24.00	0.36	0.503	0.13	0.091	0.04	3480	0.080
					A*D*E		F-G	C*H*3600	J/43560

Max Volume = 0.152 Acre-Ft
= 6,621 cu-ft

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No.	Date	Revision
1	05.16.2024	Revised per Village Review

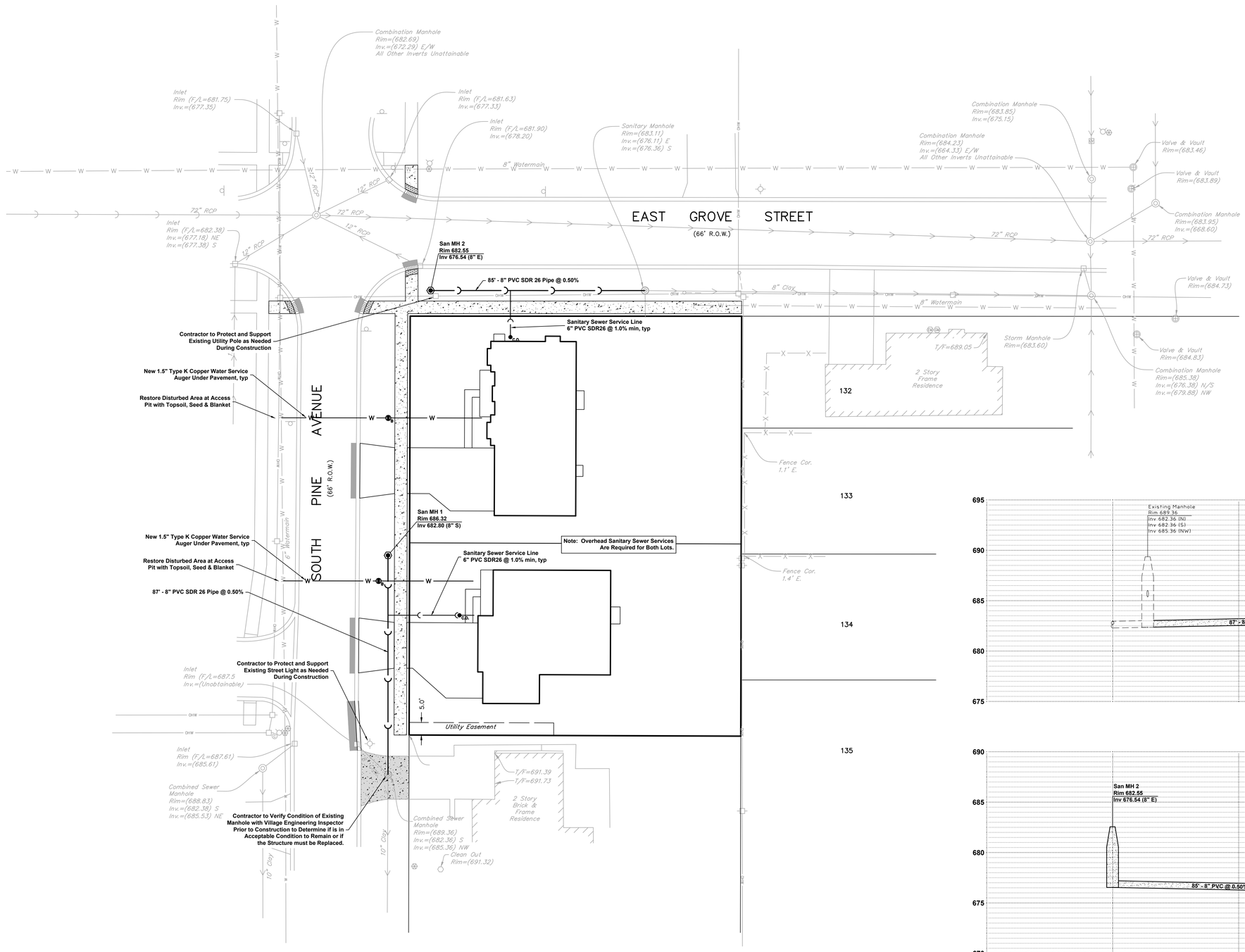
GRADING & EROSION CONTROL PLAN

419 S. PINE AVENUE TWO-LOT SUBDIVISION

LANDMARK CUSTOM HOMES

Project Manager:	M L A
Engineer:	M L A
Date:	04.30.2024
Project No.	24-042
Sheet	C5 / C7

Plot Date: May 16, 2024 - 2:44pm Plotted By: mike-o
File Name: P:\2024\24042\Drawings\Final Engineering\24042 Final Engineering.dwg



SANITARY SEWER PROFILES

SCALE: 1" = 20' (HORIZONTAL)
SCALE: 1" = 5' (VERTICAL)

NORTH
10 0 20
Scale: 1" = 20'

No.	Date	Revision
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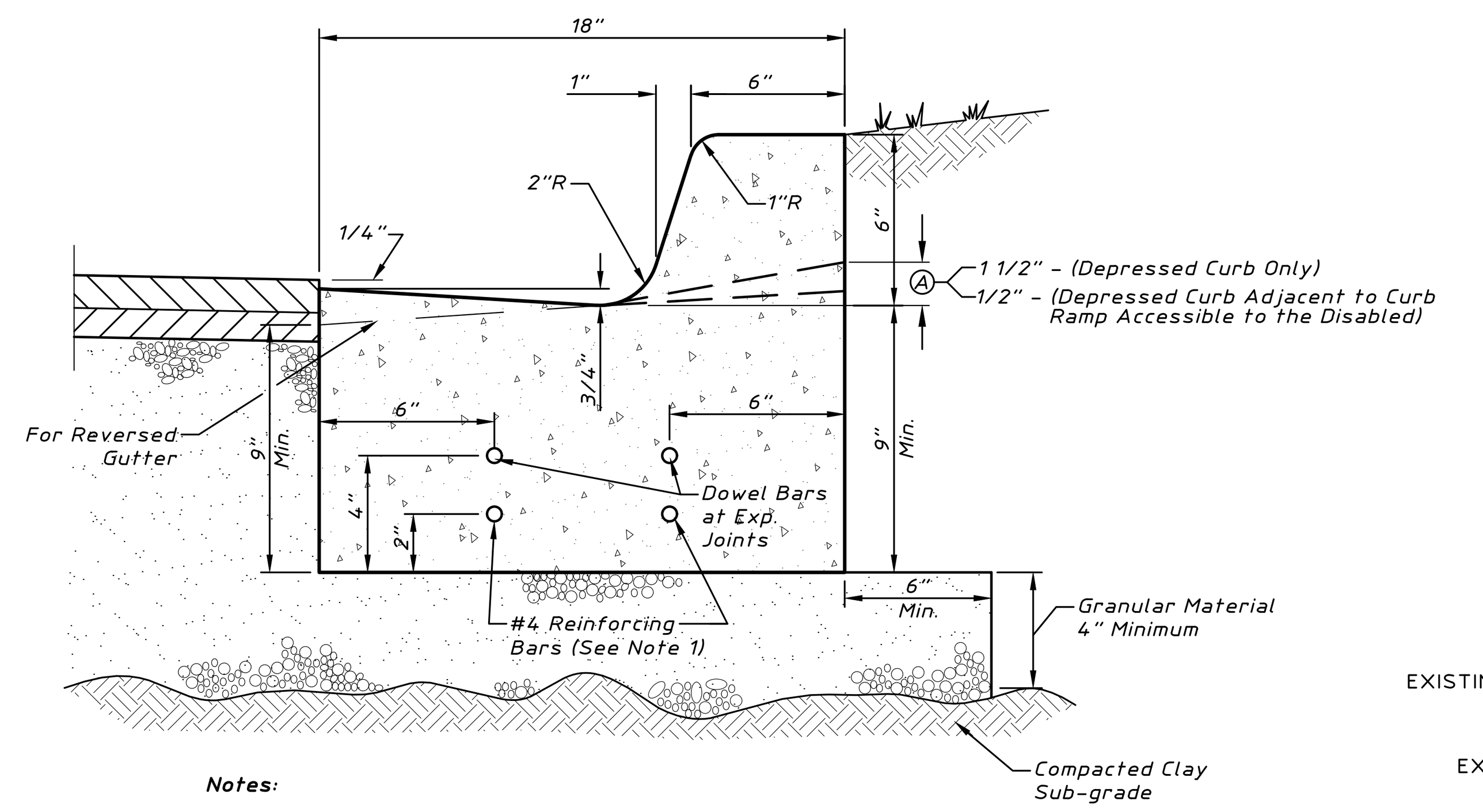
UTILITY PLAN

419 S. PINE AVENUE
TWO-LOT SUBDIVISION
LANDMARK CUSTOM HOMES

Project Manager:	M L A
Engineer:	M L A
Date:	04.30.2024
Project No.	24-042
Sheet	C6 / C7

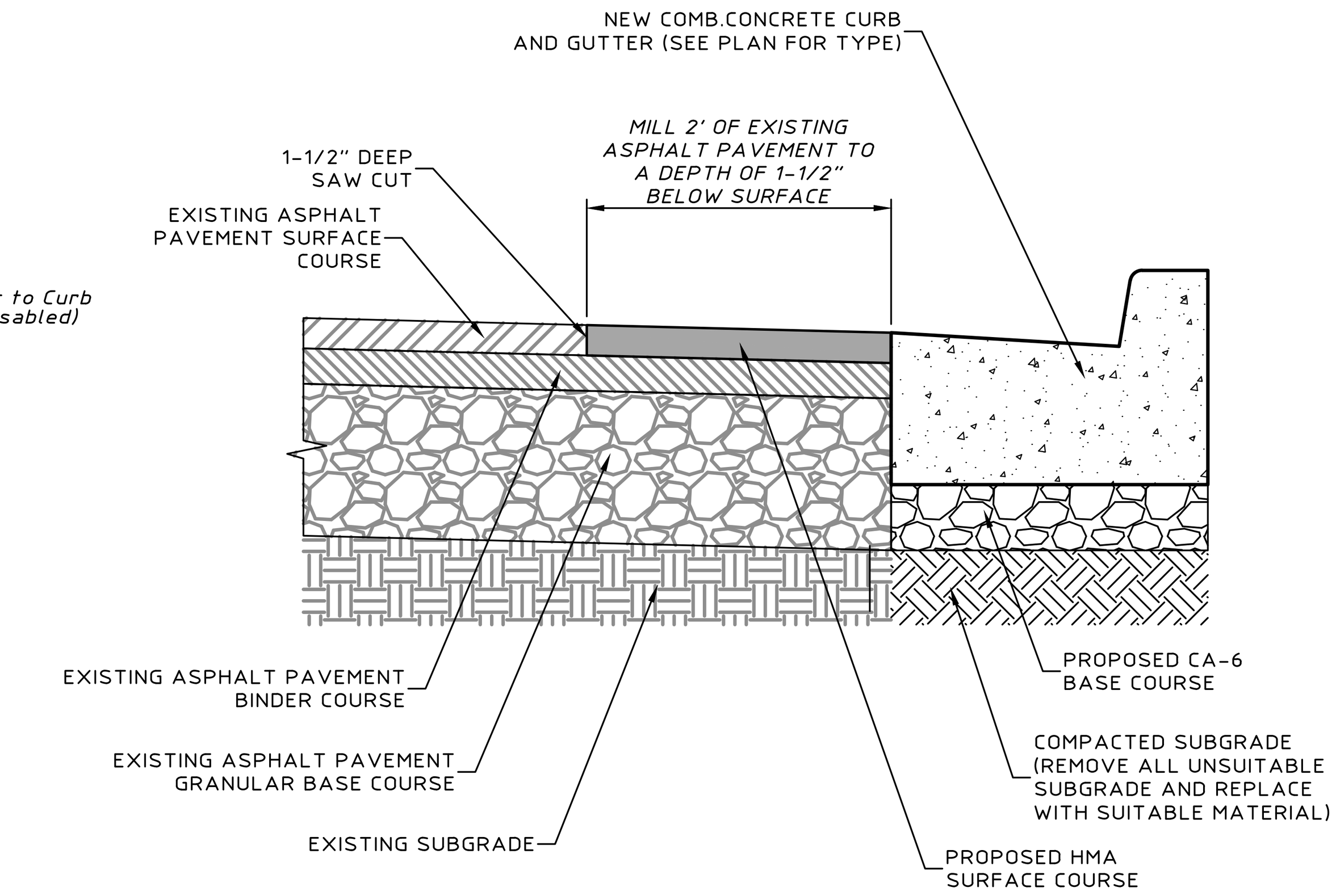
Plot Date: May 16, 2024 - 2:44pm Plotted By: mike-a
File Name: P:\2024\24042\Drawings\Final Engineering\24042 Final Engineering.dwg



Notes:

1. Use two #4 rebars for 10 feet on either side of all utility trenches.
2. A 1" expansion joint shall be installed at all points of curvature for short radius (under 45°) curves. Maximum expansion joint spacing is 60'. Expansion joints shall be constructed with 1" thick preformed expansion joint filler conforming to the curb & gutter cross section and shall be provided with two, 1-1/4"Ø, 18" long coated smooth dowel bar. The dowel bar shall be fitted with a cap with a pinched stop which provides a minimum of 1" expansion.
3. Maximum contraction (control) joint spacing shall be 20'.
4. Flag thickness shall match proposed roadway, or 9" minimum.
5. See plan set to determine where Standard, Reverse, Depressed, or Depressed Adjacent to ADA Accessible Ramp Curbs are proposed.

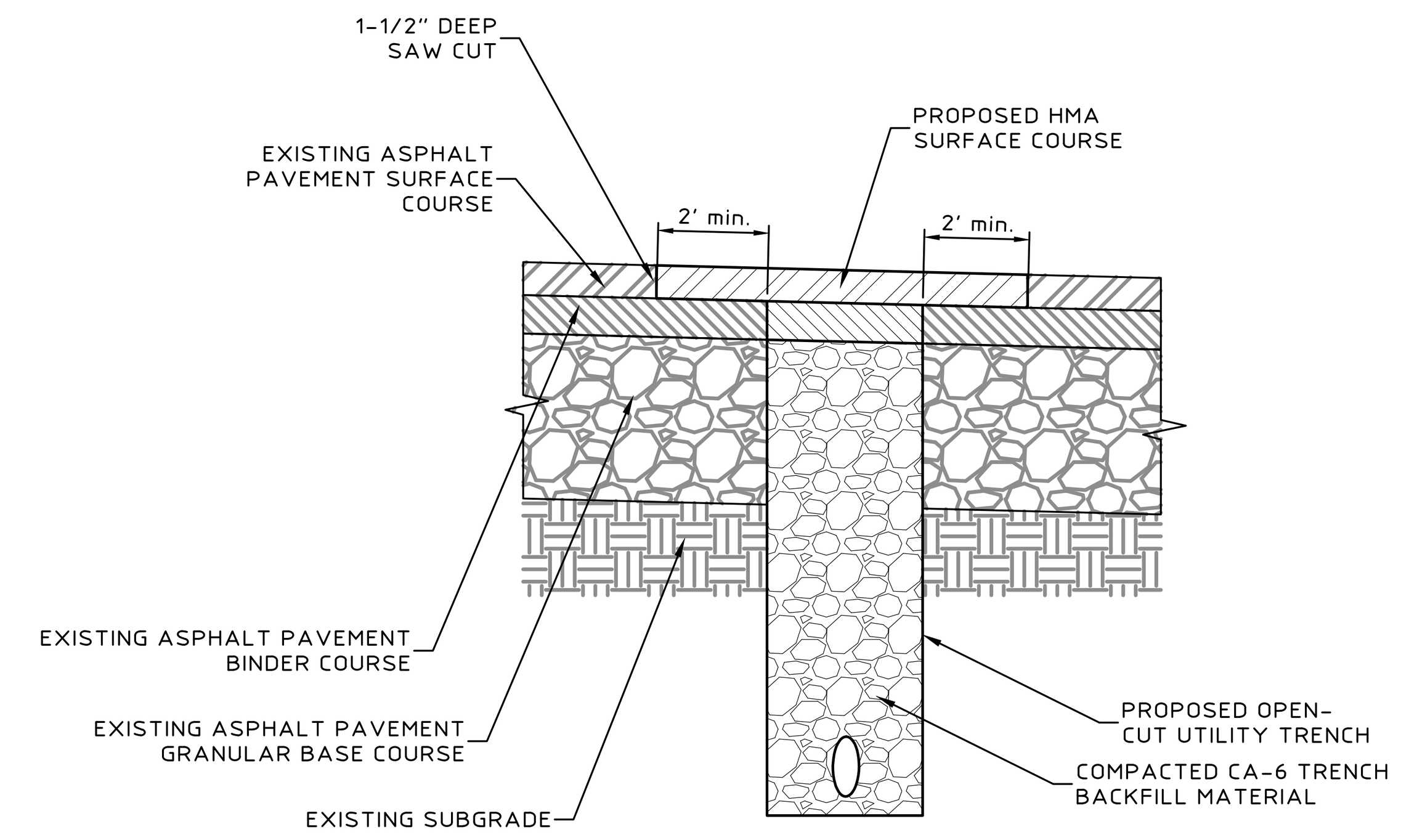
B-6.12 CONCRETE CURB & GUTTER



NOTES:

1. EXISTING PAVEMENT SECTION IS SHOWN FOR REFERENCE ONLY.
2. ALL ASPHALT MILLINGS SHALL BE DISPOSED OF BY THE CONTRACTOR.
3. BITUMINOUS TACK COAT SHALL BE APPLIED AT A RATE OF 0.1 GALLONS PER SQUARE YARD TO BOTH THE EXISTING AND PROPOSED ASPHALT BINDER COURSE PRIOR TO NEW HMA SURFACE COURSE INSTALLATION.

PAVEMENT PATCHING AT CURB AND GUTTER REMOVAL



NOTES:

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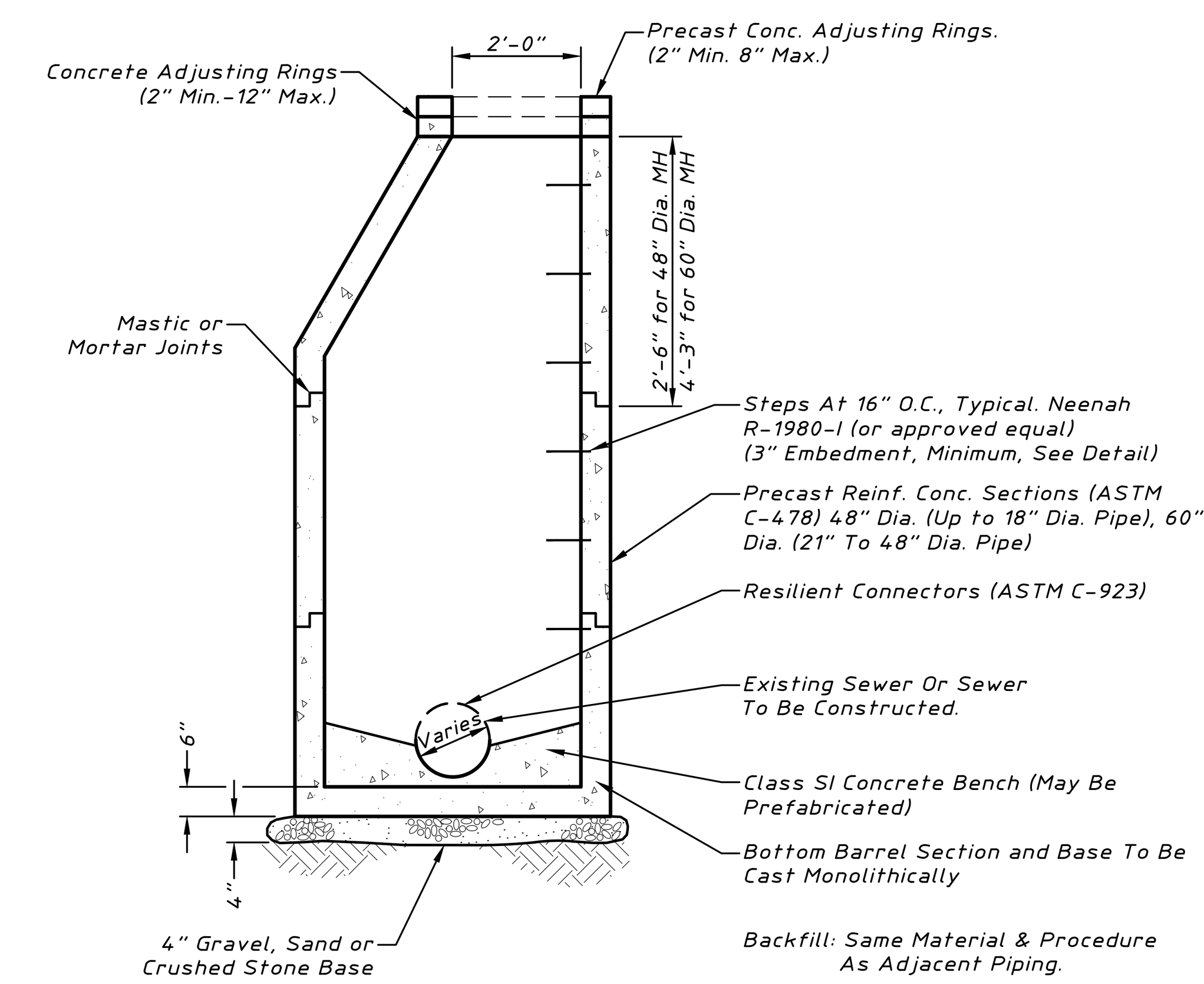
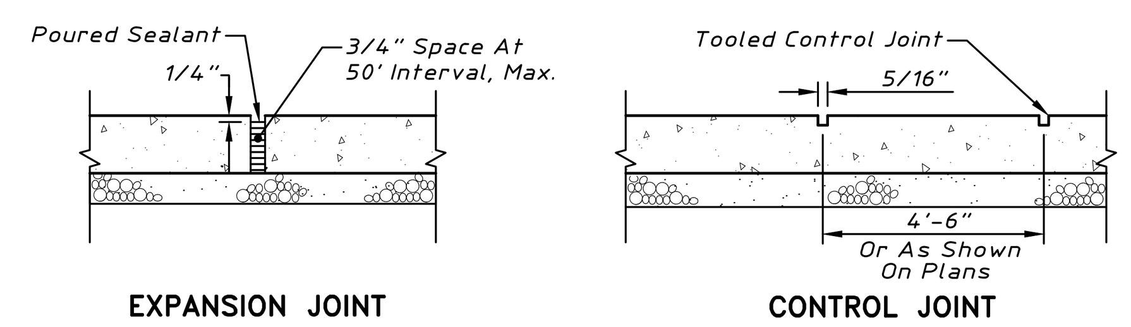
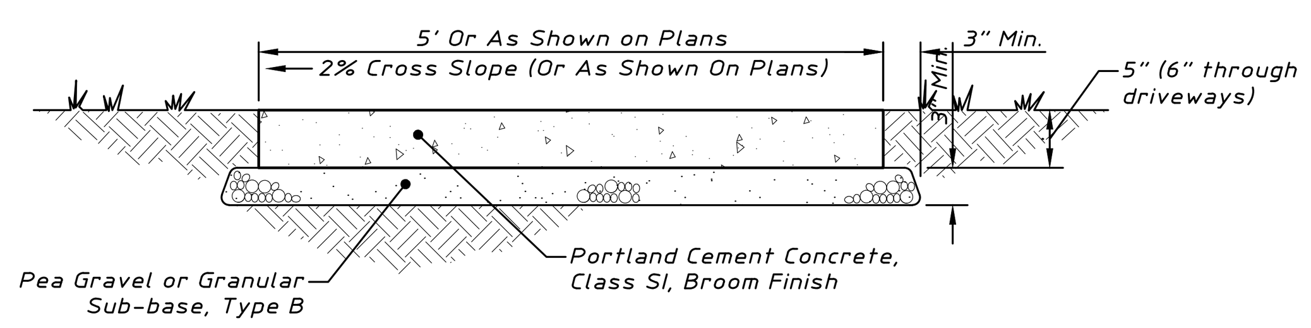
2. ALL ASPHALT MILLINGS SHALL BE DISPOSED OF BY THE CONTRACTOR.
3. BITUMINOUS TACK COAT SHALL BE APPLIED AT A RATE OF 0.1 GALLONS PER SQUARE YARD TO BOTH THE EXISTING AND PROPOSED ASPHALT BINDER COURSE PRIOR TO NEW HMA SURFACE COURSE INSTALLATION.

PAVEMENT PATCHING AT UTILITY TRENCH

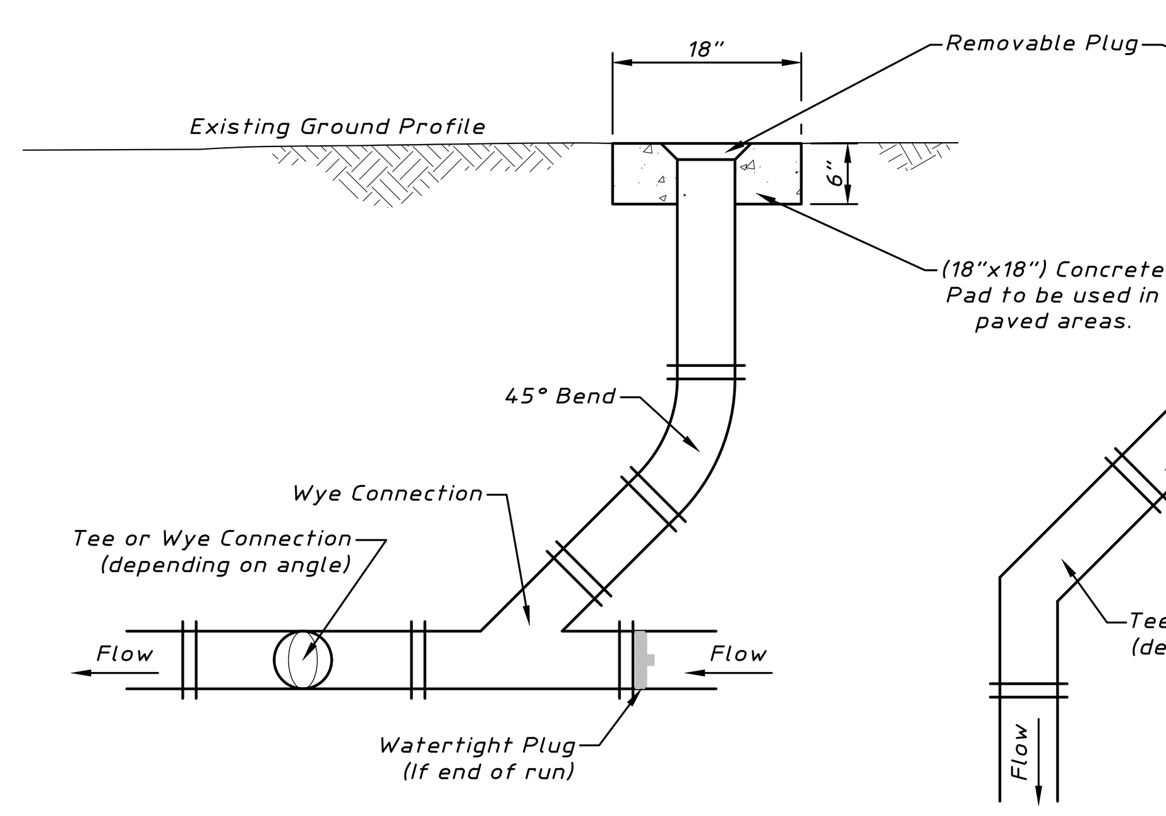


SANITARY MANHOLE - TYPE A

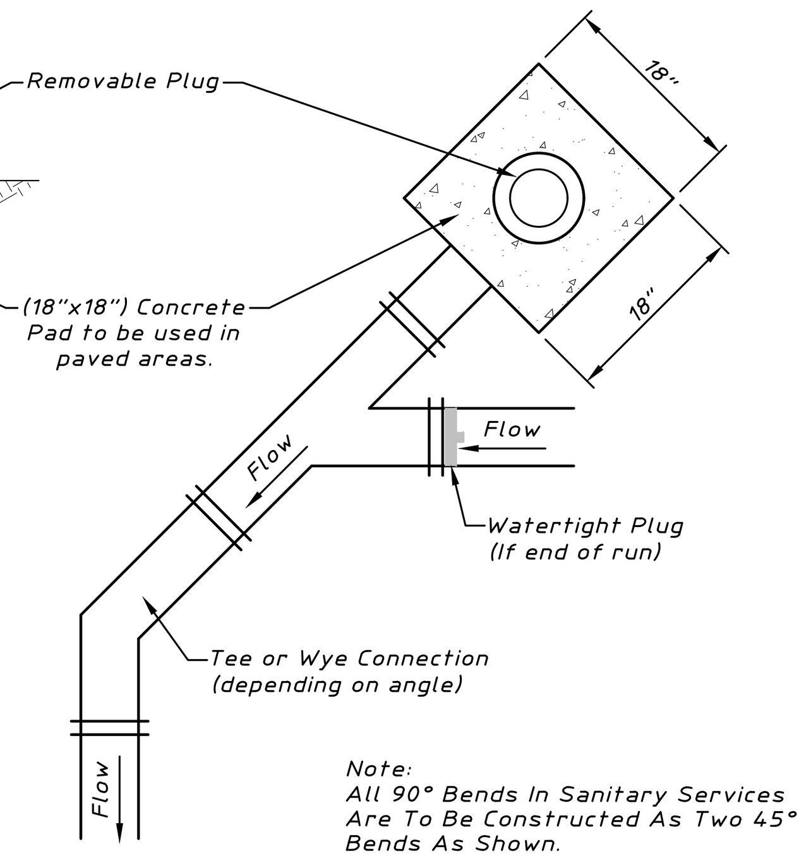




PORTLAND CEMENT CONC. SIDEWALK

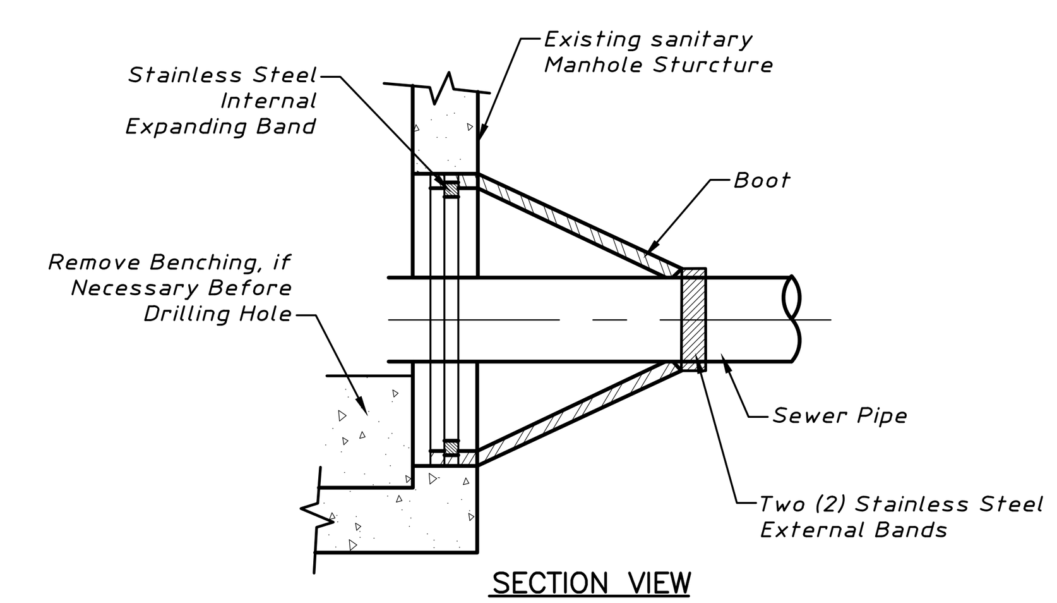


SECTION A-A



PLAN VIEW

SANITARY SERVICE CLEANOUT ALIGNMENT DETAIL

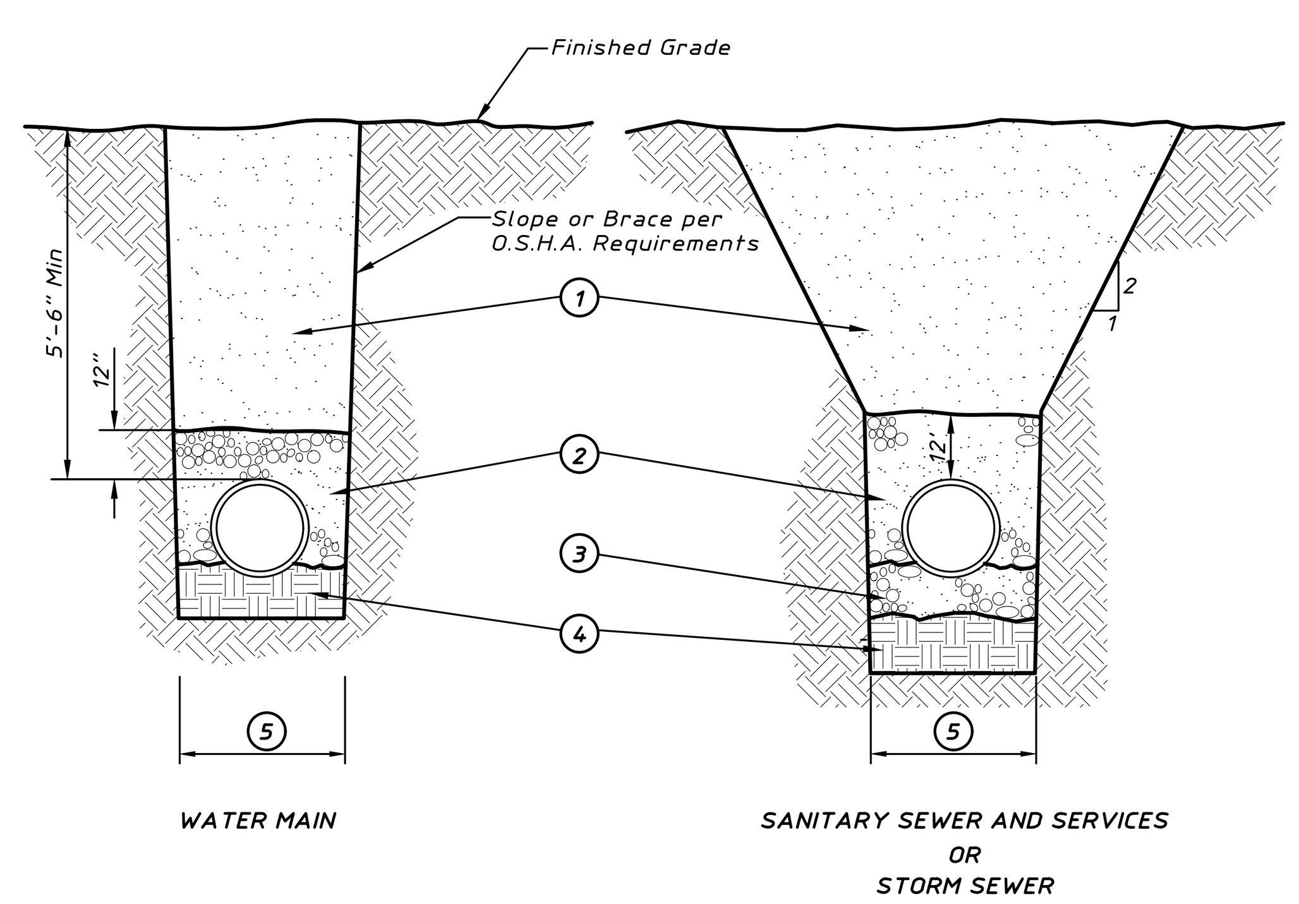


SECTION VIEW

NOTES:

1. Core-Drill Circular Opening in Manhole Wall of Diameter to Fit the Required Boot Size.
2. Kor-N-Seal Flexible Rubber Boot (Manufactured by National Pollution control systems, Inc. or as Approved by the Engineering Department shall be Used for Watertight Connection
3. Cut, Shape and Slope New Invert Channel in the Existing Concrete Bench for Smooth Flow from New Sanitary Sewer Connection.
4. Clean Existing Manhole of Any Dirt, Concrete or Debris which may Accumulate During Construction Process

SANITARY SEWER CONNECTION TO EXISTING STRUCTURE DETAIL



(1) CA-6 Trench backfill under pavement, curb and gutter as indicated in road subgrades and within 2 feet of any proposed curb and gutter or sidewalk. Mechanically compacted backfill of excavated materials in other locations if approved by the Village Engineer. Refer to note 3 below for materials and compaction requirements.

(2) WATER MAIN Compacted granular material per standard specifications for water and sewer main construction in Illinois, to 12" above top of pipe Compact to 95% (ASTM D-1557) 8" lifts max.

STORM SEWER Compacted granular material per standard specifications for water and sewer main construction in Illinois, to 12" above top of pipe. Compact to 95% (ASTM D-1557) 8" lifts max.

SANITARY SEWER (PVC or DIP) Compacted granular material per standard specifications for water and sewer main construction in Illinois, to 12" above top of pipe (also see note 1 below). Compact to 95% (ASTM D-1557) 8" lifts max.

(3) 4" Compacted granular bedding material. per standard specifications for water and sewer main construction in Illinois, 8" Lifts max. (Loose measure). Compact to 95% (ASTM D-1557).

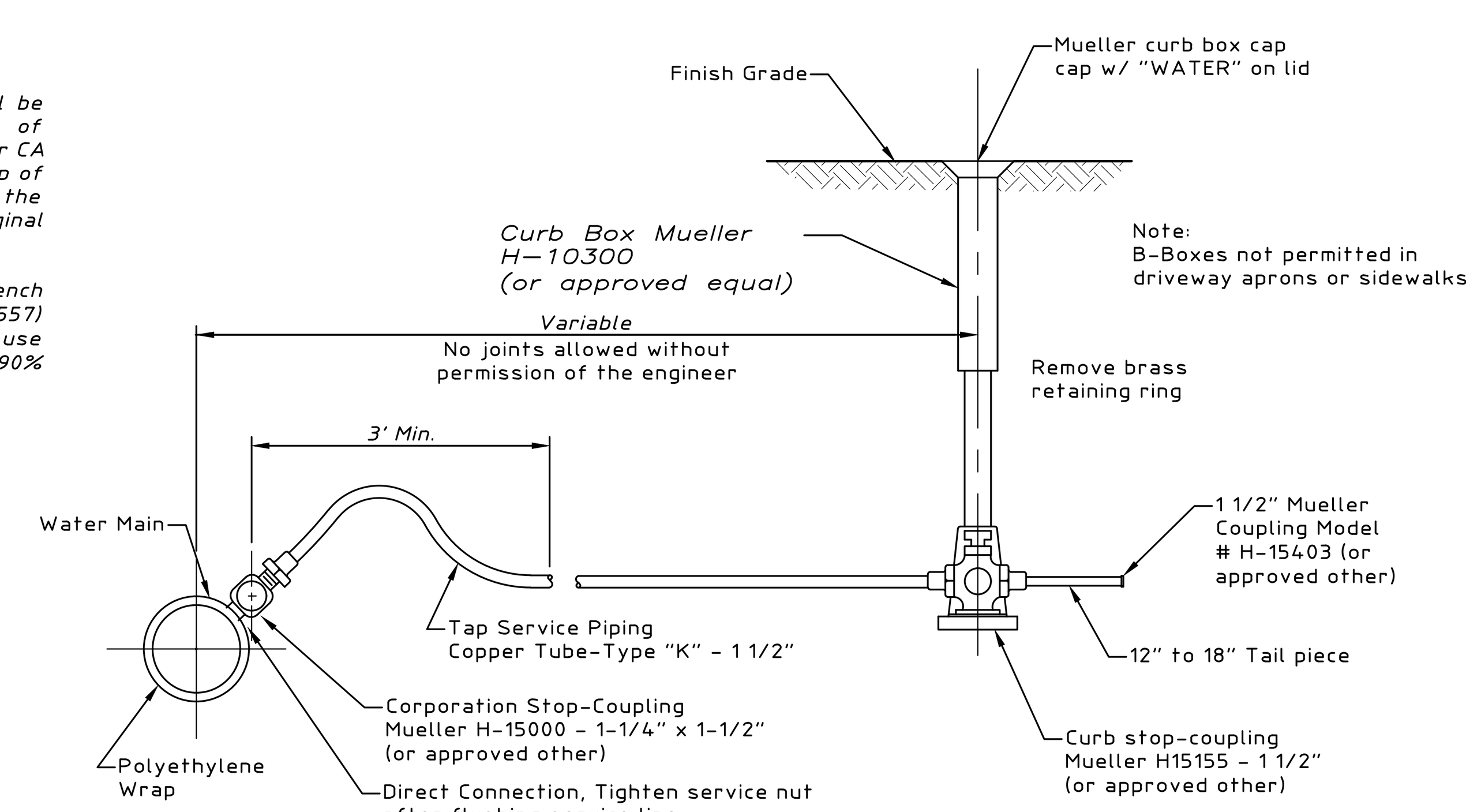
(4) Unsuitable material to be removed where directed by Engineer (to a minimum depth of 4") and replaced with suitable material and compacted.

(5) Trench Width - Pipe O.D. + 24" Minimum
Pipe O.D. + 36" Maximum

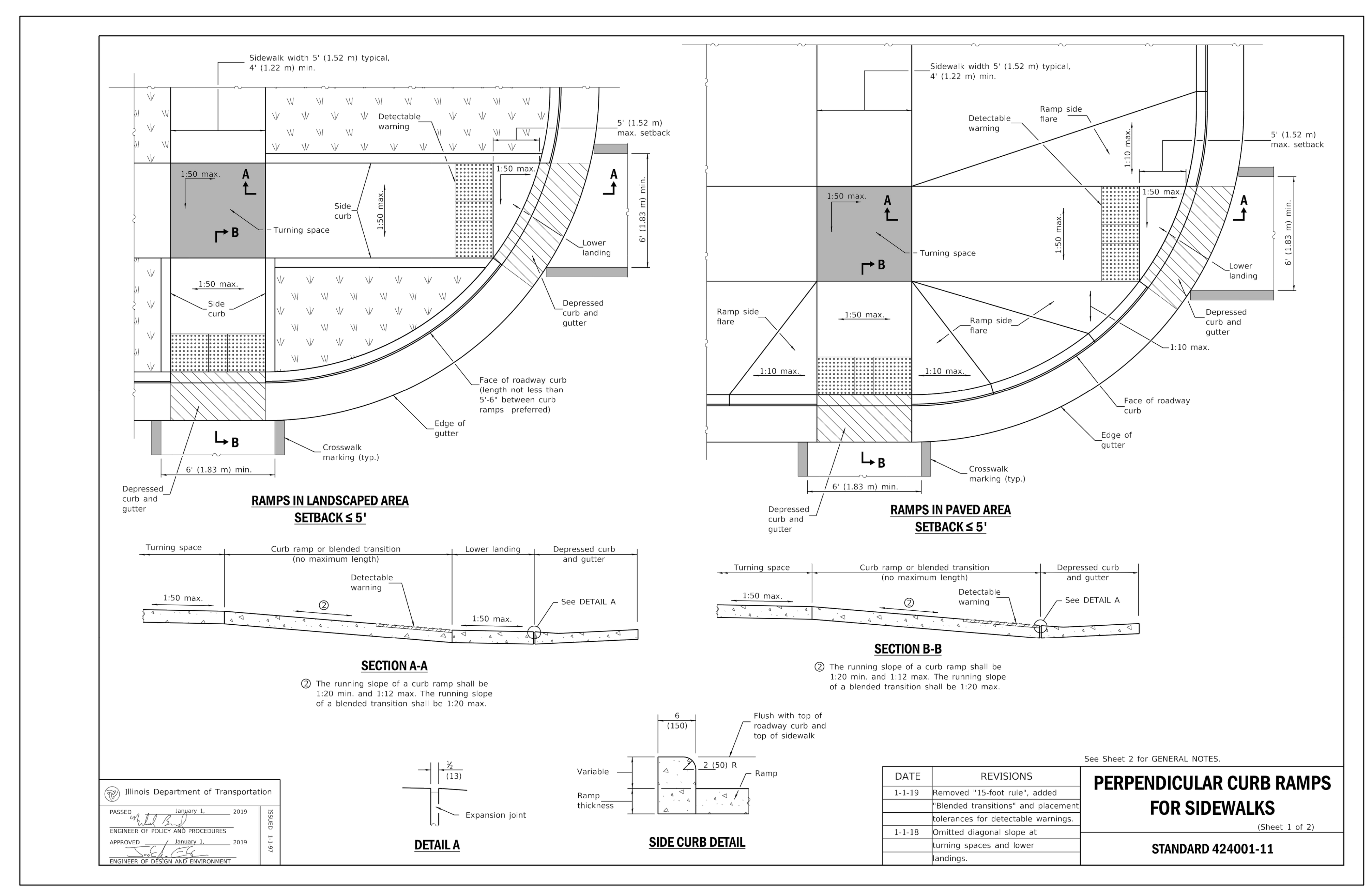
Notes:

1. PVC pipe conforming to the SDR specified in the plans shall be installed to the latest revised specification requirements of ASTM D-2321 using either compacted granular material CA 11 or CA 13 for bedding, haunching and initial backfill of 12" over the top of pipe to provide the necessary support fot the pipe so that the maximum deflection does not exceed 5% of the pipes original internal diameter.
2. All CA 6, CA 11 and CA13 to be IDOT approved.
3. Under or within 2 feet of pavement, curbs and walks use trench backfill and compact to 95% Mod. Proctor density (ASTM D-1557) 8" lifts maximum. (Loose Measure). In all other areas use excavated materials (unless noted otherwise) and compact to 90% (ASTM D-1557) 12" lifts maximum. (Loose measure).

TYPICAL TRENCH CROSS SECTION



WATER SERVICE DETAIL



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No.	Date	Revision
1	05.16.2024	Revised per Village Review

TYPICAL DETAILS

419 S. PINE AVENUE TWO-LOT SUBDIVISION

LANDMARK CUSTOM HOMES

Project Manager:	MLA
Engineer:	MLA
Date:	04.30.2024
Project No.	24-042
Sheet	C7 / C7