



MEETING DATE: September 5, 2023

TOPIC: PC 23-004: the Flats & the Lofts of West Village: PUD Site Plan Review

BACKGROUND BRIEF: West Village (the “Project”) is a proposed multiple-family residential planned unit development (PUD) located at 55 W. Elizabeth and consists of the redevelopment of the former Lake Orion High School/Ehman Community Center (the ‘Lofts’) and the construction of a new building on the same property (the ‘Flats’). The Lofts will include 29 apartments, office spaces, and meeting rooms - including a repurposed gymnasium that will serve as a community center and event space. The Flats will contain an additional 60 apartments, for a total of 89 dwelling units. The property is owned by West Village Owner, LLC (the Applicant).

The

ATTACHMENTS:

Planner - McKenna Letter - West Village PUD-Site Plan Review #2 - August 30, 2023

Engineer - M900 LT-02 Final PUD Review #2 REVISED

Fire Department - 55 West Elizabeth Street Flats at West Village Revised PUD Site Plan Review Letter

1. PUD Application Review Response 8-15-23 (1)

2. 55 West Village PUD Agreement (draft) 8-15-23

20230705125640616 - Attorney Notes_West Village PUD

West Village PUD Review 1 - July 11 2023 for Applicant to Address Outstanding Items (002)

West Village FD Site Plan Review Letter 7_10_2023

Exhibit C - Lake Orion School Parking License Agreement (1)

Exhibit D - Storm Water Easement

22-001 SW Easement R0

Exhibit A - 55 Elizabeth St. - Legal Description

M900 LT-01 Final PUD Review #1

23_8_15 21-167.1 A101 LOFTS SPA SET

23_8_15 21-167 A101 FLATS SPA SET



August 30, 2023

Planning Commission
Village of Lake Orion
21 E. Church St.
Lake Orion, MI 48362

Subject: PC 23-004: The Flats & The Lofts of West Village: PUD Site Plan, Review #2

Dear Commissioners,

West Village (the “Project”) is a proposed multiple-family residential planned unit development (PUD) located at 55 W. Elizabeth and consists of the redevelopment of the former Lake Orion High School/Ehman Community Center (the ‘Lofts’) and the construction of a new building on the same property (the ‘Flats’). The Lofts will include 29 apartments, office spaces, and meeting rooms – including a repurposed gymnasium that will serve as a community center and event space. The Flats will contain an additional 60 apartments, for a total of 89 dwelling units. The property is owned by West Village Owner, LLC (the Applicant).

PROJECT HISTORY, REVIEW, AND APPROVAL PROCESS

Rezoning (Map Amendment). In June 2021, the properties received Village Council approval to be rezoned from RV, Village Single Family Residential to the RM, Multifamily Residential District; the rezoning allowed for the development of multiple family residential units on the site.

PUD Eligibility. The Project received both Planning Commission and Village Council approval for PUD Eligibility in September 2021, including approval of the concept plan with a mix of uses and 89 residential units.

Preliminary PUD Plan. The Planning Commission held a public hearing for the Preliminary PUD Plan on October 4, 2021, and following deliberation, made a recommendation to Village Council for approval. Village Council subsequently granted Preliminary PUD Plan approval later that month. Final PUD approval would need to be received within 1-year of the preliminary approval, for which a 1-year extension was granted in November 2022.

Final PUD Plan (current step). The Planning Commission will review and approve/table/deny the final site plan associated with the development and recommend approval/tabling/denial of the PUD to the Village Council. Following a recommendation from the Planning Commission, the Village Council will make a final decision whether to execute the PUD agreement and allow the project to proceed as proposed. This meeting is tentatively scheduled for September 25, 2023; this will allow time for staff to review any revisions between the Planning Commission and Village Council meetings.

The Applicant has stated their desire to apply for building permits concurrently with final engineering review. It is expected this will proceed along with any final revisions to the PUD agreement. Construction must commence within 1-year of final PUD approval.

Construction / Engineering Review. Once the necessary approvals have been received from the Planning Commission and Village Council, the project must undergo a detailed engineering review of proposed site improvements.

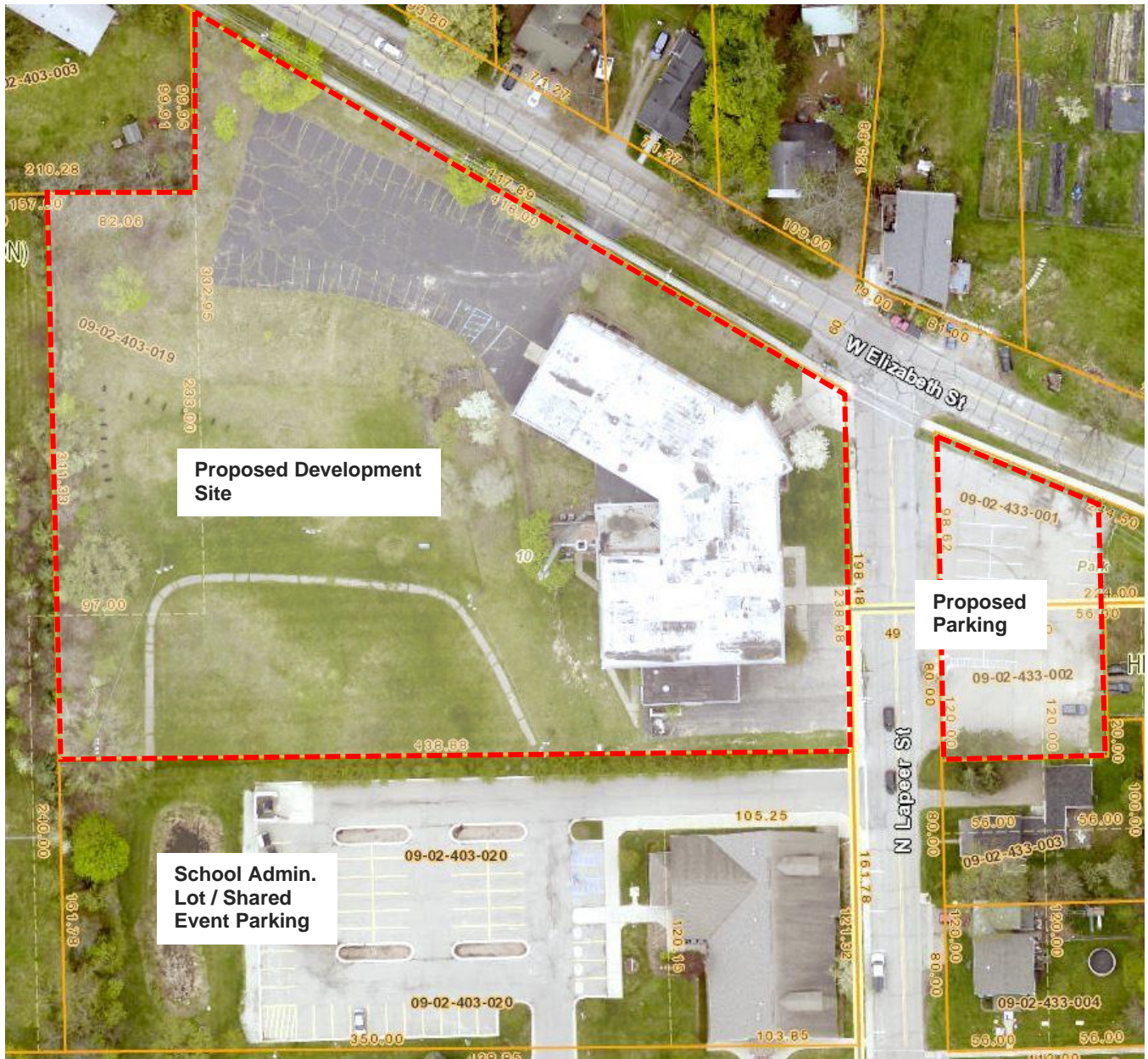
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SITE CONTEXT



SUMMARY OF COMPLIANCE

A summary of the site plan review findings is detailed in the table below. Further specifications, review, and recommendations regarding the site plan and various PUD considerations are detailed on the following pages.

Ordinance Standards	Compliance	Comments
Data Required	Complies	n/a
Use / Harmonious Design	Complies	n/a
Dimensional Standards	Complies	n/a
Natural Features / Landscaping	<u>Can Comply</u>	Additional details / corrections are required. As a PUD, environmentally sensitive landscaping and design techniques are highly encouraged.
Access / Circulation	<u>Can Comply</u>	Additional details / corrections are required, and discrepancies must be corrected. Fire Department approval is necessary.
Parking / Loading	<u>Can Comply</u>	Additional details / corrections are required.
Building Design / Architecture	<u>Can Comply</u>	Additional details / corrections are required.
Engineering / Stormwater Management	<u>Can Comply</u>	Subject to Village Engineering review.
Lighting	<u>Can Comply</u>	Additional details / corrections are required.

Site Plan Review

Standards for Site Plan Approval are set forth by [Article 19: Administrative Procedures and Standards](#). This project is reviewed against the Village's [Zoning Ordinance](#), Master Plan, existing site conditions, and sound planning and design principles. We offer the following comments for your consideration:

1. USE & HARMONIOUS DESIGN

Zoning Ordinance Standards: *All elements of the site must be harmoniously and efficiently designed in relation to the topography, size, and type of land, and the character of the adjacent properties and the proposed use. The site will be developed so as not to impede the normal and orderly development or improvement of surrounding properties for uses permitted on such property.*

Findings: The site is zoned the RM, Multiple Family Residential District where the residential uses are outlined and permitted in section 5.02. The Intent section of Article 5 reads:

... to address the varied housing needs of residents of different age and family groups by providing various types and sizes of residential dwellings for ownership or rental at a higher density than is permitted in any of the Single Family Residential Districts. Multiple family housing should be located near major thoroughfares and collector streets for good accessibility and must be designed so as not to overtax existing community facilities, utilities or services.

The proposed mixed-use development, including main component: 89 apartment units, is a suitable development type for the underlying RM, Multiple Family Residential District. The Project adheres to the accessibility intent of the district as it is located near two major thoroughfares (West Elizabeth Street and Lapeer Road). The development is also strategically designed to integrate with the sloping terrain in the middle of the site, allowing an additional lower level of living space while maintaining visual harmony with the historic Ehman Center structure and the surrounding neighborhood.

2. DIMENSIONAL STANDARDS

Zoning Ordinance Standards: *The site plan must comply with the district requirements for minimum floor area, height of building, lot size, yard space, density and all other requirements as set forth in the Schedule of Regulations.*

Findings: The Project complies with the dimensional standards of the RM, Multiple Family Residential District. The table below outlines the dimensional standards required and whether compliance has been met:

Dimensional Measurement	Required	Proposed	Comments
Min. Lot Area*	329,200 sq. ft.	142,831 sq. ft. (including adjacent proposed parking)	Complies (see footnote on the following page)*
Min. Lot Frontage	70'	417.89'	Complies.
Front Yard Setback	25'	38.4'	Complies.

Dimensional Measurement	Required	Proposed	Comments
Min. Side Yard Setback	15' (each)	25.5' (west); 38'.8 (east)	Complies.
Min. Rear Yard Setback	25'	30'	Complies.
Min. Floor Area: 1-Bedroom Unit	600 sq ft.	>600 sq ft.	Complies.
Min. Floor Area: 2-Bedroom Unit	800 sq. ft.	>800 sq. ft.	Complies.
Min. Floor Area: 3-Bedroom Unit	1,000 sq ft.	>1,200 sq ft.	Complies.
Max. Building Height**	40'	36' (to the roofline)	Complies.
Max. Lot Coverage (Buildings)	35%	24%	Complies.

*Section 12.02(h) stipulates minimum lot area per dwelling unit for multifamily structures: 3,600 sq. ft. per 1-bedroom unit, 4,000 sq. ft. per 2-bedroom unit, and 4,400 sq. ft. per 3-bedroom unit. With 68, 1-bedroom units, 20, 2-bedroom units, and 1, 3-bedroom unit, the entire development would require 329,200 sq. ft. of lot area. However, PUDs are allowed certain density bonuses, which the Planning Commission and Village Council approved in 2021, for a maximum of 89 residential units.

**The site plan shows the roof line at 36-feet above grade, with parapet walls extending to 38-feet and 41.5-feet above grade. Per the Ordinance definition for 'building height' as the highest point of the roof surface, the design complies.

3. NATURAL FEATURES, SCREENING & LANDSCAPING

Zoning Ordinance Standards: The existing natural landscape shall be preserved in its natural state as much as possible, by minimizing tree and soil removal and by topographic modifications that result in maximum harmony with adjacent properties.

There must be reasonable visual and sound privacy. Fences, walks, barriers, and landscaping must be used, as appropriate, for the protection and enhancement of property and the safety and privacy of occupants and users.

Findings: Since the site was previously developed and consists of the former school building, sports field, and parking lot, the applicant is enhancing the property through additional landscaping, pedestrian amenities, and preserving a historic structure.

Diversity of Landscaping Materials. No single species shall consist of more than 20% of any particular type of plant material provided on a site. The proposed landscaping plan complies, as it illustrates a variety of planting types that include multiple species and sizes of deciduous, ornamental, and evergreen trees as well as shrubs, grasses, and ground covers.

Parking Lot Interior. Landscaping areas equivalent to 5% of the vehicle use area are required for all parking lots of 20 spaces or more. One deciduous tree is required for every 150 square feet of interior landscape area. The applicant has provided a breakdown of the vehicular use area for each lot and has provided more than the required amount. The applicant has provided the square footage for each parking lot landscape island and associated landscaping and complies with Zoning Ordinance standards.

Parking Lot Perimeter. Per Section 15.02, perimeter landscaping shall be provided along the edge of any parking lot facing and located within 100 feet of a public right-of-way; including a minimum of one deciduous shade tree per each 30 linear feet and a continuous hedge of deciduous or upright evergreen shrubs planted not more than 30 inches on center. The site's northern (Elizabeth Street) parking lot has approximately 144 linear feet of frontage, exclusive of driveways, requiring 5 trees and a continuous hedge of upright shrubs. This landscaping is provided.

As per our previous recommendations, the applicant has provided dense evergreen screening along the proposed parking lots to shield residential properties along with foundational landscaping for the existing school building and proposed building.

Other. The applicant must show all proposed or existing mechanical equipment (transformer, A/C units, etc.) within the landscaping plans, which must be screened on three sides with upright evergreen shrubs. The applicant has noted that mechanical equipment on the Lofts will be screened with HVAC metal screening. This must be noted in a rooftop plan and the details about the HVAC metal screening (dimensions, color, etc.) must be provided.

Environmentally Sensitive Design. In addition to the adaptive reuse of the former school building, the applicant proposes on-site EV charging, open green space, and landscaping improvements. The applicant has made an effort to include tree species native to Michigan (white pine, sugar maple, tulip trees, etc.) As a PUD, additional design features should be explored, including the reduction of impervious surfaces, green roof technology, bioswales, rain gardens, etc., particularly as it relates to stormwater management and other engineering considerations. Further review by the Village Engineer is required.

4. ACCESS & CIRCULATION

Zoning Ordinance Standards: *All buildings or groups of buildings shall be so arranged as to permit convenient and direct emergency vehicle access.*

The arrangement of public or common ways for vehicular and pedestrian circulation shall respect the pattern of existing or planned streets or pedestrian or bicycle pathways in the vicinity of the site. Streets and drives that are a part of an existing or planned street system serving adjacent developments shall be of an appropriate width to the volume of traffic they are planned to carry and shall have a dedicated right-of-way equal to that specified in a recognized source of reference.

There shall be a pedestrian circulation system that is insulated as completely as possible from the vehicular circulation system.

Where the Planning Commission determines, after expert consultation, that public safety would be substantially promoted in a particular location by reducing the number of points of ingress and egress between private property and an adjoining highway, cross-access may be required. Shared drive approaches between adjoining parcels may also be permitted under this Section.

Findings:

Vehicular Access. Access to the site's northern 'Lofts' parking lot (facing Elizabeth) is provided via two, 30-foot-wide, two-way drives off Elizabeth. Access to the site's southern 'Flats' parking lot (facing the southern property line) is provided via one, 26-foot-wide, two-way access drive off Lapeer. Additional parking is proposed on the east side of Lapeer in the form of two small lots, one intended for public/Village parking and

the other intended for residents and guests of the Lofts. All parking lot maneuvering lanes are proposed to be 24- to 26-feet wide, with two-way access. On-street parking is also proposed along Elizabeth (four spaces) and Lapeer (two spaces).

Connecting the easternmost lots is a large driveway; the width of which is not provided. We recommend the applicant clarify the purpose of the large driveway and potentially explore extending the landscaping toward the road.

The residential neighbor (347 N Broadway Street) to the east of the 'Lofts' parking lot annex (east of Lapeer) will see vehicular access cut off to the existing gravel parking spaces on their property. The neighbor has no other vehicular access to their lot and has relied on access from the existing Village lot. It is highly recommended that a cross-access agreement be pursued to provide a curb cut directly into their lot.

Previously a compliant dumpster truck turning diagram was provided, however, it was not included in this submission. The applicant must resubmit the dumpster truck turning diagram as a part of the next submission. Emergency vehicle access is subject to review and approval by the Township Fire Chief.

Pedestrian Connectivity. The site has existing concrete sidewalks along the road rights-of-way and a continuous network of interior walkways is proposed around the 'Flats,' connecting both parking lots and buildings. The site plan shows designated bike parking near the north and south parking lots; details for the bike parking must be provided and consideration should be given to covered bike parking.

The interior walkways range from 5- to 10-feet wide: these should all be reduced to 4-feet in width to minimize impervious surface and/or provide additional room for parking spaces (see 'Parking and Loading' for further detail).

Regarding the proposed parking lots on the east side of Lapeer, a sidewalk must be installed along Lapeer to improve the walkability of the site and to ensure the longevity of the proposed landscaping. Further, crosswalk striping should be considered, in agreement with Village Council, to facilitate pedestrian travel from the parking lot to the existing concrete sidewalk leading into the event space.

There are discrepancies throughout the plans regarding the proposed location of sidewalk along Elizabeth Street and Lapeer. For example, within the photometric sheet, sidewalk is proposed to abut the on-street parking. The other sheets do not show the sidewalk abutting the on-street parking. Clarify the location of the sidewalks, especially what exists and what is proposed. All sheet details must be consistent with each other.

5. PARKING & LOADING

Zoning Ordinance Standards: *Off-street parking, loading, and unloading areas and outside refuse storage areas, or other storage areas that face or are visible from adjacent homes, or from public thoroughfares, shall be screened by walls, fencing or landscaping of effective height.*

Findings: Off-street residential parking is located within two primary lots on the site and one smaller, annexed lot across Lapeer. On-street parking is proposed for the event space, in addition to the modified Village parking lot across Lapeer, existing on-street parking, and parking available in the school administration parking lot to the south of the site. Throughout the plans, the Village parking is mislabeled as "City parking" and must be corrected.

All parking is designed at 90-degree angles; Article 14 stipulates all 90-degree parking stalls must be a minimum of 9 feet wide and 19 feet deep. There are several places where these minimums are not met, which could create pedestrian-vehicle conflicts or impact landscaping; compliance can be achieved by reducing maneuvering lane widths (min: 22-feet) and interior walkway widths (min: 4-feet). The applicant mentions that they intend to utilize 'overhangs', where a parking space may be reduced should a vehicle have enough space over landscaping or a sidewalk for it to overhang without interrupting pedestrian circulation. However, this is not permitted per section 14.04(3) of the Zoning Ordinance, as it states,

"In all cases where parking lots abut public sidewalks, continuous concrete curbing, at least six (6) inches high, shall be placed so that a motor vehicle cannot be driven or parked with any part of the vehicle extending within two (2) feet of a public sidewalk. In all cases where necessary for the protection of the public and the adjoining properties, streets, and sidewalks, curbs shall be installed. Further, anywhere that parking abuts a sidewalk or landscaping must be curbed – this must be shown in all parking lots."

Residential Units. Two parking spaces per dwelling unit are required; with 89 dwelling units proposed, 178 parking spaces are required. The applicant must clarify the total off-street parking provided for residential use within the chart on SP-101. 4 parking spaces will be equipped with EV charging and 6 will be barrier-free (van accessible). During the PUD Eligibility phase, this project was approved for 136 residential parking spaces.

Incidental signage and respective locations for barrier-free spaces, EV charging stations, etc. must be provided and detailed on a revised site plan.

Assembly (Event Space). One space per three persons at maximum occupancy is required, and with a capacity of 200 persons, 67 parking spaces are required. The applicant proposes 55 spaces located in the school administration lot to the south, plus 14 public parking spaces in the lot across Lapeer Street, and 20 on-street parking spaces, six of which are on-site, for a total of 69 off-street and 20 on-street spaces. The applicant has submitted a shared parking agreement with the school district for the use of the school administration lot (see Exhibit C). This shared parking agreement must be found acceptable to the Village attorney.

The applicant must consistently show the two on-street parking spaces on Lapeer Street, as sheet SP101 and the photometric plan are the only sheets that depict these spots. These two sheets contradict, as one shows a curb cut and one does not. We recommend the applicant install a curb cut for the two proposed Lapeer parking spaces or provide proposed striping. Further, the applicant must show the location of the additional 14 on-street parking spaces.

Loading Zone. In the previous proposed plan, the applicant proposed one, 12.5-foot by 18-foot loading zone in the north 'Lofts' parking lot and an additional loading zone near the western entrance to the Lofts. At this time, it appears that both loading zones were removed. With the proposed 3,992 sq-ft. event space, one (1) loading zone is required on the site.

6. BUILDING DESIGN & ARCHITECTURE

Zoning Ordinance Standards: *Building design and architecture shall relate to and be harmonious with the surrounding neighborhood in terms of texture, scale, mass, proportion, materials, and color. Buildings should be designed with stylistic harmony and aim to serve people of all ages and abilities.*

Findings:

Building Design. The existing building on site, the former Lake Orion High School and Ehman Community Center, was built in 1927. The building, with a footprint of over 17,000 sq. ft., has a flat roof and consists of three levels. The exterior of the former school building, now the 'Lofts,' will remain largely unchanged. As such, the building will retain its historical charm, including arched entryways, faux columns, unique brickwork, and subtle stepped cornices. By nature of the existing grade change, some of the lower-level units will have direct access outside, though most will simply retain the large windows and high ceilings of the old building.

The proposed Flats building, with a similarly sized footprint as the Lofts, is proposed to be four stories, including a lower level only visible from the east, west, and south. This design is intended to take advantage of the existing sloping terrain, providing an additional floor of living space while not exceeding building height requirements. This aids in maintaining harmony with the surrounding neighborhood and existing school building.

The proposed Flats building has a flat roof with parapet walls that vary in height across all elevations, providing relief to the large building. Patios are proposed on the lower levels with balconies on the upper levels. Balconies on the upper levels contain a decorative horizontal railing. Building materials vary across the facades, providing visual interest; however, the proposed building façades are consistent with each other.

Further, several bedrooms within both buildings are proposed without windows – this would need to be rectified prior to submitting building permits.

Building Materials. The Lofts will retain the historical brick and limestone from the former school building, while the Flats will have a contemporary composition. All sides of the Flats building are consistent in terms of material type, primarily comprised of utility brick, decorative precast panels, split face blocks, 8" horizontal composite siding, and 8" vertical composite siding. Limestone bands, brick soldier course, and brick rowlock course provide transitions between materials and relief.

In terms of color, the brick and limestone should match closely with the former school building to ensure some visual consistency. The proposed colors of the composite siding include grey and blue along with limestone and red brick. We recommend the applicant provide colored renderings to provide a better understanding of the proposed building material. The applicant has noted that material samples and color renderings are to be presented to the Planning Commission during the September 11, 2023, Planning Commission meeting. These materials and colored renderings are subject to Planning Commission approval.

Cross sections and elevations of the proposed dumpster enclosure and retaining wall have been provided. The plans note that the proposed dumpster enclosure will have 8" split-face block that will match the building and the proposed retaining wall will include a Kodah Gravity Wall, similar in color to the brick.

7. ENGINEERING / STORMWATER MANAGEMENT

Zoning Ordinance Standards: *Appropriate measures shall be taken to ensure that the removal of stormwater will not adversely affect adjoining properties or the capacity of the public storm drainage system and shall comply with State and Federal standards. Provisions shall be made for the construction of stormwater facilities, and the prevention of erosion and dust. Surface water on all paved areas shall be collected at intervals so that it will not obstruct the flow of vehicles or pedestrian traffic and will not create nuisance ponding in paved areas.*

Adequate services and utilities and improvements shall be available or provided, located and constructed with sufficient capacity and durability to properly serve the development. All utilities shall be located underground unless modified by the Planning Commission based on persuasive evidence provided by the applicant indicating it is not feasible to locate utilities underground. Where possible and practical, drainage design shall recognize existing natural drainage patterns.

Findings: All stormwater and utility requirements must be addressed to the satisfaction of the Village Engineer.

8. LIGHTING

Zoning Ordinance Standards: *Exterior lighting shall be so arranged so that it is deflected away from adjoining properties and so that it does not impede vision of drivers along adjacent streets.*

Findings: Building-mounted, light pole, and bollard fixtures are proposed throughout the Project site. The manufacturer's cut sheets for all lighting types have been provided.

20-foot pole lights are proposed for the parking lots and wall-mounted lights are proposed between 7.5-feet and 13-feet high around both buildings; 3.5-foot bollard lights are proposed along the walkways.

Additionally, a light fixture (F1) is noted at the former school building at 30 feet in height. This fixture is to replace an existing light and may be related to the existing cell tower or chimney stack on the site – if so, this must be noted. At most, light fixtures are permitted to be a maximum of 22-feet in height.

Standards	Required	Proposed Lighting	Comments
Max. Height of Light Fixtures	Less than 22 ft., or height of building	30 ft.	<u>May Comply</u>
Max. Illumination at Any Given Point	10.0 fc.	10.0 fc.	Complies.
Avg. Illumination of Parking Lot	1.0 fc.	1.0 fc.	Complies.
Max. Illumination at the Property Line	0.5 fc.	0.5 fc.	Complies.

Recommendation

We appreciate the project team's efforts in revising their site plan package for the redevelopment of this site. That said, there remain some outstanding items (underlined throughout this report, and summarized below); however, we believe our comments may be addressed administratively, prior to Council review and approval of the PUD agreement, and would not significantly impact the character of the site.

Therefore, *we recommend that the Planning Commission approve the site plan for the proposed Lofts and Flats at West Village at 55 W. Elizabeth Street (Parcel#: 09-02-403-019) and recommend approval to the Village Council of the proposed planned unit development agreement and rezoning, subject to the following conditions:*

- *The Township Fire Chief approves the interior site circulation, emergency access, and hookup locations.*
- *Sidewalk widths are reduced and their locations are confirmed/corrected on all sheets.*
- *Satisfactory dumpster truck turning plans are resubmitted.*
- *Parking stall dimensions are revised to meet Ordinance standards; maneuvering lane width reduction is considered.*
- *Number of parking spaces designated for residential use is clarified.*
- *Location and details of the on-street parking locations are clarified.*
- *Cross-access agreement and modified curbing is pursued with easterly neighbor (347 N. Broadway) to allow continued use of parking spaces.*
- *Shared parking agreement with school district for use of administrative lot is approved by the Village Attorney.*
- *The applicant provides, and the Planning Commission approves, the proposed material samples and color renderings for the façade of the proposed Flats building.*
- *The Village Engineer approves preliminary stormwater and landscaping plans and is satisfied with proposed grading and utility details; parking lot curbing required in some areas.*
- *The purpose of the F1 light fixture is clarified.*

If you have any questions, please do not hesitate to contact us. Thank you.

Respectfully submitted,

McKENNA


Gage Belko, AICP
Associate Planner


Ashley Amey
Assistant Planner

CC: **Village Manager**, Mr. Darwin McClary (mcclaryd@lakeorion.org)
Village Clerk, Ms. Susan Galeczka (galeczkas@lakeorion.org)

21 E. Church Street, Lake Orion, MI 48362



August 30, 2023

Darwin McClary
Village Manager
Village of Lake Orion
21 E. Church St.
Lake Orion, MI 48362

Re: West Village PUD
Final PUD Review #2 – revised 8/30/23
NFE Job No. M900

Dear Mr. McClary:

We have reviewed the Final PUD Plan for the above referenced site. Our review is consistent with the requirements of Article 11 and Article 19 of the Zoning Ordinance, Section D – Required Information and relevant sections of the Zoning Ordinance related to the zoning district. We offer the following comments:

From preliminary PUD requirements (NFE did not receive for review at that stage):

1. Per Section 11.05 A.1 Required Information, a metes and bounds survey and legal description is required. We note that the updated ALTA Survey does not match between the plan view and legal description in several calls (both on site plan SP 101 and ALTA survey); does not show the location of the Point of Beginning; shows metes and bounds in plan view for the parcel on the east side of Lapeer but provides an aliquot parts description from the tax roll; the north line of the east parcel appears to be longer than the dimensions per the plat and aliquot description, while the south line is shorter than described, implying a boundary survey may have been conducted and an updated legal description prepared. Overall, applicant must prove that the development they propose falls within the property to which they can show they possess title. Applicant has stated they will resubmit the Warranty Deed when it has been revised.

From Final PUD requirements:

1. We understand the issue of density was reviewed and approved earlier under the previous PUD ordinance.
2. Setback lines as shown do not appear to match the required setbacks for multiple family development per the Zoning Ordinance; however, it appears that the proposed building location would meet required setback criteria.
3. Verify that the required fire vehicle can maneuver around the reverse curve of the southern parking lot drive aisle. As shown, the vehicle is moving forward to the north while also moving forward to the south. The complete reverse curve movement is not shown.
4. Show what is proposed for the existing asphalt parking lot north of the east parcel. Is it to be removed? The proposed curb is shown ending somewhere within the existing asphalt pad, but no edge of road is shown. Will Lapeer Road be curbed from this point north to the existing sidewalk?

NOWAK & FRAUS ENGINEERS

We recommend this be required to provide a clearly defined pavement edge and prevent vehicle intrusion to the area shown as “seeded lawn” on the landscape plan.

5. Having spoken with the Fire Marshall earlier this morning, we understand that personnel access for emergency services related to the 14’ retaining wall has been approved as shown.
6. We note that the previous plan set included a sidewalk along the north and west sides of the Flats Building, which has been eliminated in this submittal, further restricting potential pedestrian access between the two levels of the site.
7. Sheet SP 101 indicates 2 proposed on-street parking spots on Lapeer Street. These are not shown on the proposed paving and grading plan.
8. The retaining wall as shown on sheet SP 101 has not been revised to follow the back of curb as shown on the civil plans and as indicated in the response letter.
9. The 5 parking spots at the southeast corner of the site are not shown in the table, and the “20 on street” spots cited in the table are not shown on any plan.
10. The total parking proposed on site (121) plus the dedicated annex parking (16) totaling 137 spaces equates to just over 1.5 spaces per residential unit. The Zoning Ordinance calls for 2.0 spaces per unit. This number does not include any on street parking or the 14 spaces in the City Parking lot. Again, if this issue was approved at the preliminary PUD stage, we apologize for creating any confusion.
11. We note that the Geometry Plan indicates standard parking stall depths of 18 feet along sidewalks and curbs, less than the 19’ specified in the Zoning Ordinance; however, the drive aisle width shown is 24’ (26’ in fire lanes) while the Ordinance specifies 22’ minimum. Between them, the overall width of the parking areas meets minimum required per Ordinance.
12. The plans indicate curb and gutter for the driveways into Elizabeth Street. We recommend the Village require curbing along the Elizabeth Street frontage and extension of storm sewer from the Lapeer Road intersection to an intercepting catch basin at the upstream side of the east driveway onto Elizabeth. Existing drainage along this relatively steep roadway consists of a partial roadside swale that tapers to nothing at the existing school driveway, causing runoff to reenter the street.
13. Location of the existing right of way for Elizabeth Street east of Lapeer Road must be shown. As proposed, it still appears that the “City Parking” lot may intrude into the road right of way, although we note that the proposed curb does not appear to extend beyond the current edge of asphalt parking lot. This information is also required to identify where the proposed landscape plantings fall in relation to the road right of way.
14. Two 12’ dimensions are shown in Lapeer Road on sheet UT-1 that do not appear to match either underlying topographic features or proposed pavement. Please clarify what is being shown.
15. The proposed increase in size of the existing detention basin on the Lake Orion Community Schools parcel to the south will involve removal of an existing fence line, brush and trees that currently exist and provide a visual screen between this parcel and the storage facility to the west. Only the fence is shown on the topographic survey. If screening will be required, the landscape plan must be revised to show this area.
16. We note that the applicant has shown that proposed site signage will be on the wall of the Flats Building, not free-standing.

17. The landscape plans still show proposed planting symbols to the west of the developer's site. Please clarify.

The following items can be addressed during review of the engineering plans. Comments are provided to allow design engineer to incorporate changes as needed in the final design.

18. Review of the Utility and Geometry Plan indicates that the proposed light poles may conflict with proposed storm sewer in the south parking lot and at the retaining wall. Locations can be coordinated during engineering design.
19. Detention plans must include provision for pretreatment or a sediment forebay and meet all requirements of the OCWRC as adopted by the Village of Lake Orion.
20. Revise the Standard Notes before engineering plan submittal to reflect Village of Lake Orion standards rather than Orion Township.
21. Applicant has stated in their response letter that grading has been "revised as possible". We continue to have substantial concerns regarding the overall grading of the site as proposed, and find that certain issues can be improved before submittal for engineering review. Specifically:
 - Address the overly steep west driveway area. One approach could be to maintain existing grade at the edge of road on the west side (~1018.2) and install a reverse curb to maintain 1018.2 at the right-of-way-line; slope across the drive at 2% and down the drive into the site at the maximum allowable driveway slope of 10% (12.5% shown currently). This lowers the proposed parking lot slope toward the Flats Building from over 9% to 6% and the slope back into Elizabeth Street along the east side of the entrance from over 10% to just under 5%. Remove and replace existing sidewalk to accommodate revised grading.
 - Lower the proposed grades along the southern driveway into the site to minimize the slope through the reverse curve. This may necessitate a grade break between the existing 1-story building east of the proposed dumpsters and the proposed driveway.
22. Review of the proposed Paving and Grading Plan indicates the following concerns remain:
 - We note that the design shows a revised retaining wall location near the existing cell tower. Installation of a retaining wall near the tower base will necessitate excavation which may affect its structural stability. Approval or a letter of no objection from the tower owner will be required as part of the engineering review.
 - The curb and gutter at the east edge of the Annex parking lot must be revised to a mountable section in order to not block the existing driveway access to 347 N. Broadway. An easement must be granted to guarantee access.
23. We note that the 15' access and utility easement in favor of the cell tower owner falls outside the proposed southern driveway. We recommend the applicant provide an easement over the proposed driveway to secure legal access to the tower site.

The comments above include more detail related to engineering design than is typical for site plan review, but are not a review of final engineering plans. Due to the extent and nature of the comments above, additional comments may appear in future reviews.

Complete Engineering Plans meeting the requirements of Ordinance 31.26, Design and Construction Standards must be submitted for review, and no construction shall begin prior to engineering approval.

We recommend the applicant revise and resubmit. If the Planning Commission chooses to approve subject to conditions, please recognize the following:

- If the fire vehicle cannot be proven to maneuver the reverse curve, corrections to the site plan would likely include removal of a number of proposed parking spaces in the "Flats Parking" area.
- In the event the cell tower owner does not accept the proposed excavation, grade change and retaining wall adjacent to the tower foundation, this condition would necessitate substantial changes to the site layout.
- And finally, the applicant has not provided a Warranty Deed showing legal title to the lands encompassed in this proposed PUD plan.

If you have any questions, please do not hesitate to call.

Sincerely,

Nowak & Fraus Engineers



Wendy E. Spence, PE
 Sr. Project Manager

CC: Laura Haw, McKenna
 Gage Belko, McKenna
 Wesley Sanchez, DPW Director
 Todd Stanfield, Interim Chief of Police, Lake Orion
 John Pender, Assistant Chief, Orion Township Fire Department
 Jeffrey Williams, Fire Marshall, Orion Township Fire Department
 David Goodloe, Building Official, Orion Township
 Susan Galeczka, Clerk, Lake Orion

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Charter Township of Orion

3365 Gregory Rd., Lake Orion MI 48359
www.oriontownship.org

8.A.c

Fire Department

Phone: (248) 391-0304, ext. 2000

Fax: (248) 309-6993

To: Darwin McClary, Village Manager
From: Jeff Williams, Fire Marshal
Re: Flats at West Village Revised PUD Site Plan Review
Date: August 25, 2023

The Orion Township Fire Department has completed its review of the application for Flats at West Village for the limited purpose of compliance with the Village of Lake Orion's Ordinance's, Michigan Building Code, and all applicable Fire Codes.

Based upon the application and documentation provided, the Fire Department has the following recommendation:

Approved
X Approved with Comments (See below)
Not approved

Comments:

- The Fire Hydrant located in the Southern parking lot, inside of the curbed island, shall be relocated to the outside / building side of the drive isle.

This approval is limited to the application and materials reviewed which at this time do not raise a specific concern with regard to location and/or impact on health and safety. However, the approval is conditioned upon the applicant providing sufficient additional information at time of building permit application that includes data or documents, confirming full compliance with all applicable building codes, fire codes and Township Ordinances.

If there are any questions, the Fire Department may be reached at 248-391-0304 ext. 2004.

Sincerely,

Jeffrey Williams

Jeff Williams, Fire Marshal
Orion Township Fire Department

Attachment: Fire Department - 55 West Elizabeth Street Flats at West Village Revised PUD Site Plan Review Letter (6245 : PC 23-004: the Flats &



Phone: 248.758-9925, Fax: 248.758-9926
www.WestConstruction.com

8.A.d

August 15, 2023

Planning Commission

Village of Lake Orion
21 E. Church St.
Lake Orion, MI 48362

Re: PC 23-004 - The Flats & The Lofts of West Village: PUD Site Plan, Review #2

Dear Commissioners:

Thank you for the opportunity to reply to the comments from the review panel regarding the initial PUD application submitted on June 19, 2023, for West Village (55 W. Elizabeth / Ehman Center).

To facilitate ease of use while reviewing the updated plans, we will address each of the review panels comments below:

Review comments from – Charter Township of Orion – Fire Department. Jeff Williams, Fire Marshal

- *The turning radius for the emergency apparatus road shall be in accordance with the Orion Township Fire Department turning performance analysis template. Overlays of the template shall be shown on the plans. The template shall be shown circulating all areas of both parking lots and verify that the vehicle can maneuver around the reverse curve of the southern parking lot drive aisle.*
 - **Information has been updated and submitted per the attached drawings (Exhibit B).**
 - **The overlay template has been added to SP 102.**
- *Details for No Parking Fire Lane signage including road striping (cross hatching) area shall be indicated on the plan. Fire department access roads 20 to 26 feet wide shall be posted with NO PARKING FIRE LANE signage on both sides of the fire apparatus access road. Fire department access roads greater than 26 feet shall only require posting on one side of the roadway.*
 - **Fire lane striping added to SP101.**
 - **Signage & Striping: No Parking signs shown on sheet UT-1 and noted on SP 101.**

Review comments from – McKenna

- *Natural Features / Landscaping - Additional parking lot screening and details for mechanical equipment screening are required. As a PUD, building foundation landscaping, and environmentally sensitive landscaping and design techniques are highly encouraged.*
 - **Please refer to updated plans. Mechanical units on Lofts roof to be concealed with HVAC metal screening. Any units required on the Flats building to be screened with parapet wall and HVAC metal screening where required.**

- *Access / Circulation – Existing vs. proposed sidewalks connections – clarification is required. Reduced sidewalk widths, crosswalk, and additional sidewalks must be considered. Fire Department approval is necessary.*
 - **Landscape plan, civil plan and site plan updated. North Side walk has been coordinated on all Site plan sheets.**
- *Parking / Loading - Parking space dimensions must be revised. A shared parking agreement is required for the use of the school administration lot. Cross access agreement with the adjacent neighbor is necessary encouraged. Signage must be detailed. Curbing required for all parking areas.*
 - **Loading area near lofts removed**
 - **Parking Stalls: All interior stalls are 9'x20' (more than min). All stalls abutting sidewalks are 9'x18' with 2' overhang. The sidewalks width are increased to 7' allowing overhang. Also, these sidewalks are integral walk & curb as shown on sheet GP-1.**
 - **Draft LO School administration parking lot shared parking agreement is attached. Please refer to Exhibit C. Please note that this document is currently working its way through the Administrations process.**
- *Building Design / Architecture – Material samples and colored renderings must be provided to the Planning Commission for approval. Interior layout and material discrepancies needs to be clarified/corrected.*
 - **Unit tables updated.**
 - **Material samples and colored renderings will be provided to Commissioners during the Sept 11, 2023, Planning Commission Meeting.**
- *Engineering / Stormwater Management - Subject to Village Engineering review.*
 - **See updated Civil Engineering drawings submitted to Village Engineer on 8-15-23.**
- *Lighting - Incorrect site layout used. Illumination exceeds maximums in several areas. Cut sheets required.*
 - **Cut sheets provided and Photometric plans updated.**
 - **Light fixture F1 is replacing an existing light fixture.**

Review comments from – Nowak & Fraus Engineers

From preliminary PUD requirements (NFE did not receive for review at that stage):

1. *Per Section 11.05 A.1 Required Information, a metes and bounds survey and legal description is required. We note that the ALTA Survey provided dates to 2014; is not signed or sealed; does not include a citation for the underlying subdivision in the legal description (necessary, since the legal refers to "said subdivision"); does not show all property line dimensions; does not show the location of the Point of Beginning; and specifically states that the boundary per the legal description does not close. The only area covered by the ALTA legal description is the main school site; the parcel on the east side of Lapeer Road was not included. This is also true of the Warranty Deed submitted as Proof of Ownership; it does not include the parcel on the east side of Lapeer Road.*
 - **Updated ALTA Survey has been provided as part of Exhibit B (Project Plans).**

- **For the Warranty Deed, we are currently working on a title clerical issue that will be provided to the Village when completed.**
2. *The topographic survey, which is included on the ALTA Survey, does not extend to 100' past the property lines (50' required in other Zoning Ordinance sections, but this is also not provided), is nine years old and thus does not show the current conditions, particularly at the intersection of Lapeer Road and Elizabeth Street.*
- **Updated ALTA Survey has been provided as part of Exhibit B (Project Plans).**

From Final PUD requirements:

1. *The legal descriptions provided between the various plans do not include either gross or net area while both are required. The site plan indicates a total site area of 3.3 acres but does not indicate whether this is the school site only or if it includes the parking parcel across Lapeer Road. If this parcel is not owned by the developer, we question if it can (or indeed has) been used in the density calculations.*
 - **Information has been updated and submitted per the attached drawings (Exhibit B).**
 - **The school property is 3.085, Lot 4 and Lot 3 on the East side of Lapeer Rd is 0.173 acres and the storm water retention easement on Lot 11 to the south of the school property is 0.409 acres (Exhibit D). This gives the project a total of 3.667 acres that is used for the density calculations.**
2. *None of the plans show the existing zoning of this or the surrounding parcels, as required.*
 - **Plans have been updated. Adjacent zoning has been added to SP 101.**
3. *None of the plans show the complete setback lines. In addition, the building footprint between the architectural site plan and the preliminary geometry plan are not the same. Provide correct building footprint and all proposed dimensions to property lines.*
 - **Setbacks added and footprint coordinated.**
4. *In general, the base plans underlying the photometric, landscaping, architectural and civil plans are not all consistent. Provide consistent existing and proposed improvements on all plans.*
 - **Information has been updated and submitted per the attached drawings (Exhibit B).**
5. *Plans do not show the location and height of all existing structures within 50' of the site (Preliminary PUD required information within 100').*
 - **Building footprint coordinated to show height of all existing structures within 50' of site.**
6. *Plans must show proposed fire lanes. We note that the width of the drive near the cell tower is shown as 25' 6" on the site plan but 26' on the preliminary geometry plan. 26' minimum is required. Also, the travel path of the design vehicle does not appear to be shown completely. It appears that the vehicle path was not completed before the template was restarted with straightened wheels. Verify that the required fire vehicle can maneuver around the reverse curve of the southern parking lot drive aisle.*
 - **Parking coordinated and updated per the attached drawings. Please refer to SP 101.**

7. *Plans are required to show the pavement width of the adjoining streets. We note that the ALTA Survey does not provide detail at the intersection, and the proposed changes shown on GP-1 and UT-1 do not appear to define the connection to existing topography. Only the landscape plan seems to include lines for the existing intersection and Elizabeth Street sidewalk east of Lapeer Road.*
 - **Information has been updated and submitted per the attached drawings (Exhibit B).**
8. *Height of proposed fences and walls is required. The retaining wall detail and dumpster screen do not indicate height, and the dumpster details are too small for clarity. Also, preliminary grading indicates that the retaining wall may be over 14' high. This will require sealed structural calculations at engineering review.*
 - **Dumpster & retaining wall details updated SP 102.**
9. *Location of the transformer pad and method of screening is required but not shown.*
 - **Transformer pad added to sheet SP 101.**
10. *Preliminary utility and detention facilities must be shown, with enough detail to indicate adequacy. Specific issues that are not addressed include the following:*
 - **SP 101 Site coverage table updated.**
 - *Site plan shows the site area as 3.3 acres, yet detention comps indicate just 3.08 acres tributary, which does not appear to include the school property to the south on which the detention pond is/will be located.*
 - **The school property is 3.085, Lot 4 and Lot 3 on the East side of Lapeer Rd is 0.173 acres and the storm water retention easement on Lot 11 to the south of the school property is 0.409 acres (Exhibit D). This gives the project a total of 3.667 acres that is used for the density calculations.**
 - *Proposed water main and fire service are not adequate as shown. The hydrant near the southeast corner of the Flats building is too close for safety in the event of a fire; the design standards require 50' from multi-family buildings, and approximately 5' is provided. The water main must be looped around the west side of the Flats and connect to the main in Elizabeth Street. As shown, the fire connections to the both buildings could not be accepted, as they are tied in to stub lines serving hydrants rather than the live main, which will be corrected by the proposed loop. The mechanical room location also makes it more practical to loop the main, since it is located at the "bend" of the Lofts. The existing mains in both Elizabeth Street and Lapeer Road are 8" diameter; provide an 8" loop through the site.*
 - **Water Main: Revised alignment, loop, hydrants, etc. See UT-1 plan.**
 - *Location and width of all proposed easements is required to be shown, including for the detention basin off-site.*
 - **Detention design revised.**
11. *The site planning criteria require areas of cut and fill to be identified on the plan, with a statement of how the grade changes will be addressed. This site includes substantial cuts at the north end of the Lofts building and all along the existing bluff, including near the existing cell tower.*
 - **Cut & Fill: Notes added GP-1 plan.**

12. *Include the flood plain location or a note indicating that the site is not within a designated flood plain.*
 - **Please refer top of provide ALTA Survey under “Surveyor’s Certificate”: Bottom of first paragraph reads “except as otherwise shown thereon, the subject premises are not located within any flood hazard or flood way area or district as designed by Federal, state or municipal authority”.**
13. *Outdoor light fixtures must be shown, with detailed information. We note that the proposed light poles are only indicated on the preliminary photometric plans, and not shown as required on landscaping, site plan, utility and geometry, or paving and grading plans.*
 - **Light poles added and updated per the attached plans.**
14. *The location and type of any proposed sign is required. If the only site-identifying signage is to be the existing school sign, please note this.*
 - **Sign outline added to elevations.**
15. *We note that the location of “optional” carports is shown, along with a detail. However, it appears that the carport supports will make the accessible stalls in the north parking lot non-complaint with ADA requirements. Also, we note that the ADA prefers accessible stalls to be located as close as possible to building entryways.*
 - **HC Stalls: Location revised.**
16. *The accessible stalls shown at the south end of the existing school building appear to include a ramped sidewalk as required, but then attach to the existing sidewalk which includes a step at the doorway to the proposed event venue. Indicate how this will be addressed to comply with ADA accessibility requirements.*
 - **HC Stall: Revised.**
17. *The submitted Traffic Impact Study indicates the proposed development will have minimal impact on the existing traffic of Lapeer Road and Elizabeth Street.*
 - **Acknowledged.**

Final Site Plan Requirements. We note that Final Site Plan approval as described in the Zoning Ordinance requires review of detailed final engineering plans, which are not provided with this submittal.

18. *Storm sewer profiles, size, slope, type, length and ground rim elevations are required but not provided. Also, what appears to be a proposed roof drain connection at the northernmost corner of the existing school building does not connect to anything.*
 - **Storm Profiles: TCE Will provide at final engineering stage.**
 - **Roof Drain: Removed.**
19. *Complete design of water main extensions.*
 - **Water Main Design: TCE Will provide at final engineering stage.**

20. *Soil Erosion Control Plan; we note that the plan submitted is marked “preliminary”.*
- **TCE Will provide at final engineering stage.**
21. *Complete grading plan; again, this is marked “preliminary”. Initial review of the proposed paving and grading plan indicates the following concerns:*
- **Grading Plan: TCE Will provide completed grading plan at final engineering stage.**
 - *Proposed slopes of over 50% at the northwest corner of the site, with only “gravity retaining rocks” indicated for support. A complete design of retaining structures must be provided. Also, show the existing off-site structure and the proximity to the proposed retaining wall / grade change.*
 - **Structural Design: TDG Architects will provide with final plans.**
 - *Proposed slope across the northern parking lot of nearly 13% flowing toward the building face.*
 - **North Parking Slope: Revised as possible.**
 - *Proposed slope of nearly 8% along the southern parking lot reverse curve.*
 - **South Parking Slope: Revised as possible.**
 - *Proposed contours shown at the end of the existing wall around the cell tower indicate a cut of over 10’ within approximately 5’ of the tower base. How is this going to affect the structural stability of the cell tower? Has this been coordinated with the tower owner? Approval by the tower owner will be required.*
 - **Cell Tower: Revised retaining wall location**
 - *Developer has mentioned utilizing parking in the adjacent school administration parking lot for future events. No connection is indicated between the two lots, though dashed lines seem to indicate a future connection, or possibly an easement. This needs to be clarified and labeled.*
 - **Adjacent Parking: Overflow parking only. No connection is proposed.**
 - *Location of the existing right of way, pavement edge and sidewalk in Elizabeth Street east of Lapeer Road must be shown. As proposed, it appears that the “City Parking” lot may intrude into the road right of way.*
 - **Plans have been updated.**
 - *Plan UT-1 does not show the proposed on-street parking and sidewalk indicated on the site plan.*
 - **Plans have been updated.**
 - *The parking count charted on the site plan does not appear to include the 5 stalls for “Lofts South”.*
 - **Elizabeth on-street parking added. Lapeer on-street parking removed.**
22. *The landscape plans must include the location, size and type of any tree larger than 3” caliper to be removed.*
- **Landscape plans have been updated and submitted per the attached drawings (Exhibit B).**

23. Both the site plan and the proposed landscape plans appear to show proposed planting to the west of the developer's site. Provide an easement and agreement with the adjoining owner if this is the case. This situation is also shown surrounding the "City Parking" lot east of Lapeer Road. Show the Elizabeth Street right of way and clarify where plantings are proposed in relation to it.

- **Landscape plans have been updated and submitted per the attached drawings (Exhibit B).**

Review comments from – Attorney's notes regarding PUD Agreement

- **Please see attached updated PUD Agreement (draft) 8-15-23.**

West Construction would again like to thank you for the opportunity to reply to the comments from the review panel regarding the initial PUD application submitted on June 19, 2023 for West Village (55 W. Elizabeth / Ehman Center).

We look forward to discussing this project in greater detail at your convenience. In the meantime, should you have any questions, comments or concerns, please don't hesitate to contact us.



Kyle J. Westberg,
CEO/President
P 248-758-9925 Ext 111
kwestberg@WestConstruction.com

List of Exhibits

- A. Property Description**
- B. Updated Project Plans (provided separately)**
- C. Draft Lake Orion School Parking License Agreement**
- D. Storm Water Easement**

PLANNED UNIT DEVELOPMENT AGREEMENT

This Planned Unit Development (PUD) Agreement is by and between WEST VILLAGE OWNER, LLC, a Michigan limited liability company whose address is 79 Oakland Ave, Pontiac, MI 48342 (Developer), and The Village of Lake Orion, 21 East Church Street, Lake Orion, MI 48362-3212, a Michigan municipal corporation (Village).

RECITALS

Whereas, Developer is the owner of the property described on the attached and incorporated Property Description Exhibit A (the Property), located in the Village of Lake Orion, Oakland County, Michigan; and

Whereas, Developer voluntarily proposed redevelopment of the Property as a PUD and has applied for approval of an amendment to the Village of Lake Orion Zoning Ordinance granting a rezoning of the Property to PUD, with such redevelopment to include renovation of the historic LO school building into 29 loft style apartments plus the construction of a new apartment building with 60 units, totaling 89 units for the project, including the repurposing of the gymnasium into a banquet facility for public use; and

Whereas, Developer is the developer and proprietor of the West Village Planned Unit Development (sometimes also referred to as the Development); and

Whereas, as part of the application and approval process, Developer has offered and agreed to make the improvements and to proceed with undertakings as described in the PUD Documents (as defined herein), which Developer and Village agree are necessary to (1) ensure that public services and facilities affected by the Development will be capable of accommodating increased service and facility loads caused by the Development, (2) ensure compatibility with adjacent uses of land, (3) promote use of the Property in a socially and economically desirable manner, (4) meet the eligibility provisions of the Village of Lake Orion Zoning Ordinance Article 11.02 (A through F), and (5) achieve other legitimate objectives authorized under the Michigan Zoning Enabling Act, MCL 125.3101 et seq.; and

Whereas, pursuant to a duly called meeting of the Village Council, the Village has reasonably considered the necessary recommendation of the Village of Lake Orion

Planning Commission and determined that it is appropriate to permit Developer to develop the Property as a PUD; and

Whereas, for the purpose of confirming the rights and obligations in connection with the improvements, development, and other obligations to be undertaken on the Property to the West Village 55 Planned Unit Development, the parties have entered into this Agreement to be effective on the effective date of the Village council resolution granting approval of the Planned Unit Development.

Now, therefore, as an integral part of the grant of the rezoning of the Development Parcel and approval of the Development on the Property, and for other good and valuable consideration, the receipt and sufficiency of which are acknowledged, it is agreed as follows:

1. DEFINITIONS AND COVENANTS

In addition to certain terms defined in other sections of this Agreement, the City and Developer agree that the following definitions and covenants contained therein shall apply to this Development Agreement:

- 1.1 “Village Ordinances” means all ordinances, enactments, rules, regulations and policies of the Village, including, but not limited to, zoning and land use ordinances and requirements; building codes, ordinances, uses and requirements; safety and health ordinances and requirements; site plan and building plan review and approval guidelines, procedures, requirements and conditions; ordinances, rules and regulations governing utilities, roads, curb cuts, site improvements, sidewalks, lighting and similar improvements; ordinances and rules assessing tap-in fees, connection charges, use fees, and any other fees, charges and expenses; and police, safety and traffic rules and regulations.
- 1.2 “Developer’s Site Plan” means the Site Plan submitted by the Developer, as reviewed, considered and recommended by the Village Planning Commission, and approved by the Village Council.
- 1.3 “Planned Unit Development Agreement” means this Agreement by and among the Village and Developer.
- 1.4 “Development Parcel” means the parcel that is subject to the Planned Unit Development, the legal description for which is attached as Exhibit A.
- 1.5 “Improvements” means those features and actions associated with a project which are considered necessary and required by a Village permit or approval or

this Ordinance to protect natural resources, or the health, safety, and welfare of the residents of the Village and future users or inhabitants of the proposed project or project area, including roadways, lighting, utilities, landscaping, parking, paving of parking and circulation areas, screening, and drainage. “Improvements” does not include the entire project which is the subject of the approval (see Sec. 2.02 Village of Lake Orion Zoning Ordinance).

- 1.6 “Party” or “Parties” means any one or more of the Village and Developer.
- 1.7 “Project Plan” means the drawings and plans attached as Exhibit B as revised to satisfy any and all conditions imposed by the Village Council.
- 1.8 “Planned Unit Development” means the designation of the Development Parcel as a Planned Unit Development pursuant to the Zoning Ordinance provisions and developed in accordance with this Agreement, the Project Plan and in compliance with all Laws and Village Ordinances.
- 1.9 “Transfer” or “Transferred” means the sale, exchange, assignment, conveyance, exchange, transfer, or other disposition in one or more transactions or events, directly or indirectly, of the legal or beneficial interest in all or any part of (a) the Developer’s interest in the Development Parcel, or (b) this Development Agreement or any beneficial interest therein; provided, however, that Developer may at any time freely (i) mortgage all or any part of the Development Parcel, or (ii) sell or lease or otherwise convey all or any part of the Development Parcel to an entity affiliated with Developer, or to any other Person or entity who agrees in writing to abide by the terms and conditions of this Development Agreement and the Project Plan (each, a “Permitted Transferee”), none of which shall be prohibited by this Development Agreement or otherwise.

2. **DESCRIPTION OF PROJECT**

- 2.1 **Project Description.** The Project involves the development of the Development Parcel as contained in the Project Plan and attached as Exhibit B. The project shall be constructed in compliance with the approved Project Plan and owned, operated, maintained and used in compliance with this Agreement and any and all Laws and City Ordinances.
- 2.2 **Development Parcel.** The property described in Exhibit A.
- 2.3 **Project Plan.** The Project is depicted in the Project Plan attached as Exhibit B, which was part of the Planning Commission approval, as revised to satisfy any and all conditions imposed by the City Commission. The Developer shall, or shall cause Permitted Transferees, to prepare and submit final construction

documents consistent with the Project Plan for each building (if applicable) and necessary to comply with all applicable Laws and City Ordinances.

2.4 Zoning. The Development Parcel is now hereby zoned Planned Unit Development pursuant to the City Ordinances.

2.5 Permitted Uses. The Development parcel shall be used for the construction and development of the original school building, and its 25 classrooms, office(s) and general purpose areas of the current structure, which is approximately 41,500 square feet, into 29 loft-style apartments; and, a newly constructed building, approximately 66,500 square feet, into another 60 apartments. Also included in this plan will be a commercial use of the existing historic gymnasium.

3. ESTABLISHMENT OF PUD, USE APPROVAL AND PUD PLANS

3.1 Establishment of the PUD and Approved Uses. The Development Parcel has been established as a Planned Unit Development under Article 11 of the Village Zoning Ordinance. Those uses described in Section 2, as well as the uses identified in the Project Plan along with such accessory and temporary uses that are customarily incidental to that permitted use as are approved by the Village under the Village Zoning Ordinance and this Agreement.

3.2 Approved Final PUD Plan. The PUD Plan consists of the individual plans listed on Exhibit B attached hereto. The PUD Plan has been approved by the Village as a Final PUD Site under the Village Zoning Ordinance.

3.3 Adherence to Plans. Developer has the authority and shall be responsible for completing the PUD in conformity with the Village Zoning Ordinance and this Agreement. The Development Parcel shall be developed in conformance with the PUD Plan, PUD Conditions and this Agreement and all future Owners shall be bound by the terms of this Agreement and Developer's authority and responsibility as stated herein.

3.4 Adherence to Ordinances. Except as otherwise provided herein, Developer shall adhere to all existing ordinances of the Village. In approving the PUD Plan, the Village has approved the deviations from the Village Zoning Ordinance that are identified in the attached Exhibit C. All improvements constructed in accordance with this Agreement, the PUD Plan and PUD Conditions shall be deemed to be conforming under the Village Zoning Ordinance, and in compliance with all ordinances of the Village as of the date of this Agreement.

3.5 Storm Water Drainage. Developer, at its sole expense, shall construct and maintain a storm water drainage system, in accordance with the PUD Plans, PUD

Documents, and all applicable ordinances, state laws, codes, standards, and regulations, as well as the approved site plan for each phase and subphase.

- 3.6 Water and Sanitary Sewer Systems. Developer shall, at its sole expense, construct and install improvements and/or connections tying into the municipal water and sewage systems in accordance with the approved PUD Plan and all applicable Village, state, and county standards, codes, regulations, ordinances, and laws. Developer shall, upon completion of installation and testing of the public water and sanitary sewer improvements for each phase of the Development, convey and dedicate all interest in such facilities to the Village by providing and executing documents and title work in accordance with all applicable Village ordinances and requirements.
- 3.7 Drives and Parking Lots. All drives and parking lots within and for the Development shall be designed, situated, and constructed in accordance with all requirements and applicable ordinances of the Village, the PUD Documents, and the approved PUD Plan. Developer shall pursue the necessary easements over adjoining properties in order to provide access to the Development, and to meet all parking requirements set forth in the PUD documents.
- 3.8 Timing and Phasing of Development. The timing and phasing of the PUD shall be in accordance with the PUD Plan. The construction of each unit may proceed independently of the commencement or completion of the other units, provided that the construction adheres to the PUD plan, PUD Conditions and the provisions of this Agreement.

4. EASEMENTS AND COVENANTS

- 4.1 Easements, Covenants and Restrictions. Developer shall execute and record any necessary Easements, Covenants and Restrictions against the Property to establish those easements that are necessary for the development and use of the Parcels as required by the Village Engineer. Such easements shall include, without limitation: (a) easements for the benefit of the Development Parcel to tie into and use certain sanitary sewer lines located within Development Parcel, (b) easements for the benefit of Development Parcel to tie into and utilize certain water lines within the Development Parcel, (c) an easement for the benefit of Development Parcel for ingress and egress to and from Elizabeth Street and Lapeer Street, (d) an easement for the benefit of Development Parcel for ingress and egress to and from for the benefit of Development Parcel to utilize the drainage swale, retention/detention, and drainage facilities located within the property adjoining the development parcel to the south, presently owned by Lake Orion Community Schools, (f) easements for emergency vehicles, (g) an easement to perform landscaping maintenance, (h)

an easement for the benefit of Development Parcel to drain storm water through and into the Storm Drainage and Detention Facilities. There has been submitted to the Village a proposed Declaration of Easements, Covenants and Restrictions, which contains the foregoing easements, and which is on file with the Village (the "Declaration of Easements, Covenants and Restrictions). The Village approves the form of such Declaration of Easements, Covenants and Restrictions as part of the PUD plan.

- 4.2 Dedication of Sanitary Sewer Lines and Water Lines. Developer shall dedicate the water lines and sanitary sewer lines within Development Parcel to the Village and, in connection therewith, grant to the Village easements for the maintenance, repair and replacement of such lines. Provided that such lines conform to applicable Village specifications, following the Village's inspection and approval of such lines, the Village shall accept the lines as public improvements. Upon dedication and acceptance of the water lines and sanitary sewer lines as public improvements, the Village shall take all necessary action to vacate all unnecessary water and sanitary sewer easements that the Village is grantee under, which currently burden the Property. Until such time as the water and sanitary sewer lines are dedicated to and accepted by the Village the village shall grant, for the benefit of Development Parcel, easements to utilize and maintain the water lines and sanitary sewer lines within the Development Parcel as required and verified by the Village Engineer.

5. DEFAULT AND REMEDIES

- 5.1 Default by Developer. The Developer's or Permitted Transferees' failure to perform any of its obligations under this Agreement, which remain uncured for a period of thirty (30) days following written notice by the Village, unless the default cannot be cured through the exercise of good faith and due diligence (including the expenditure of necessary funds), in which event the Developer or Permitted Transferees shall be entitled to an additional period of time to cure, provided and so long as the Developer or Permitted Transferees have diligently commenced the cure within such thirty (30) day period, completion of the cure within the thirty (30) days was not avoidable by the exercise of due diligence and the Developer or Permitted Transferees continue to prosecute the cure with due diligence and in good faith until cured. If Developer is not able to cure any such default within one hundred eighty (180) days of the written notice of default from the Village, additional time to effect a cure may only be granted by the Village Council, which such extension shall not unreasonably withheld.
- 5.2 Village Enforcement. In the event there is a failure to timely perform any obligation or undertaking required under or in accordance with the PUD Documents, the Village may serve written notice on Developer setting forth such

deficiencies and a demand that the deficiencies be cured within a stated reasonable time period, and the date, time, and place for a hearing before the Village Council, or such other Council, body, or official delegated by the Village Council, to allow Developer an opportunity to be heard as to why the Village should not proceed with the correction of the deficiency or obligation that has not been undertaken or properly fulfilled. At any such hearing, the time for curing and the hearing itself may be extended and/or continued to a date certain. The foregoing notice and hearing requirements shall not be necessary in the event Village determines in its discretion that an emergency situation exists requiring immediate action. If, following the hearing described above, the Village Council, or the other Council, body, or official designated to conduct the hearing, determines that the obligation has not been fulfilled or failure corrected within the time specified in the notice, or if an emergency circumstance exists as determined by Village in its discretion, Village shall then have the power and authority, but not the obligation, to take any or all of the following actions, in addition to any actions authorized under Village ordinances and/or state laws:

- 5.2.1 Enter the Property, or cause its agents or contractors to enter the Property, and perform such obligation or take such corrective measures as reasonably found by the Village to be appropriate. The cost and expense of making and financing such actions by the Village, including notices by the Village and legal fees incurred by the Village shall be paid by Developer. In the discretion of the Village, such costs and expenses may be collected by suit initiated against Developer and, in such event, Developer shall pay all court costs and attorney fees incurred by the Village in connection with such suit if the Village prevails in collecting funds.
- 5.2.2 Initiate legal action for the enforcement of any of the provisions, requirements, or obligations set forth in the PUD Documents. Except in emergency circumstances, Developer shall be provided notice of the deficiencies from the Village and shall be afforded an opportunity to timely correct. In the event the Village obtains any relief as a result of such litigation, Developer shall pay all court costs and attorney fees incurred by the Village in connection with such suit.
- 5.2.3 Issue a stop work order as to any or all aspects of the Development, deny the issuance of any requested building permit or certificate of occupancy within any part or all of the Development, regardless of whether Developer is the named applicant for such permit or certificate of occupancy, and suspend further inspections of any or all aspects of the Development.\

- 5.2.4 Developer shall INDEMNIFY AND SAVE HARMLESS the Village, its officers, agents and employees, and shall DEFEND the same from and against any and all liability, claims, loss damages, interest, actions, suits, judgments, costs, expenses, attorneys' fees, and the like, which result from or arise in the course of out of, or as a result of the performance, mis-performance, or nonperformance of Developer's obligations under this agreement or the negligent construction or operation of public improvements covered thereby until the dedication of said public improvements is accepted by the Village and after the dedication of said improvements only if the occurrence giving rise to the claim predates the dedication.
- 5.3 Default by the Village. The Village's failure to perform any of its obligations under this Agreement, which remain uncured for a period of ninety (90) days following written notice by the Developer or Permitted Transferees, unless the default cannot be cured through the exercise of good faith and due diligence (including the expenditure of necessary funds), in which event the Village shall be entitled to an additional period of time to cure as reasonably determined by the Developer or Permitted Transferees, but in no event beyond one hundred eighty (180) days, provided and so long as the Village has diligently commenced the cure within ninety (90) days of Developers notice and the Village continues to prosecute the cure with due diligence and in good faith until cured.
- 5.4 Default Remedies of the Developer. Upon an occurrence of an Event of Default by the Village, which remains uncured, after notice and failure to cure pursuant to this Development Agreement, the Developer or Permitted Transferees shall be entitled to the rights and remedies available at law or in equity.
- 5.5 Non-Liability of Individuals. No Village official, officer, employee, board member council member, elected or appointed official, attorneys, consultants, advisors, agents and representatives, shall be personally liable to the Developer for any default or breach by the Village of any obligation under this Development Agreement or in any manner arising out of the performance of this Development Agreement by any party or the Project. Moreover, no member, partner, official, officer, employee, board member, attorneys, consultants, advisors, agents, and representatives of Developer or Permitted Transferees, shall be personally liable to the City for any default or breach by any of them of any obligation under this Development Agreement or in any manner arising out of the performance of this Development Agreement by any Party or the Project.

6. MISCELLANEOUS

- 6.1 Binding Effect. This PUD Agreement shall be binding upon and inure to the benefit of the parties and their heirs, successors and assigns. The rights and obligations contained in this PUD Agreement shall run with the Property.
- 6.2 Authority. This PUD Agreement has been duly authorized by all necessary action of Developer and the Village, through the approval of the Village Council at a meeting duly scheduled and after appropriate notice was given, in accordance with the laws of the State of Michigan and the ordinances of the Village, duly resolving to approve the PUD Plan and this PUD Agreement and the terms contained herein. By the execution of this PUD Agreement, the parties each warrant that they have the authority to execute this PUD Agreement and bind the Property and their respective entities to its terms and conditions.
- 6.3 Amendment. This PUD Agreement shall only be amended pursuant to an instrument executed by the Village and Developer or their successors in title. No consent to the amendment of this PUD Agreement shall be required of any other Person, including mortgagees.
- 6.4 Captions. The captions preceding the text of each Article, section and subsection are included only for convenience of reference. Captions shall be disregarded in the construction and interpretation of this PUD Agreement. capitalized terms are also selected only for convenience of reference and do not necessarily have any connection to the meaning that might otherwise be attached to such term in a context outside of this PUD Agreement.
- 6.5 Partial Validity. Invalidation of any of the provisions contained in this PUD Agreement, or of the application thereof to any person by judgment or court order shall in no way affect any of the other provisions hereof of the application thereof to any other person and the same shall remain in full force and effect.
- 6.6 No Partnership. None of the terms or provisions of this PUD Agreement shall be deemed to create a partnership or joint venture between Developer and the Village.
- 6.7 Not a Public Dedication. Except as an express statement to the contrary herein, nothing contained herein shall be deemed to be a gift or dedication of any portion of the Property to the general public, or for any public use or purpose whatsoever. Except as herein specifically provided, no right, privileges or immunities of any party hereto shall inure to the benefit of any third party, nor shall any third party be deemed to be a beneficiary of any of

the provisions of this PUD Agreement.

6.8 Time. Time is of the essence to this PUD Agreement.

6.9 No Waiver. The failure of either party to insist upon strict performance of any of the terms, covenants, or conditions hereof shall not be deemed a waiver of any rights or remedies that such party may have hereunder, at law or in equity and shall not be deemed a waiver of any subsequent breach or default under this PUD Agreement. No waiver by either party of any default under this PUD Agreement shall be effective or binding on such party unless made in writing by such party and no such waiver shall be implied *from* any omission by the a party to take action with respect to such default. No express written waiver of any default shall affect any other default or cover any other period of time other than any default and/or period of time specified in such express waiver. One or more written waivers of any default under any provision of this PUD Agreement shall not be deemed to be waiver of any subsequent default in the performance of the same provision or any other term or provision contained in this PUD Agreement.

6.10 Running with the Land; Governing Law. This Development Agreement shall run with the land constituting the Property and shall be binding on and inure to the benefit of the Village and its successors, Developer, all future owners, developers, and builders of any part of the Development, all undersigned parties, and all of their respective heirs, successors, assigns, and transferees. An affidavit providing notice of the rezoning of the Property, the PUD Documents, this Development Agreement, and the general obligations relating to the PUD shall be executed by the property owners and may be recorded by any of the undersigned parties following the execution of this Agreement. This Development Agreement shall be interpreted and construed in accordance with Michigan law and shall be subject to enforcement only in Michigan courts. The parties understand and agree that this Development Agreement is consistent with the intent and provisions of the Michigan and U.S. Constitutions and all applicable law.

This Agreement was executed by the respective parties on the date specified with the notarization of their signatures and shall be considered to be dated on the date of the Village Council's adoption of the Ordinance Granting the West Village 55 Planned Unit Development, and shall take effect on the effective date of Village's Ordinance.

WITNESS:

DEVELOPER:

[Name of witness, typed or printed in
black ink]

WEST VILLAGE 55, LLC, a Michigan
limited liability company

 [Typed name of authorized signer]
 Its: [Title of authorized signer]

WITNESS:

 [Name of witness, typed or printed in
 black ink]

STATE OF MICHIGAN)
 [COUNTY] COUNTY)

Acknowledged before me in Oakland County, Michigan, by [name of officer or agent,
 title of officer or agent], of WEST VILLAGE 55, LLC, a Michigan limited liability
 company, on behalf of the company.

 [Notary public's name, as it appears on application for commission]

Notary public, State of Michigan, County of [county].

My commission expires [date].

[If acting in county other than county of commission: Acting in the County of
 [county].]

WITNESS:

 [Name of witness, typed or printed in
 black ink]

WITNESS:

 [Name of witness, typed or printed in
 black ink]

VILLAGE:

Village of Lake Orion, a Michigan
 municipal corporation

 [Typed name of authorized signer]
 Its: [Title of authorized signer]

[Signature line]
 [Typed name of clerk]
 Its: Clerk

STATE OF MICHIGAN)
 [COUNTY] COUNTY)

Acknowledged before me in Oakland County, Michigan, of Village of Lake Orion, a
 Michigan municipal corporation, on behalf of the corporation.

 [Notary public's name, as it appears on application for commission]

Notary public, State of Michigan, County of [county].

My commission expires [date].

[If acting in county other than county of commission: Acting in the County of [county].]

Drafted by:

[Firm name]

[Signature line]

[Typed name of attorney (P____)]

[Address, telephone, email]

When recorded return to:

[Name], Clerk

Village of **[Village]**

[Address, telephone]

LIST OF EXHIBITS (*specific to this PUD Agreement*)

- A PROPERTY DESCRIPTION
- B PROJECT PLANS SUBMITTED TO VILLAGE.
- C APPROVED DEVIATIONS/VARIANCES

EXHIBIT A**LEGAL DESCRIPTION OF THE LAND**

Property situated in the Village of Lake Orion, County of Oakland, State of Michigan, more particularly described as follows:

PART OF LOTS 9 & 10, DESCRIBED AS BEGINNING AT A POINT LOCATED DISTANT N 00°02'49" E 161.78 FEET FROM THE SOUTHEAST CORNER OF LOT 11 OF SAID SUBDIVISION, THENCE N 89°15'57" W 438.88 FEET, THENCE N 00°02'14" E 311.33 FEET, THENCE S 89°27'45" E 82.06 FEET, THENCE N 00°00'14" W 99.91 FEET, THENCE S 58°37'00" E 417.89 FEET, THENCE S 00°02'49" W 198.48 FEET TO BEGINNING, SUPERVISOR'S PLAT NO 8, VILLAGE OF LAKE ORION, OAKLAND COUNTY, MICHIGAN, ALSO, THE WEST 36 FEET OF THE NORTH 80 FEET OF LOT 3, ALSO NORTH 80 FEET OF LOT 4, BLK 24, HEMINGWAYS PLAT, VILLAGE OF LAKE ORION, OAKLAND COUNTY, MICHIGAN.

(Parcel Nos. 09-02-403-019 and 09-02-433-002) commonly known as 55 West Elizabeth St., Lake Orion, Michigan

EXHIBIT B
PLANS FOR WEST VILLAGE

Plans submitted to Village of Lake Orion along with PUD application and updates.

EXHIBIT C**APPROVED DEVIATIONS/VARIANCES**

Approved zoning variance to be provided by the Village of Lake Orion.

PLANNED UNIT DEVELOPMENT AGREEMENT

This Planned Unit Development (PUD) Agreement is by and between WEST VILLAGE OWNER, LLC, a Michigan limited liability company whose address is 79 Oakland Ave, Pontiac, MI 48342 (Developer), and The Village of Lake Orion 21 East Church Street, Lake Orion, MI 48362-3212, a Michigan municipal corporation (Village).

RECITATIONS

- A. Developer is the owner of the property described on the attached and incorporated Property Description Exhibit A (the Property), located in the Village of Lake Orion, Oakland County, Michigan. ✓
- B. Developer voluntarily proposed redevelopment of the Property as a PUD and has applied for approval of an amendment to the Village of Lake Orion Zoning Ordinance granting a rezoning of the Property to PUD, with the zoning on the Property to be known as the West Village Planned Unit Development, such redevelopment to include renovation of the historic LO school building into 29 loft style apartments plus the construction of a new apartment building with 60 units, totaling 89 units for the project, including the repurposing of the gymnasium into a banquet facility for public use. ?
- C. Developer is the developer and proprietor of the West Village Planned Unit Development (sometimes also referred to as the Development).
- D. As part of the application and approval process, Developer has offered and agreed to make the improvements and to proceed with undertakings as described in the PUD Documents (as defined herein), which Developer and Village agree are necessary and roughly proportional to the burden imposed in order to (1) ensure that public services and facilities affected by the Development will be capable of accommodating increased service and facility loads caused by the Development, (2) ensure compatibility with adjacent uses of land, (3) promote use of the Property in a socially and economically desirable manner, and (4) achieve other legitimate objectives authorized under the Michigan Zoning Enabling Act, MCL 125.3101 et seq. { rev + inc }
11.02
A. → F

→ Include necessary recommendation of Planning Commission

- E. Pursuant to a duly called meeting of the Village Council, the Village has determined that it is appropriate to permit Developer to develop the Property as a PUD.
- F. For the purpose of confirming the rights and obligations in connection with the improvements, development, and other obligations to be undertaken on the Property to the West Village Planned Unit Development, the parties have entered into this Agreement to be effective on the effective date of the Village council resolution granting approval of the Planned Unit Development.

Now, therefore, as an integral part of the grant of the rezoning of the Development Parcel and approval of the Development on the Property, and for other good and valuable consideration, the receipt and sufficiency of which are acknowledged, it is agreed as follows:

1. DEFINITIONS AND COVENANTS

In addition to certain terms defined in other sections of this Agreement, the City and Developer agree that the following definitions and covenants contained therein shall apply to this Development Agreement:

- 1.1 "Village Ordinances" means all ordinances, enactments, rules, regulations and policies of the Village, including, but not limited to, zoning and land use ordinances and requirements; building codes, ordinances, uses and requirements; safety and health ordinances and requirements; site plan and building plan review and approval guidelines, procedures, requirements and conditions; ordinances, rules and regulations governing utilities, roads, curb cuts, site improvements, sidewalks, lighting and similar improvements; ordinances and rules assessing tap-in fees, connection charges, use fees, and any other fees, charges and expenses; and police, safety and traffic rules and regulations. ✓
- 1.2 "Developer's Site Plan" means the Site Plan submitted by the Developer and reviewed and considered by the Planning Commission and approved by the Village Council. *and recommended*
- 1.3 "Planned Unit Development Agreement" means this Agreement by and among the Village and Developer.
- 1.4 "Development Parcel" means the parcel that is subject to the Planned Unit Development, the legal description for which is attached as Exhibit A.
- 1.5 "Improvements" means any improvement(s) which may be constructed from time to time on the Development Parcel including but not limited to, roads,

use § 2.02 zoning code def.

driveways and walkways, utilities, storm water systems, buildings, and landscaping and rights-of-way improvements, which Improvements shall be constructed in accordance with all Laws and Village Ordinances.

- 1.6 “Party” or “Parties” means any one or more of the Village and Developer.
- 1.7 “Project Plan” means the drawings and plans attached as Exhibit B as revised to satisfy any and all conditions imposed by the Village Council.
- 1.8 “Planned Unit Development” means the designation of the Development Parcel as a Planned Unit Development pursuant to the Zoning Ordinance provisions and developed in accordance with this Agreement, the Project Plan and in compliance with all Laws and Village Ordinances.
- 1.9 “Transfer” or “Transferred” means the sale, exchange, assignment, conveyance, exchange, transfer, or other disposition in one or more transactions or events, directly or indirectly, of the legal or beneficial interest in all or any part of (a) the Developer’s interest in the Development Parcel, or (b) this Development Agreement or any beneficial interest therein; provided, however, that Developer may at any time freely (i) mortgage all or any part of the Development Parcel, or (ii) sell or lease or otherwise convey all or any part of the Development Parcel to an entity affiliated with Developer, or to any other Person or entity who agrees in writing to abide by the terms and conditions of this Development Agreement and the Project Plan (each, a “Permitted Transferee”), none of which shall be prohibited by this Development Agreement or otherwise.

2. **DESCRIPTION OF PROJECT**

- 2.1 **Project Description.** The Project involves the development of the Development Parcel as contained in the Project Plan and attached as Exhibit B. The project shall be constructed in compliance with the approved Project Plan and owned, operated, maintained and used in compliance with this Agreement and any and all Laws and City Ordinances.
- 2.2 **Development Parcel.** The property described in Exhibit A.
- 2.3 **Project Plan.** The Project is depicted in the Project Plan attached as Exhibit B, which was part of the Planning Commission approval, as revised to satisfy any and all conditions imposed by the City Commission. The Developer shall, or shall cause Permitted Transferees, to prepare and submit final construction documents consistent with the Project Plan for each building (if applicable) and necessary to comply with all applicable Laws and City Ordinances.

2.4 Zoning. The Development Parcel is now hereby zoned Planned Unit Development pursuant to the City Ordinances.

2.5 Permitted Uses. The Development parcel shall be used for the construction and development of the original school building, and its 25 classrooms, office(s) and general purpose areas of the current structure, which is approximately 41,500 square feet, into 29 loft-style apartments; and, a newly constructed building, approximately 66,500 square feet, into another 60 apartments. Also included in this plan will be a commercial use of the existing historic gymnasium.

3. ESTABLISHMENT OF PUD, USE APPROVAL AND PUD PLANS

3.1 Establishment of the PUD and Approved Uses. The Development Parcel has been established as a Planned Unit Development under the Village Zoning Ordinance. Those uses described in Section 2, as well as, the uses identified in the Project Plan along with such accessory and temporary uses that are customarily incidental to that permitted use as are approved by the Village under the Village Zoning Ordinance and this Agreement.

3.2 Approved Final PUD Plan. The PUD Plan consists of the individual plans listed on Exhibit B attached hereto. The PUD Plan has been approved by the Village as a Final PUD Site under the Village Zoning Ordinance.

3.3 Adherence to Plans. Developer has the authority and shall be responsible for completing the PUD in conformity with the Village Zoning Ordinance and this Agreement. The Development Parcel shall be developed in conformance with the PUD Plan, PUD Conditions and this Agreement and all future Owners shall be bound by the terms of this Agreement and Developer's authority and responsibility as stated herein.

3.4 Adherence to Ordinances. Except as otherwise provided herein, Developer shall adhere to all existing and future ordinances of the Village. In approving the PUD Plan, the Village has approved the deviations from the Village Zoning Ordinance that are identified in the attached Exhibit C. All improvements constructed in accordance with this Agreement, the PUD Plan and PUD Conditions shall be deemed to be conforming under the Village Zoning Ordinance, and in compliance with all ordinances of the Village as of the date of this Agreement.

3.5 Storm Water Drainage. Developer, at its sole expense, shall construct and maintain a storm water drainage system, in accordance with the PUD Plans, PUD Documents, and all applicable ordinances, laws, codes, standards, and regulations, as well as the approved site plan for each phase and subphase.

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3.6 Water and Sanitary Sewer Systems. Developer shall, at its sole expense, construct and install improvements and/or connections tying into the municipal water and sewage systems in accordance with the approved PUD Plan and all applicable Village, state, and county standards, codes, regulations, ordinances, and laws. Developer shall, upon completion of installation and testing of the public water and sanitary sewer improvements for each phase of the Development, convey and dedicate all interest in such facilities to Village by providing and executing documents and title work in accordance with all applicable Village ordinances and requirements. *the*

3.7 Drives and Parking Lots. All drives and parking lots within and for the Development shall be designed, situated, and constructed in accordance with all requirements and applicable ordinances of Village, the PUD Documents, and the approved PUD Plan. Developer shall ~~use its best efforts and diligently~~ pursue the necessary easements over adjoining properties in order to provide access to the Development, and to meet all parking requirements set forth in the PUD documents. *the*

3.8 Timing and Phasing of Development. The timing and phasing of the PUD shall be in accordance with the PUD Plan. The construction of each unit may proceed independently of the commencement or completion of the other units, provided that the construction adheres to the PUD plan, PUD Conditions and the provisions of this Agreement.

4. EASEMENTS AND COVENANTS

4.1 Easements, Covenants and Restrictions. Developer shall execute and record any necessary Easements, Covenants and Restrictions against the Property to establish those easements that are necessary for the development and use of the Parcels. Such easements shall include, without limitation: (a) easements for the benefit of the Development Parcel to tie into and use certain sanitary sewer lines located within Development Parcel, (b) easements for the benefit of Development Parcel to tie into and utilize certain water lines within the Development Parcel, (c) an easement for the benefit of Development Parcel for ingress and egress to and from Elizabeth Street and Lapeer Street, (d) an easement for the benefit of Development Parcel for ingress and egress to and from for the benefit of Development Parcel to utilize the drainage swale, retention/detention, and drainage facilities located within the property adjoining the development parcel to the south, presently owned by Lake Orion Community Schools, (f) easements for emergency vehicles, (g) an easement to perform landscaping maintenance, (h) an easement for the benefit of Development Parcel to drain storm water through and into the Storm Drainage and Detention Facilities. There has been submitted to the Village a proposed *as required the Villa Engen*

Declaration of Easements, Covenants and Restrictions, which contains the foregoing easements, and which is on file with the Village (the "Declaration of Easements, Covenants and Restrictions"). The Village approves the form of such Declaration of Easements, Covenants and Restrictions as part of the PUD plan.

- 4.2 Dedication of Sanitary Sewer Lines and Water Lines. Developer shall dedicate the water lines and sanitary sewer lines within Development Parcel to the Village and, in connection therewith, grant to the Village easements for the maintenance, repair and replacement of such lines. Provided that such lines conform to applicable Village specifications, following the Village's inspection and approval of such lines, the Village shall accept the lines as public improvements. Upon dedication and acceptance of the water lines and sanitary sewer lines as public improvements, the Village shall take all necessary action to vacate all unnecessary water and sanitary sewer easements that the Village is grantee under, which currently burden the Property. Until such time as the water and sanitary sewer lines are dedicated to and accepted by the Village the village shall grant, for the benefit of Development Parcel, easements to utilize and maintain the water lines and sanitary sewer lines within the Development Parcel.

as required and verified by the Village engineer.

5. DEFAULT AND REMEDIES

- 5.1 Default by Developer. The Developer's or Permitted Transferees' failure to perform any of its obligations under this Agreement, which remain uncured for a period of thirty (30) days following written notice by the Village, unless the default cannot be cured through the exercise of good faith and due diligence (including the expenditure of necessary funds), in which event the Developer or Permitted Transferees shall be entitled to an additional period of time to cure, provided and so long as the Developer or Permitted Transferees have diligently commenced the cure within such thirty (30) day period, completion of the cure within the thirty (30) days was not avoidable by the exercise of due diligence and the Developer or Permitted Transferees continue to prosecute the cure with due diligence and in good faith until cured.

up to 180 days.

- 5.2 Village Enforcement. ~~In~~ In the event there is a failure to timely perform any obligation or undertaking required under or in accordance with the PUD Documents, Village may serve written notice on Developer setting forth such deficiencies and a demand that the deficiencies be cured within a stated reasonable time period, and the date, time, and place for a hearing before the Village Council, or such other Council, body, or official delegated by the Village Council, to allow Developer an opportunity to be heard as to why Village should not proceed with the correction of the deficiency or obligation that has not been

undertaken or properly fulfilled. At any such hearing, the time for curing and the hearing itself may be extended and/or continued to a date certain. The foregoing notice and hearing requirements shall not be necessary in the event Village determines in its discretion that an emergency situation exists requiring immediate action. If, following the hearing described above, the Village Council, or the other Council, body, or official designated to conduct the hearing, determines that the obligation has not been fulfilled or failure corrected within the time specified in the notice, or if an emergency circumstance exists as determined by Village in its discretion, Village shall then have the power and authority, but not the obligation, to take any or all of the following actions, in addition to any actions authorized under Village ordinances and/or state laws:

5.2.1 Enter the Property, or cause its agents or contractors to enter the Property, and perform such obligation or take such corrective measures as reasonably found by Village to be appropriate. The cost and expense of making and financing such actions by Village, including notices by Village and legal fees incurred by Village shall be paid by Developer. In the discretion of Village, such costs and expenses may be collected by suit initiated against Developer and, in such event, Developer shall pay all court costs and attorney fees incurred by Village in connection with such suit if Village prevails in collecting funds.

5.2.2 Initiate legal action for the enforcement of any of the provisions, requirements, or obligations set forth in the PUD Documents. Except in emergency circumstances, Developer shall be provided notice of the deficiencies from Village and shall be afforded an opportunity to timely correct. In the event Village obtains any relief as a result of such litigation, Developer shall pay all court costs and attorney fees incurred by Village in connection with such suit.

5.2.3 Issue a stop work order as to any or all aspects of the Development, deny the issuance of any requested building permit or certificate of occupancy within any part or all of the Development, regardless of whether Developer is the named applicant for such permit or certificate of occupancy, and suspend further inspections of any or all aspects of the Development.

5.3 Default by the Village. The Village's failure to perform any of its obligations under this Agreement, which remain uncured for a period of thirty (30) days following written notice by the Developer or Permitted Transferees, unless the default cannot be cured through the exercise of good faith and due diligence (including the expenditure of necessary funds), in which event the Village shall be entitled to an additional period of time to cure as reasonably determined by

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the Developer or Permitted Transferees, but in no event beyond ninety (90) days, provided and so long as the Village has diligently commenced the cure within such thirty (30) day period completion of the cure within the thirty (30) days was not avoidable by the exercise of due diligence and the Village continues to prosecute the cure with due diligence and in good faith until cured. 2005 180

5.4 Default Remedies of the Developer. Upon an occurrence of an Event of Default by the Village, which remains uncured, after notice and failure to cure pursuant to this Development Agreement, the Developer or Permitted Transferees shall be entitled to the rights and remedies available at law or in equity.

5.5 Non-Liability of Individuals. No Village official, officer, employee, board member council member, elected or appointed official, attorneys, consultants, advisors, agents and representatives, shall be personally liable to the Developer for any default or breach by the Village of any obligation under this Development Agreement or in any manner arising out of the performance of this Development Agreement by any party or the Project. Moreover, no member, partner, official, officer, employee, board member, attorneys, consultants, advisors, agents, and representatives of Developer or Permitted Transferees, shall be personally liable to the City for any default or breach by any of them of any obligation under this Development Agreement or in any manner arising out of the performance of this Development Agreement by any Party or the Project.


6. MISCELLANEOUS

6.1 Binding Effect. This PUD Agreement shall be binding upon and inure to the benefit of the parties and their heirs, successors and assigns. The rights and obligations contained in this PUD Agreement shall run with the Property.

6.2 Authority. This PUD Agreement has been duly authorized by all necessary action of Developer and the Village, through the approval of the Village Council at a meeting duly scheduled and after appropriate notice was given, in accordance with the laws of the State of Michigan and the ordinances of the Village, duly resolving to approve the PUD Plan and this PUD Agreement and the terms contained herein. By the execution of this PUD Agreement, the parties each warrant that they have the authority to execute this PUD Agreement and bind the Property and their respective entities to its terms and conditions.

6.3 Amendment. This PUD Agreement shall only be amended pursuant to an instrument executed by the Village and Developer or their successors in title. No consent to the amendment of this PUD Agreement shall be required of any other Person, including mortgagees.

- 6.4 Captions. The captions preceding the text of each Article, section and subsection are included only for convenience of reference. Captions shall be disregarded in the construction and interpretation of this PUD Agreement. capitalized terms are also selected only for convenience of reference and do not necessarily have any connection to the meaning that might otherwise be attached to such term in a context outside of this PUD Agreement.
- 6.5 Partial Validity. Invalidation of any of the provisions contained in this PUD Agreement, or of the application thereof to any person by judgment or court order shall in no way affect any of the other provisions hereof of the application thereof to any other person and the same shall remain in full force and effect.
- 6.6 No Partnership. None of the terms or provisions of this PUD Agreement shall be deemed to create a partnership or joint venture between Developer and the Village.
- 6.7 Not a Public Dedication. Except as an express statement to the contrary herein, nothing contained herein shall be deemed to be a gift or dedication of any portion of the Property to the general public, or for any public use or purpose whatsoever. Except as herein specifically provided, no right, privileges or immunities of any party hereto shall inure to the benefit of any third party, nor shall any third party be deemed to be a beneficiary of any of the provisions of this PUD Agreement.
- 6.8 Time. Time is of the essence to this PUD Agreement.
- 6.9 No Waiver. The failure of either party to insist upon strict performance of any of the terms, covenants, or conditions hereof shall not be deemed a waiver of any rights or remedies that such party may have hereunder, at law or in equity and shall not be deemed a waiver of any subsequent breach or default under this PUD Agreement. No waiver by either party of any default under this PUD Agreement shall be effective or binding on such party unless made in writing by such party and no such waiver shall be implied *from* any omission by the a party to take action with respect to such default. No express written waiver of any default shall affect any other default or cover any other period of time other than any default and/or period of time specified in such express waiver. One or more written waivers of any default under any provision of this PUD Agreement shall not be deemed to be waiver of any subsequent default in the performance of the same provision or any other term or provision contained in this PUD Agreement.
- 6.10 Running with the Land; Governing Law. This Development Agreement shall run with the land constituting the Property and shall be binding on and inure

to the benefit of  Village and its successors, Developer, all future owners, developers, and builders of any part of the Development, all undersigned parties, and all of their respective heirs, successors, assigns, and transferees. An affidavit providing notice of the rezoning of the Property, the PUD Documents, this Development Agreement, and the general obligations relating to the PUD shall be executed by the property owners and may be recorded by any of the undersigned parties following the execution of this Agreement. This Development Agreement shall be interpreted and construed in accordance with Michigan law and shall be subject to enforcement only in Michigan courts. The parties understand and agree that this Development Agreement is consistent with the intent and provisions of the Michigan and U.S. Constitutions and all applicable law.

This Agreement was executed by the respective parties on the date specified with the notarization of their signatures and shall be considered to be dated on the date of the Village Council's adoption of the Ordinance Granting the West Village Planned Unit Development, and shall take effect on the effective date of Village's Ordinance.

WITNESS:

[Name of witness, typed or printed in black ink]

DEVELOPER:

WEST VILLAGE OWNER, LLC, a
Michigan limited liability company

[Typed name of authorized signer]
Its: [Title of authorized signer]

WITNESS:

[Name of witness, typed or printed in black ink]

STATE OF MICHIGAN)
[COUNTY] COUNTY)

Acknowledged before me in Oakland County, Michigan, by [name of officer or agent, title of officer or agent], of WEST VILLAGE OWNER, LLC, a Michigan limited liability company, on behalf of the company.

[Notary public's name, as it appears on application for commission]

Notary public, State of Michigan, County of [county].

My commission expires [date].

[If acting in county other than county of commission: Acting in the County of [county].]

WITNESS:

**[Name of witness, typed or printed in
black ink]**

WITNESS:

**[Name of witness, typed or printed in
black ink]**

VILLAGE:

Village of Lake Orion, a Michigan
municipal corporation

[Typed name of authorized signer]
Its: **[Title of authorized signer]**

[Signature line]
[Typed name of clerk]
Its: Clerk

STATE OF MICHIGAN)
[COUNTY] COUNTY)

Acknowledged before me in Oakland County, Michigan, of Village of Lake Orion, a
Michigan municipal corporation, on behalf of the corporation.

[Notary public's name, as it appears on application for commission]

Notary public, State of Michigan, County of **[county]**.

My commission expires **[date]**.

**[If acting in county other than county of commission: Acting in the County of
[county].]**

Drafted by:

[Firm name]

[Signature line]

[Typed name of attorney (P____)]

[Address, telephone, email]

When recorded return to:

[Name], Clerk

Village of **[Village]**

[Address, telephone]

LIST OF EXHIBITS

- A PROPERTY DESCRIPTION
- B PROJECT PLAN
- C APPROVED DEVIATIONS/VARIANCES

EXHIBIT A**LEGAL DESCRIPTION OF THE LAND**

Property situated in the Village of Lake Orion, County of Oakland, State of Michigan, more particularly described as follows:

PART OF LOTS 9 & 10, DESCRIBED AS BEGINNING AT A POINT LOCATED DISTANT N 00°02'49" E 161.78 FEET FROM THE SOUTHEAST CORNER OF LOT 11 OF SAID SUBDIVISION, THENCE N 89°15'57" W 438.88 FEET, THENCE N 00°02'14" E 311.33 FEET, THENCE S 89°27'45" E 82.06 FEET, THENCE N 00°00'14" W 99.91 FEET, THENCE S 58°37'00" E 417.89 FEET, THENCE S 00°02'49" W 198.48 FEET TO BEGINNING, SUPERVISOR'S PLAT NO 8, VILLAGE OF LAKE ORION, OAKLAND COUNTY, MICHIGAN, ALSO, THE WEST 36 FEET OF THE NORTH 80 FEET OF LOT 3, ALSO NORTH 80 FEET OF LOT 4, BLK 24, HEMINGWAYS PLAT, VILLAGE OF LAKE ORION, OAKLAND COUNTY, MICHIGAN.

(Parcel Nos. 09-02-403-019 and 09-02-433-002) commonly known as 55 West Elizabeth St., Lake Orion, Michigan

MCKENNA

Attachment: West Village PUD Review 1 - July 11 2023 for Applicant to Address Outstanding Items (002) (6245 : PC 23-004: the Flats & the Lofts

July 7, 2023

Planning Commission
Village of Lake Orion
21 E. Church St.
Lake Orion, MI 48362

Subject: PC 23-004 - The Flats & The Lofts of West Village: PUD Site Plan, Review #1

Dear Commissioners:

West Village (the Project) is a proposed multiple family residential planned unit development (PUD) located at 55 W. Elizabeth and consists of the redevelopment of the former Lake Orion High School/Ehman Community Center (the 'Lofts') and the construction of a new building on the same property (the 'Flats'). The Lofts will include 29 apartments, office spaces, and meeting rooms – including a repurposed gymnasium that will serve as a community center and event space. The Flats will contain an additional 60 apartments, for a total of 89 dwelling units. The property is owned by West Village Owner, LLC (the Applicant).

PROJECT HISTORY, REVIEW, AND APPROVAL PROCESS

Rezoning. In June 2021, the property received Village Council approval to be rezoned from RV, Village Single Family Residential to the RM, Multifamily Residential District; the rezoning allowed for the development of multiple family residential units on the site.

PUD Eligibility. The project was received both Planning Commission and Village Council approval for PUD Eligibility in September 2021, including approval of the concept plan with a mix of uses and 89 residential units.

Preliminary PUD Plan. The Planning Commission held a public hearing for the Preliminary PUD Plan on October 4, 2021, and following deliberation, made a recommendation to Village Council for approval. Village Council subsequently granted Preliminary PUD Plan approval later that month. Final PUD approval would need to be received within 1-year of the preliminary approval, for which a 1-year extension was granted in November 2022.

Final PUD Plan (current step). The Planning Commission will review and approve/table/deny the final site plan associated with the development and recommend approval/tabling/denial of the PUD to the Village Council. *This meeting is tentatively scheduled for July 17, 2023. Following a recommendation from the Planning Commission, the Village Council will make a final decision whether to execute the PUD agreement and allow the project to proceed as proposed; this is tentatively scheduled for the Council's August 14, 2023 meeting.*

The Applicant has stated their desire to apply for building permits at the beginning of August. Barring major site plan revisions or tabling by the Planning Commission, it is expected that permitting will move concurrently with finalizing of the PUD agreement and the detailed engineering review (see below). Construction must commence within 1-year of final PUD approval.

Construction / Engineering Review. Once the necessary approvals have been received from the Planning Commission and Village Council, the project must undergo a detailed engineering review of proposed site improvements.

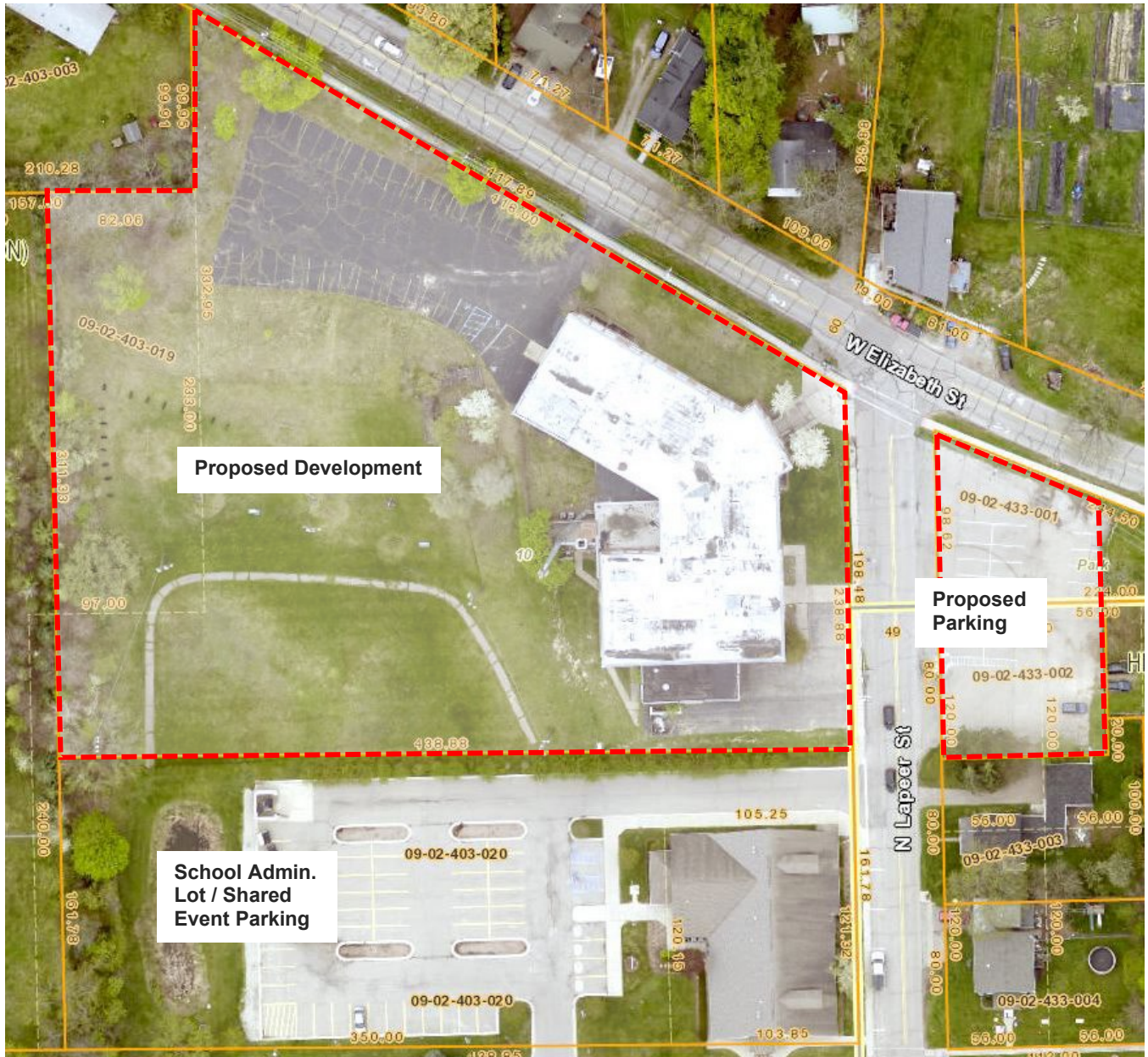
HEADQUARTERS
235 East Main Street
Suite 105
Northville, Michigan 48167

○ 248.596.0920
F 248.596.0930
MCKA.COM

Communities for real life.



SITE CONTEXT





SUMMARY OF COMPLIANCE

A summary of the site plan review findings is detailed in the table below. Further specifications, review, and recommendations regarding the site plan and various PUD considerations are detailed on the following pages.

Ordinance Standards	Compliance	Comments
Data Required	Complies	n/a
Use / Harmonious Design	Complies	n/a
Dimensional Standards	Complies	n/a
Natural Features / Landscaping	<u>Can Comply</u>	Additional parking lot screening and details for mechanical equipment screening are required. As a PUD, building foundation landscaping, and environmentally sensitive landscaping and design techniques are highly encouraged.
Access / Circulation	<u>Can Comply</u>	Existing vs. proposed sidewalks connections – clarification is required. Reduced sidewalk widths, crosswalk, and additional sidewalks must be considered. Fire Department approval is necessary.
Parking / Loading	<u>Can Comply</u>	Parking space dimensions must be revised. A shared parking agreement is required for the use of the school administration lot. Cross access agreement with the adjacent neighbor is necessary encouraged. Signage must be detailed. Curbing required for all parking areas.
Building Design / Architecture	<u>Can Comply</u>	Material samples and colored renderings must be provided to the Planning Commission for approval. Interior layout and material discrepancies needs to be clarified/corrected.
Engineering / Stormwater Management	<u>Can Comply</u>	Subject to Village Engineering review.
Lighting	<u>Can Comply</u>	Incorrect site layout used. Illumination exceeds maximums in several areas. Cut sheets required.

Site Plan Review

Standards for Site Plan Approval are set forth by [Article 19: Administrative Procedures and Standards](#). This project is reviewed against the Village's [Zoning Ordinance](#), Master Plan, existing site conditions, and sound planning and design principles. We offer the following comments for your consideration:

1. USE & HARMONIOUS DESIGN

Zoning Ordinance Standards: *All elements of the site must be harmoniously and efficiently designed in relation to the topography, size, and type of land, and the character of the adjacent properties and the proposed use. The site will be developed so as not to impede the normal and orderly development or improvement of surrounding properties for uses permitted on such property.*

Findings: The site is zoned the RM, Multiple Family Residential District where the residential uses are outlined and permitted in section 5.02. The Intent section of Article 5 reads:

... to address the varied housing needs of residents of different age and family groups by providing various types and sizes of residential dwellings for ownership or rental at a higher density than is permitted in any of the Single Family Residential Districts. Multiple family housing should be located near major thoroughfares and collector streets for good accessibility and must be designed so as not to overtax existing community facilities, utilities or services.

The proposed mixed-use development, including main component: 89 apartment units, is a suitable development type for the underlying RM, Multiple Family Residential District. The Project adheres to the accessibility intent of the district as it is located near two major thoroughfares (West Elizabeth Street and Lapeer Road). The development is also strategically designed to integrate with the sloping terrain in the middle of the site, allowing an additional lower level of living space while maintaining visual harmony with the historic Ehman Center structure and the surrounding neighborhood.

2. DIMENSIONAL STANDARDS

Zoning Ordinance Standards: *The site plan must comply with the district requirements for minimum floor area, height of building, lot size, yard space, density and all other requirements as set forth in the Schedule of Regulations.*

Findings: The Project complies with the dimensional standards of the RM, Multiple Family Residential District. The table below outlines the dimensional standards required and whether compliance has been met:

Dimensional Measurement	Required	Proposed	Comments
Min. Lot Area*	329,200 sq. ft.	142,831 sq. ft.	Complies (see footnote on the following page)*
Min. Lot Frontage	70'	417.89'	Complies.
Front Yard Setback	25'	38.4'	Complies.

Dimensional Measurement	Required	Proposed	Comments
Min. Side Yard Setback	15' (each)	25.5' (west); 38'.8 (east)	Complies.
Min. Rear Yard Setback	25'	30'	Complies.
Min. Floor Area: 1-Bedroom Unit	600 sq ft.	>600 sq ft.	Complies.
Min. Floor Area: 2-Bedroom Unit	800 sq. ft.	>800 sq. ft.	Complies.
Min. Floor Area: 3-Bedroom Unit	1,000 sq ft.	>1,200 sq ft.	Complies.
Max. Building Height**	40'	36' (to the roofline)	Complies.
Max. Lot Coverage (Buildings)	35%	24%	Complies.

* Sec. 12.02(h) stipulates minimum lot area per dwelling unit for multifamily structures: 3,600 sq. ft. per 1-bedroom unit, 4,000 sq. ft. per 2-bedroom unit, and 4,400 sq. ft. per 3-bedroom unit. With 68, 1-bedroom units, 20, 2-bedroom units, and 1, 3-bedroom unit, the entire development would require 329,200 sq. ft. of lot area. However, PUDs are allowed certain density bonuses, which the Planning Commission and Village Council approved in 2021, for a maximum of 89 residential units.

** The site plan shows the roof line at 36-feet above grade, with parapet walls extending to 38-feet and 41.5-feet above grade. Per the Ordinance definition for 'building height' as the highest point of the roof surface, the design complies.

3. NATURAL FEATURES, SCREENING & LANDSCAPING

Zoning Ordinance Standards: *The existing natural landscape shall be preserved in its natural state as much as possible, by minimizing tree and soil removal and by topographic modifications that result in maximum harmony with adjacent properties.*

There must be reasonable visual and sound privacy. Fences, walks, barriers, and landscaping must be used, as appropriate, for the protection and enhancement of property and the safety and privacy of occupants and users.

Findings: Since the site was previously developed and consists of the former school building, sports field, and parking lot, the applicant is enhancing the property through additional landscaping, pedestrian amenities, and preserving a historic structure. However, screening and visual/audial privacy concerns are present that could be addressed with additional screening, as detailed below.

Diversity of Landscaping Materials. No single species shall consist of more than 20% of any particular type of plant material provided on a site. The proposed landscaping plan complies, as it illustrates a variety of planting types that include multiple species and sizes of deciduous, ornamental, and evergreen trees as well as shrubs, grasses, and ground covers.

Parking Lot Interior. Landscaping areas equivalent to 5% of the vehicle use area are required for all parking lots of 20 spaces or more. One deciduous tree is required for every 150 square feet of interior landscape area. There is a total of 60,980 square feet of vehicle use area, which requires 20 parking lot trees. The applicant has provided more than the required amount. Although the total square footage of vehicular use

areas for the parking lot and landscaping is noted, the square footage for each landscape island and associated landscaping must be detailed in order to ensure interior landscaping requirements are met.

Parking Lot Perimeter. Per Section 15.02, perimeter landscaping shall be provided along the edge of any parking lot facing and located within 100 feet of a public right-of-way; including a minimum of one deciduous shade tree per each 30 linear feet and a continuous hedge of deciduous or upright evergreen shrubs planted not more than 30 inches on center. The site's northern (Elizabeth Street) parking lot has approximately 144 linear feet of frontage, exclusive of driveways, requiring 5 trees and a continuous hedge of upright shrubs. This landscaping is provided.

Additional screening is required along the southern edge of the eastern parking lot (east of Lapeer Street) to buffer the lot from the adjacent residence to the south. This can be provided with a continuous hedge of dense shrubs or a masonry wall. Similarly, additional screening is required along the southern edge of the southern parking lot, adjacent to the existing utility easement and detention basin, to provide protective screening between the residential uses of the site and non-residential uses to the south and west.

Other. We recommend foundational landscaping along both buildings where appropriate – at the terminus of walkways, building entrances, and where parking lots and buildings are closely adjacent. This includes the sodded lawn area on the north side of the proposed Flats, between the building and walkway/parking lot, as well as the walkways on the east side of the event space. Examples of foundational plantings include perennials, shrubs, grasses, ornamental trees, etc.

The applicant must show all proposed or existing mechanical equipment, which must be screened on three sides with upright evergreen shrubs. If mechanical equipment is proposed for the rooftop, it must also be noted on the site plan and screened.

Environmentally Sensitive Design. In addition to the adaptive reuse of the former school building, the applicant proposes on-site EV charging, open green space, and landscaping improvements. As a PUD, additional design features should be explored, including the reduction of impervious surfaces, the use of native species in landscaping, green roof technology, bioswales, rain gardens, etc., particularly as it relates to stormwater management and other engineering considerations. Further review by the Village Engineer is required.

4. ACCESS & CIRCULATION

Zoning Ordinance Standards: *All buildings or groups of buildings shall be so arranged as to permit convenient and direct emergency vehicle access.*

The arrangement of public or common ways for vehicular and pedestrian circulation shall respect the pattern of existing or planned streets or pedestrian or bicycle pathways in the vicinity of the site. Streets and drives that are a part of an existing or planned street system serving adjacent developments shall be of an appropriate width to the volume of traffic they are planned to carry and shall have a dedicated right-of-way equal to that specified in a recognized source of reference.

There shall be a pedestrian circulation system that is insulated as completely as possible from the vehicular circulation system.

Where the Planning Commission determines, after expert consultation, that public safety would be substantially promoted in a particular location by reducing the number of points of ingress and egress

between private property and an adjoining highway, cross-access may be required. Shared drive approaches between adjoining parcels may also be permitted under this Section.

Findings:

Vehicular Access. Access to the site's northern 'Lofts' parking lot (facing Elizabeth) is provided via two, 30-foot-wide, two-way drives off Elizabeth. Access to the site's southern 'Flats' parking lot (facing the southern property line) is provided via one, 26-foot-wide, two-way access drive off Lapeer. Additional parking is proposed on the east side of Lapeer in the form of two small lots, one intended for public/Village parking and the other intended for residents and guests of the Lofts. All parking lot maneuvering lanes are proposed to be 24- to 26-feet wide, with two-way access. On-street parking is also proposed along Elizabeth (four spaces) and Lapeer (two spaces).

The residential neighbor to the east of the 'Lofts' parking lot annex (east of Lapeer) will see vehicular access cut off to the existing gravel parking spaces on their property. The neighbor has no other vehicular access to their lot and has relied on access from the existing Village lot. It is highly recommended that a cross access agreement be pursued to provide a curb cut directly into their lot.

A truck turning diagram is provided, which allows service vehicles to access the dumpsters. However, emergency vehicle access is subject to review and approval by the Township Fire Chief and additional details are necessary.

Pedestrian Connectivity. The site has existing concrete sidewalks along the road right of ways and a continuous network of interior walkways is proposed around the 'Flats,' connecting both parking lots and buildings. The site plan shows designated bike parking near the north and south parking lots; details for the bike parking must be provided and consideration should be given to covered bike parking. The applicant proposes new sidewalks around the 'Lofts' – it is unclear if these will be replacing or connecting the existing right of way sidewalks. Further, not all sheets show the same data for sidewalk locations and must be corrected (Sheet SP 101 omits the walkway to the west and north of the Flats).

The interior walkways range from 5- to 10-feet wide: these should all be reduced to 4-feet in width to minimize impervious surface and/or provide additional room for parking spaces (see 'Parking and Loading' for further detail).

Regarding the proposed parking lots across Lapeer, a sidewalk must be installed at the north access drive to connect with the sidewalk along Elizabeth. Further, crosswalk striping should be considered, in agreement with Village Council, to facilitate pedestrian travel from the parking lot to the existing concrete sidewalk leading into the event space.

5. PARKING & LOADING

Zoning Ordinance Standards: *Off-street parking, loading, and unloading areas and outside refuse storage areas, or other storage areas that face or are visible from adjacent homes, or from public thoroughfares, shall be screened by walls, fencing or landscaping of effective height.*

Findings: Off-street residential parking is located within two primary lots on the site and one smaller, annexed lot across Lapeer. On-street parking is proposed for the event space, in addition to the modified

Village parking lot across Lapeer, existing on-street parking, and parking available in the school administration parking lot to the south of the site.

All parking is designed at 90-degree angles; Article 14 stipulates all 90-degree parking stalls must be a minimum of 9-feet wide and 19-feet-deep. There are several places where these minimums are not met, which could create pedestrian-vehicle conflicts or impact landscaping; compliance can be achieved by reducing maneuvering lane widths (min: 22-feet) and interior walkway widths (min: 4-feet). Further, anywhere that parking abuts a sidewalk or landscaping must be curbed – this must be shown in all parking lots.

Residential Units. Two parking spaces per dwelling unit required; with 89 dwelling units proposed, 178 parking spaces are required. The total off-street parking provided for residential use is 137 spaces, 4 of which will be equipped with EV charging and 6 of which are barrier-free (van accessible). During the PUD Eligibility phase, this project was approved for 136 residential parking spaces, and the applicant has since added one additional parking space.

Incidental signage for barrier-free spaces, EV charging stations, etc. must be provided and detailed on a revised site plan.

Assembly (Event Space). One space per three persons at maximum occupancy is required, and with a capacity of 200-persons, 67 parking spaces are required. The applicant proposes 55 spaces located in the school administration lot to the south, plus 14 public parking spaces in the lot across Lapeer Street, and 20 on-street parking spaces, six of which are on-site, for a total of 69 off-street and 20 on-street spaces. A shared parking agreement with the school district for use of the school administration lot must be on file with the Village and found acceptable to the Village Attorney.

Loading Zone. One, 12.5-foot by 18-foot loading zone is shown in the north 'Lofts' parking lot, which is likely adequate to support small transit vehicles or vans for loading related to the event space or moving in; however, the stall length must be increased per comments above. Further, Sheet 2 shows a second loading zone near the west entrance to the Lofts – this encroaches upon the sidewalk and landscaping and is not consistently shown on all sheets and must be modified or removed.

6. BUILDING DESIGN & ARCHITECTURE

Zoning Ordinance Standards: *Building design and architecture shall relate to and be harmonious with the surrounding neighborhood in terms of texture, scale, mass, proportion, materials, and color. Buildings should be designed with stylistic harmony and aim to serve people of all ages and abilities.*

Findings:

Building Design. The existing building on site, the former Lake Orion High School and Ehman Community Center, was built in 1927. The building, with a footprint of over 17,000 sq. ft., has a flat roof and consists of three levels. The exterior of the former school building, now the 'Lofts,' will remain largely unchanged. As such, the building will retain its historical charm, including arched entryways, faux columns, unique brickwork, and subtle stepped cornices. By nature of the existing grade change, some of the lower-level units will have direct access outside, though most will simply retain the large windows and high ceilings of the old building.

The proposed Flats building, with a similarly sized footprint as the Lofts, is proposed to be four stories, including a lower level only visible from the east, west, and south. This design is intended to take advantage

of the existing sloping terrain, providing an additional floor of living space while not exceeding building height requirements. This aids in maintaining harmony with the surrounding neighborhood and existing school building.

The proposed Flats building has a flat roof with parapet walls that vary in height across all elevations, providing relief to the large building. Patios are proposed on the lower levels with balconies on the upper levels. Balconies on the upper levels contain a decorative horizontal railing. Building materials vary across the facades, providing visual interest. The proposed building façades are consistent with each other; it is recommended that additional architectural detail be provided at the main entrance to differentiate it from the rest of the building.

There is a discrepancy between unit sizes shown on the unit information tables for the Flats and what is shown in the floor plans (Sheet A 101); for instance, the lower-level floor plan shows four (4) 3-bedroom units but these are noted as 2-bedroom units in the table. This discrepancy must be addressed. Further, several bedrooms within both buildings are proposed without windows – this would need to be rectified prior to submitting building permits.

Building Materials. The Lofts will retain the historical brick and limestone from the former school building, while the Flats will have a contemporary composition. All sides of the Flats building are consistent in terms of material type, primarily comprised of utility brick, decorative precast panels, split face blocks, 8" horizontal composite siding, and 8" vertical composite siding. Limestone bands, brick soldier course, and brick rowlock course provide transitions between materials and relief. The brick and limestone should match closely with the former school building to ensure some visual consistency.

On the north elevation, the front entrance is proposed to have an awning or canopy – the material of which needs to be clarified within the elevations. The colors of the materials are not provided at this time and must be included in the plans. Additionally, material samples and color renderings must be provided to the Planning Commission for approval.

All proposed retaining walls and screening walls must match the primary brick exterior and must be detailed on the plan with elevation drawings and dimensions. The building material key depicts "metal wrapped implied balconies" as being a part of the building's design. However, none of the elevations show this feature.

7. ENGINEERING / STORMWATER MANAGEMENT

Zoning Ordinance Standards: *Appropriate measures shall be taken to ensure that the removal of stormwater will not adversely affect adjoining properties or the capacity of the public storm drainage system and shall comply with State and Federal standards. Provisions shall be made for the construction of stormwater facilities, and the prevention of erosion and dust. Surface water on all paved areas shall be collected at intervals so that it will not obstruct the flow of vehicles or pedestrian traffic and will not create nuisance ponding in paved areas.*

Adequate services and utilities and improvements shall be available or provided, located and constructed with sufficient capacity and durability to properly serve the development. All utilities shall be located underground unless modified by the Planning Commission based on persuasive evidence provided by the applicant indicating it is not feasible to locate utilities underground. Where possible and practical, drainage design shall recognize existing natural drainage patterns.

Findings: Stormwater pre-treatment infrastructure is not proposed for this Project. All stormwater and utility requirements must be addressed to the satisfaction of the Village Engineer.

8. LIGHTING

Zoning Ordinance Standards: *Exterior lighting shall be so arranged so that it is deflected away from adjoining properties and so that it does not impede vision of drivers along adjacent streets.*

Findings: Building mounted, light pole, and bollard fixtures are proposed throughout the Project site. The manufacturer's cut sheets for all lighting types must be provided; the 15-foot, size 0, D-Series fixture detailed on Sheet SP 101 does not appear to relate to any of the proposed lighting in the photometric plan.

20-foot pole lights are proposed for the parking lots and wall-mounted lights are proposed between 7.5-feet and 13-feet high around both buildings; 3.5-foot bollard lights are proposed along the walkways. While the site appears to be well-illuminated, the layout used for the photometric plan is not consistent with other sheets; for instance, the walkway to the west of the Flats is not shown nor is its connection to the south parking lot. Portions of this walkway, if intended to be built, would be unlighted. The parking lots are also shown under a former layout. An accurate depiction of proposed circulation areas must be reflected in the photometric plan and be shown with sufficient lighting.

Illumination levels exceed Ordinance standards in various areas and must be decreased; this includes a portion along the south property line, the average lighting of the parking lots, and an area of high intensity light between the two buildings. Additionally, a light fixture is noted at the former school building at 30 feet in height (and may be incorrectly detailed in the table as having -1 lumens). This fixture may be related to the existing cell tower or chimney stack on the site – if so, this must be noted. At most, light fixtures are permitted to be a maximum of 22-feet in height.

Standards	Required	Proposed Lighting	Comments
Max. Height of Light Fixtures	Lesser of 22 ft., or height of building	30 ft.	<u>May Comply</u>
Max. Illumination at Any Given Point	10.0 fc.	19.6 fc.	<u>Does Not Comply</u>
Avg. Illumination of Parking Lot	1.0 fc.	1.7 fc.	<u>Does Not Comply</u>
Max. Illumination at the Property Line	0.5 fc.	0.9 fc.	<u>Does Not Comply</u>



Charter Township of Orion

3365 Gregory Rd., Lake Orion MI 48359
www.oriontownship.org

8.A.h

Fire Department

Phone: (248) 391-0304, ext. 2000

Fax: (248) 309-6993

To: Planning Commission/Planning & Zoning Director
From: Jeff Williams, Fire Marshal
Re: West Village PUD (55 W. Elizabeth / Ehman Center)
Date: July 10, 2023

The Orion Township Fire Department has completed its review of the Application for 55 West Elizabeth Street for the limited purpose of compliance with the Village of Lake Orion's Ordinance's, Michigan Building Code, and all applicable Fire Codes.

Based upon the application and documentation provided, the Fire Department has the following recommendation:

Approved
Approved with Requirements (See below)
X Not approved

Requirements:

- The turning radius for the emergency apparatus road shall be in accordance with the Orion Township Fire Department turning performance analysis template. Overlays of the template shall be shown on the plans. The template shall be shown circulating all areas of both parking lots and verify that the vehicle can maneuver around the reverse curve of the southern parking lot drive aisle.
- Details for No Parking Fire Lane signage including road striping (cross hatching) area shall be indicated on the plan. Fire department access roads 20 to 26 feet wide shall be posted with NO PARKING FIRE LANE signage on both sides of the fire apparatus access road. Fire department access roads greater than 26 feet shall only require posting on one side of the roadway.

If there are any questions, the Fire Department may be reached at 248-391-0304 ext. 2004.

Sincerely,

Jeffrey Williams

Jeff Williams, Fire Marshal
Orion Township Fire Department

Attachment: West Village FD Site Plan Review Letter 7_10_2023 (6245 : PC 23-004: the Flats & the Lofts of West Village: PUD Site Plan, Review

NON-EXCLUSIVE PARKING LICENSE AGREEMENT

This NON-EXCLUSIVE PARKING LICENSE AGREEMENT (“**Agreement**”) is effective as of November ____ 2021, (“**Effective Date**”), and is between the **LAKE ORION COMMUNITY SCHOOLS**, a Michigan general powers school district, whose address is 315 North Lapeer Street, Lake Orion Michigan 48362 (“**LOCS**”) and **WEST VILLAGE 55, LLC**, a Michigan limited liability company, whose address is 79 Oakland Avenue, Pontiac, Michigan 48342 (“**WEST**”). LOCS and WEST are sometimes referred to individually as a “Party,” and collectively as the “Parties.” The Parties agree as follows:

RECITALS

Whereas, WEST has acquired and owns certain real property located at 55 W. Elizabeth in the Village of Lake Orion, Michigan (“**Building Parcel**”), as is more particularly described on the attached **Exhibit A** and made a part hereof, and depicted on the Site Plan attached as **Exhibit B** and made a part hereof (“**Site Plan**”); and

Whereas, pursuant the Planned Unit Development approved by the Village of Lake Orion, WEST is renovating the existing building located on the Building Parcel, and is constructing a new building adjacent thereto to be used primarily for multi-family housing and a special events center in the historic school building (collectively “**West Village**”); and

Whereas, LOCS owns certain real property located adjacent to West Village that is improved with an administrative building and a parking lot (“**LOCS Parcel**”), which parking lot located on the LOCS Parcel is more particularly depicted on the Site Plan attached as **Exhibit B** and made a part hereof, and described on the attached **Exhibit C** and made a part hereof (“**Parking Area**”); and

Whereas, LOCS and WEST desire to establish the terms and conditions upon which WEST and the residents, employees and visitors to West Village may utilize the Parking Area for parking and access to West Village as well as the circumstances under which the general public may also utilize the Parking Area for parking and special events.

ARTICLE I LICENSE

1.1 Grant of License. Subject to the terms and conditions of this Agreement, LOCS hereby grants to WEST a non-exclusive license to use parking spaces within the Parking Area on the LOCS Parcel for vehicular parking as may be required under the parking regulations for the use of West Village, including those portions to be used as a community based event and meeting center (“**Parking License**”). This grant of license includes all appurtenant pedestrian and vehicular ingress and egress over the Parking Area for the purpose of access to West Village.

1.1.1 Limited Right to Transfer. WEST may not transfer the license and rights granted herein, except and provided, WEST shall have the right to extend the licenses and rights to any an Affiliate or wholly owned Subsidiary entity of WEST; provided that, WEST shall not then be in default with respect to any of its obligations to LOCS under this Agreement. Any such extension of rights hereunder shall be in writing and shall be accepted in writing by such Affiliate or Subsidiary, such writing to expressly affirm that all of the restrictions and

obligations set forth in this Agreement shall apply to such Affiliate or Subsidiary to the same extent as they apply WEST and WEST shall account and be primarily responsible for the performance by such Affiliate or Subsidiary of all of its obligations hereunder, and remain obligated under this Agreement for any failure of the Affiliate or Subsidiary to perform.

No legal title, easement or other possessory interest in LOCS Parcel or the Parking Area, including any leasehold interest in the Parking Area, or any appurtenances to it, shall be created or deemed or construed to have been created or vested in WEST by anything contained in this Agreement.

1.2 Use of Parking Area.

1.2.1 Parking Hours. Subject to the provisions for Special Events set forth below,

1.2.1.1 Monday – Friday. WEST may use the Parking Area during non-business hours, i.e. after 5:00 pm and before 7:00 am.

1.2.1.1.1 LOCS reserves up to 20 parking spaces closest to the LOCS Administration Building in the Parking Area on LOCS Board of Education Meeting nights. The reserved parking spaces shall be identified to the public so as to confirm the retained use. LOCS shall provide WEST with a copy of its Board Meeting schedule, on an annual basis.

1.2.1.2 Friday - Sunday. WEST may use the Parking Area from 5:00 pm Friday until 7:00 am Monday.

1.2.1.3 LOCS retains, reserves, and shall continue to enjoy the use of the Parking Area for any and all purposes, provided that such use does not unreasonably interfere with WEST's use of the Parking Area.

1.2.2 Types of Vehicles. Use of the parking spaces in the Parking Area under this agreement is solely limited to the parking of automobiles, motorcycles, and small trucks, such as pickup trucks, and may not be used for staging or storage or for the parking of larger or heavier commercial vehicles, such as buses, semitrucks, motorhomes or the like.

1.2.3 Right to Designate Parking Spaces. In the event that parking demand in the Parking Area significantly interferes with employee and visitor parking for either Party, the Parties shall meet to confer and determine the extent to which WEST may need to limit its parking by designating certain parking spaces during the established parking hours, as approved by LOCS.

1.2.4 No extended Parking. The Parties acknowledge that a resident or visitor may park a vehicle outside of the above stated hours by error or omission. WEST shall use its best effort to manage such instances, providing written notice to its residents, employees and visitors of the restricted hours. If a vehicle is parked in the Parking Area for more than 48 hours, LOCS reserves the right to have the vehicle removed from the Parking Area at the expense of WEST. WEST shall post notice of such penalty on signage in such style and locations as reasonably mutually agreed upon by the Parties.

1.3 Limitation on LOCS Liability. Use of the Parking Area, and the exercise of the rights under this Agreement is at the sole risk of WEST and the employees, residents and visitors of West Village, and in no event will LOCS have any liability for any damages caused to any employee, resident, or visitor or the

vehicles or personal property of any employee, resident or visitor, except for liability arising out of LOCS' gross negligence. Nothing in this clause shall be construed to limit LOCS' defenses and rights, including the right to assert a claim of governmental immunity.

- 1.4 Parking Area to Remain Open.** WEST acknowledges and agrees that except with respect to any Special Events, the Parking Area shall remain open for public parking in accordance with the Shared Parking Agreement between the Village of Lake Orion and LOCS dated February 12, 2021.
- 1.5 Special Events.** LOCS acknowledges and agrees that the Parking Area may be used for Special Events. If any such event is planned during regular business hours, WEST must provide prior written notice to LOCS of each intended Special Event and the intended use of the Parking Area at least 7 days prior to each such event. LOCS reserves the right to limit the availability of parking in the Parking Area for Special Events during regular business hours to meet the demands of its own regular and ongoing parking requirements for employees and visitors.
- 1.5.1 LOCS Use of Special Event Space.** Subject to prior scheduling and availability, LOCS may enjoy the use of the Special Event space at West Village, without rental charge, for up to six (6) events in each calendar year. The reservation of each date and time for such events shall be coordinated through the contracted manager of the space who shall have sole control of the availability and scheduling. LOCS agrees to utilize any prior contracted entities who provide catering and other services to the space, as coordinated and provided through the manager.

ARTICLE II MAINTENANCE – DEFAULT - TERMINATION

2.1 Maintenance of Parking Area.

- 2.1.1 Regular Maintenance.** LOCS is responsible for all regular maintenance of the Parking Area. For purposes of this Section, regular maintenance of the Parking Area means all regular maintenance required to keep the Parking Area in good condition and repair, including minor repairs and the maintenance of any landscaped areas. LOCS shall also be responsible for snow removal on the LOCS Parcel. However, WEST shall reimburse LOCS for forty (40%) percent of the per push fee that LOCS pays for such snow removal service on the LOCS Parcel and shall reimburse LOCS within thirty (30) days of an invoice being presented for the same.
- 2.1.2 Long-Term Maintenance.** The Parties acknowledge and agree that proper long-term maintenance of the surface of the Parking Area requires that it be sealed approximately every eight years and that the striping be re-painted every three years, from the Effective Date. WEST shall be responsible for sealing and striping the Parking Area on this schedule and shall bear the cost of the same.
- 2.1.3 Damage to Parking Area.** WEST shall, at its sole cost and expense, repair the physical damage resulting from WEST and the residents, employees and visitors use of the Parking Area for parking and access to West Village, provided that WEST's obligation hereunder shall be exclusive of changes in the License Area's condition arising from normal wear and tear, effects of weather or climate, and/or casualty loss.

2.2 **Default:** If WEST fails to observe or perform any of its obligations under this Agreement then WEST shall be in default under this Agreement, and LOCS may, at its option, exercise one or more of the following remedies:

- (a) After meeting and conferring with WEST to resolve the nonperformance, and upon the failure of WEST to cure the default in the time and manner determined in such meeting, LOCS may terminate this License Agreement, effectively immediately.
- (b) Obtain specific performance of the covenants and obligations of WEST under this Agreement; or
- (c) Perform the obligation on behalf of WEST in which event the costs and expenses paid or incurred by LOCS in performing WEST's obligations under this Agreement shall be immediately due and payable to LOCS by WEST following receipt of LOCS' invoice.

2.3 Termination. The Parties acknowledge that the parking rights granted and reserved in this Agreement are necessary to the use and operation of the Building Parcel. As such, in a non-default event, if either Party is made aware that the parking rights and/or space counts set forth on the site plan(s) of both parcels shall effect or impinge the development rights of either Party due to ordinance, code, use or other administrative action of any governmental unit having jurisdiction over the same, the Parties shall first cooperate to resolve the impingement through all available remedies at law, and if the conflict cannot be resolved, shall then meet to mutually agree on the timing and termination of this Agreement.

ARTICLE III INSURANCE AND INDEMNITY

3.1 Insurance. WEST, at its sole cost and expense, shall maintain and keep in effect, general liability insurance on the Parking Area with a company and in a form acceptable to LOCS with the minimum limits of \$1,000,000.00 on account of bodily injuries to or death of one person, and minimum limits of \$3,000,000.00 on account of bodily injuries or death of more than one person, or such other amounts as LOCS may, from time to time, reasonably request, as a result of any one accident or occurrence; property damage insurance with minimum limits of \$1,000,000.00 or such other amounts as LOCS may, from time to time, reasonably request; and umbrella coverage with minimum limits of \$3,000,000.00, or such other amounts as LOCS may, from time to time, reasonably request. Such policies shall name LOCS as an additional insured and WEST shall provide LOCS with a certificate or other written evidence of its coverage, including an endorsement which states that such insurance may not be cancelled except upon thirty (30) days prior written notice to LOCS.

3.2 Indemnity. WEST, by execution of this Agreement, hereby agrees to indemnify, defend and hold harmless LOCS, its Board of Education, its Board members, in their official and individual capacities, its administrators, employees, agents, contractors, representatives, successors and assigns, from and against any and all claims, counter-claims, suits, debts, demands, actions, judgments, liens, liabilities, injuries, damages, costs, expenses, including attorneys' fees and expert witness' fees, for any injury to any person(s) on or within the Parking Area, or damage to any property, including but not limited to property of LOCS, paid or incurred by LOCS, arising out of, or in connection with any act or omission of WEST, WEST's use of the Parking Area and/or from WEST's violation, of any federal, state or local law, rule, regulation or ordinance or any of the terms of this Agreement. This Section shall not be limited by WEST's insurance obligations contained in this Agreement. This Section shall survive termination of this Agreement.

3.3 Environmental Liability of WEST. WEST represents, warrants and covenants to LOCS that WEST's use of the Parking Area shall comply with all "Environmental Laws," which, for purposes of this Agreement,

shall mean all federal, state and local environmental laws, including, but not limited to, The Hazardous Materials Transportation Act, (47 USC §§ 1801 et seq.), Federal Water Pollution Control Act (33 U.S.C. §§ 1251 et seq.) (“Clean Water Act”), the Resource Conservation & Recovery Act (42 U.S.C. §§ 6901 et seq.) (“RCRA”), Safe Drinking Water Act (42 U.S.C. §§ 300f-j-26), Toxic Substances Control Act (15 U.S.C. §§ 2601 et seq.), Clean Air Act (42 U.S.C. §§ 7401 et seq.), the Comprehensive Environmental Response, Compensation and Liability Act (42 U.S.C. §§ 9601 et seq.) (“CERCLA”), the Emergency Planning and Community Right to Know Act, 42 U.S.C. §§ 11001 et seq. (“EPCRA”), the Michigan Natural Resources and Environmental Protection Act, MCL § 324.101 et seq. (“NREPA”) the administrative rules and regulations promulgated under such statutes, or any other similar federal, state or local law or administrative rule or regulation of similar effect, each as amended and as in effect and as adopted as of the date of execution of this Agreement. WEST shall not dispose of or allow the release, spillage or emission of Hazardous Substances on the Parking Area and/or on LOCS Parcel. For purposes of Agreement, “Hazardous Substances” shall mean (i) any hazardous or regulated substance as defined by Environmental Laws (ii) any other pollutant, contaminant, hazardous substance, solid waste, hazardous material, radioactive substance, toxic substance, noxious substance, hazardous waste, particulate matter, airborne or otherwise, chemical waste, medical waste, crude oil or any fraction thereof, radioactive waste, petroleum or petroleum-derived substance or waste, asbestos, PCBs, radon gas, all forms of natural gas, or any hazardous or toxic constituent of any of the foregoing, whether such substance is in liquid, solid or gaseous form, or (iii) any such substance the release, discharge or spill of which requires activity to achieve compliance with applicable law. WEST shall immediately and promptly notify LOCS of any release, discharge, spill or emission of Hazardous Substances on, to or from the Parking Area and/or on LOCS Parcel, and any complaint, summons, citation, notice, directive, order, claim, litigation, judicial or administrative proceeding, inquiry or investigation judgment, letter or other communication from any governmental agency, department, bureau, office or other authority, or any third party involving violations of Environmental Laws with respect to the Parking Area and/or on LOCS Parcel. WEST hereby agrees to indemnify, defend and hold harmless LOCS, its employees, administrators and members of its Board of Education (in their individual and official capacities), from and against any and all fines, charges, penalties, losses, costs, damages, liabilities, cleanup or response activity costs and/or expenses (including reasonable attorneys’ fees and actual consultants’ fees) incurred by LOCS as a result of any claims, demands, actions, causes of action, suits, proceedings, investigations, assessments and audits, whether of law or in equity (collectively “Claims”) attributable to (i) any third party claim or demand in connection with any Hazardous Substances disturbed, generated, stored, leaked, spilled, discharged, emitted, or otherwise disbursed, in, on, under, above or about the Parking Area and/or on LOCS Parcel by WEST or the residents, employees and visitors to West Village, or violation of any Environmental Laws by WEST or the residents, employees and visitors to West Village, from and after the date of this Agreement; (ii) injuries sustained or other tort actions brought for Claims arising out of or related to any Hazardous Substances generated, disturbed or released by WEST or the residents, employees and visitors to West Village; (iii) the presence, disposal (including off-site disposal), escape, leakage, discharge, emission, release or threatened release of any Hazardous Substances in, on, under, above, from or about the Parking Area and/or on LOCS Parcel caused by WEST or the residents, employees and visitors to West Village; and (iv) compliance with any administrative notice, order, request or demand relative to any Hazardous Substances related to the Parking Area and/or on LOCS Parcel or violation of any Environmental Laws by WEST or the residents, employees and visitors to West Village. WEST’s indemnification described above specifically includes, but is not limited to, the direct obligation of WEST to promptly perform any remedial or other activities required or ordered by any administrative agency or government official, or are otherwise necessary to avoid injury or liability to any person or property, to prevent the spread of any pollution and/or contamination, or to permit the continued safe use of the Parking Area.

ARTICLE IV MISCELLANEOUS

- 4.1 Notices.** All notices or other communications required or permitted under this Agreement must be in writing and must be delivered either by hand (including by courier or reputable overnight delivery service), facsimile, or deposited in the United States Mail, registered or certified mail, postage prepaid, and addressed as follows:

LOCS:

Lake Orion Community Schools
315 North Lapeer Street
Lake Orion, Michigan 48362
Attn: Superintendent

With a copy to

Clark Hill PLC
151 S. Old Woodward, Suite 200
Birmingham, Michigan 48009
(248) 988-5840
Attn: Dana L. Abrahams

WEST:

West Village 55, LLC
79 Oakland Avenue
Pontiac, Michigan 48342
(248) 758-9925
Attn: Kyle Westberg

With a copy to

Charter Course Legal, PC
30 N Saginaw Suite 418
Pontiac, MI 48342
(248) 464-0307
Attn: Matthew A Gibb

Notices which are delivered by hand, overnight delivery or facsimile will be deemed received upon delivery; notices which are deposited in the United States Mail in accordance with the terms of this Section will be deemed received three days after the date of mailing. LOCS and WEST may each change its address for the purpose of receiving notices, and other communications by a written notice to the other Party given in the manner provided by this Section.

- 4.2 Assignment.** This Agreement may be assigned by LOCS but shall not be assignable or transferable by WEST without the prior written consent of LOCS, and WEST shall have no right to grant any sublicense

without the prior written consent of LOCS. For purposes of this Section 4.3 the Parties acknowledge that an assignment or sub-assignment from WEST to a wholly owned or directly affiliated entity is reasonable, but will still require the prior written consent of LOCS. Any assignee or sub-licensee to this Agreement shall assume and adopt the terms, conditions and obligations of this Agreement in writing, or such assignment shall automatically be null and void and shall have no force or effect.

- 4.3 Effect On Third Parties.** The rights, privileges, or immunities conferred under this Agreement are for the benefit of the owners of the Building Parcel and the LOCS Parcel and not for any third Party.
- 4.4 Waiver.** No waiver of any provision of this Agreement or any breach of this Agreement will be effective unless such waiver is in writing and signed by the waiving Party and any such waiver will not be deemed a waiver of any other provision of this Agreement or any other or subsequent breach of this Agreement.
- 4.5 Severability.** In the event any term, covenant, condition, or provision of this Agreement is held to be invalid, void, or otherwise unenforceable, by any court of competent jurisdiction, such holding will in no way affect the validity of enforceability of any other term, covenant, condition, or provision of this Agreement.
- 4.6 Governing Law.** This Agreement is governed by the laws of the State of Michigan.
- 4.7 Release.** The Term of this Agreement shall commence on the Effective Date. Notwithstanding the foregoing, LOCS reserves the right to terminate this Agreement upon forty-five (45) days written notice to WEST if LOCS requires/needs the Parking Area for its own use or in the event LOCS requires/needs the Parking Area due to its sale, lease or repurpose, etc., of the LOCS Parcel of which the Parking Area is a part, saving and reserving to LOCS any other remedies which LOCS may have for the recovery of damages arising out of this Agreement.
- 4.8 Time of Essence/Counterparts.** Time is of the essence with respect to the performance of each of the covenants and agreements contained in this Agreement. This Agreement may be executed in more than one counterpart, each of which will be deemed an original, and all of which together will constitute one and the same instrument.

THE BALANCE OF THIS PAGE IS LEFT INTENTIONALLY BLANK

Signatures on the following page

THE UNDERSIGNED AUTHORIZED REPRESENTATIVES OF THE PARTIES have executed this Agreement as of the Effective Date set forth above.

LAKE ORION COMMUNITY SCHOOLS

By: Ben Kirby

Its: Superintendent

WEST VILLAGE 55, LLC

By: Kyle Westberg

Its: Manager

STATE OF MICHIGAN)
) ss
COUNTY OF OAKLAND)

On this ____ day of November, 2021, before me personally appeared Ben Kirby, Superintendent of Lake Orion Community Schools, a Michigan general powers school district, to me known to be the same person who executed the within instrument on behalf of Lake Orion Community Schools and who acknowledges the same to be the free act and deed of Lake Orion Community Schools.

Notary public, State of Michigan, County of _____.
My commission expires _____.
Acting in the County of _____

STATE OF MICHIGAN)
) ss
 COUNTY OF OAKLAND)

Acknowledged before me in Oakland County on November _____ 2021, by Kyle Westberg, who personally appeared before and provided satisfactory evidence that he is the person whose executed this Agreement and such act was within his authorized capacity as the Manager of West Village 55, LLC, a Michigan limited liability company.

 Notary public, State of Michigan, County of _____.
 My commission expires _____.
 Acting in the County of _____

Exhibit A**Legal Description of Building Parcel**

Exhibit B

Site Plan

Exhibit C
**Legal Description of the
Parking Area**

Attachment: Exhibit C - Lake Orion School Parking License Agreement (1) (6245 : PC 23-004: the Flats & the Lofts of West Village: PUD Site

Exhibit D

LEGAL DESCRIPTION (FURNISHED BY OTHERS):

PARCEL TAX # 09-02-403-020

PART OF LOT 10, ALSO ALL OF LOT 11, SUPERVISOR'S PLAT NO 8, VILLAGE OF LAKE ORION, OAKLAND COUNTY, MICHIGAN, ALL DESCRIBED AS BEGINNING AT THE SE CORNER OF SAID LOT 11, THENCE N 89°15'57" W, 438.85 FT, THENCE N 00°02'14" E, 161.78 FT, THENCE S 89°15'57" E, 438.88 FT, THENCE S 00°02'49" W 161.78 FT TO THE POINT OF BEGINNING.

STORM WATER EASEMENT DESCRIPTION:

AN EASEMENT FOR STORM WATER DETENTION LOCATED IN T.4N., R.10.E., SECTION 2 LOCATED OVER LOT 10, SUPERVISOR'S PLAT NO 8, VILLAGE OF LAKE ORION, OAKLAND COUNTY, MICHIGAN, MORE PARTICULARLY DESCRIBED AS FOLLOWS;

COMMENCING AT THE SOUTHEAST CORNER OF LOT 11 SUPERVISOR'S PLAT NO 8, VILLAGE OF LAKE ORION, OAKLAND COUNTY, MICHIGAN, THENCE ALONG THE SOUTH PROPERTY LINE AND CHURCH STREET NORTH RIGHT-OF-WAY (60 FEET WIDE) N 89°15'57" W, 328.84 FEET TO THE POINT OF BEGINNING, THENCE CONTINUING ALONG THE SOUTH PROPERTY LINE AND AFOREMENTIONED CHURCH STREET RIGHT-OF-WAY N 89°15'57" W, 110.01 FEET TO THE SOUTHWEST PROPERTY CORNER; THENCE ALONG THE WEST PROPERTY LINE N 00°02'14" E, 161.78 FEET TO THE NORTHWEST PROPERTY CORNER, THENCE ALONG THE NORTH PROPERTY LINE S 89°15'57" E, 110.01 FEET; THENCE S 00°02'14" W 161.78 FT TO THE AFOREMENTIONED POINT OF BEGINNING CONTAINING 17,796 SQUARE FEET (0.409 ACRES) OF LAND.

Legend

Pr. Storm Water Easement

0' 60' 120'



Scale: 1"=60'



LAPEER RD.

60 FT WD

S 00°02'14" W

161.78'

LOT 11

PT. LOT 10

Point of Beginning

S 00°02'14" W 161.78'

S 89°15'57" E 438.88'

S 89°15'57" E 110.01'

110.00'

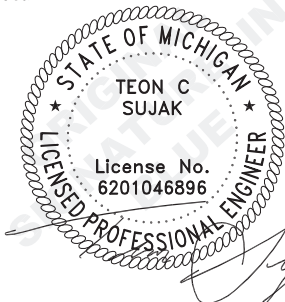
N 00°02'14" E 161.78'

N 89°15'57" W 328.84'

N 89°15'57" W 438.85'

CHURCH ST
60 FT WD

Seal



ISSUED FOR:

ISSUED FOR:

REV'D BY:

REV'D BY:

SE

Sujak Engineering PLC

CIVIL ENGINEERING § PLANNING § DESIGN

4031 Coolidge Highway
Troy, MI 48098

Phone: (248) 885-8431
Fax: (248) 885-8432

Email: SujakEngineering@Comcast.net

DRAWN BY TCS JOB No. 22-001
DATE 8/14/2023 SHEET No. 1 of 1 SCALE 1"=60'

DESCRIPTION
315 N. Lapeer St., Lake Orion MI
Parcel # 09-02-403-020

Packe

Exhibit A

LEGAL DESCRIPTION (FURNISHED BY OTHERS):

PARCEL TAX # 09-02-403-020

PART OF LOT 10, ALSO ALL OF LOT 11, SUPERVISOR'S PLAT NO 8, VILLAGE OF LAKE ORION, OAKLAND COUNTY, MICHIGAN, ALL DESCRIBED AS BEGINNING AT THE SE CORNER OF SAID LOT 11, THENCE N 89°15'57" W, 438.85 FT, THENCE N 00°02'14" E, 161.78 FT, THENCE S 89°15'57" E, 438.88 FT, THENCE S 00°02'49" W 161.78 FT TO THE POINT OF BEGINNING.

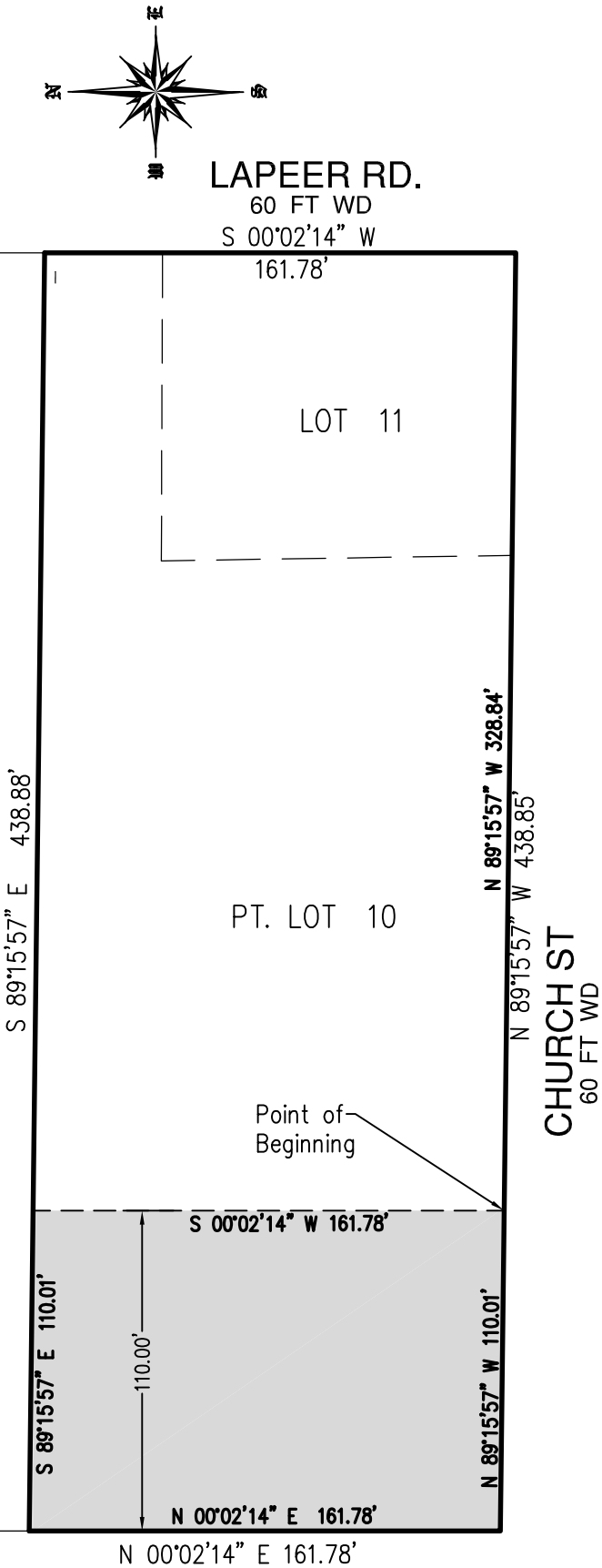
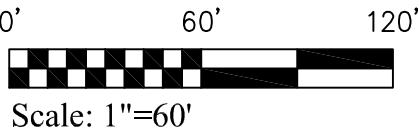
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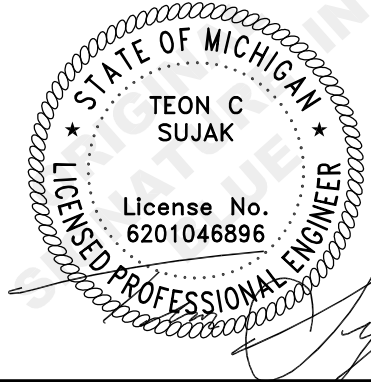
Legend

Pr. Storm Water Easement



Attachment: 22-001 SW Easement R0 (6245 : PC 23-004: the Flats & the Lofts of West Village: PUD Site Plan, Review #2)

Seal



ISSUED FOR:
ISSUED FOR:

REV'D BY:
REV'D BY:

SE Sujak Engineering PLC
CIVIL ENGINEERING § PLANNING § DESIGN
4031 Coolidge Highway Phone: (248) 885-8431
Troy, MI 48098 Fax: (248) 885-8432
Email: SujakEngineering@Comcast.net

DRAWN BY TCS JOB No. 22-001
DATE 8/14/2023 SHEET No. 1 of 1 SCALE 1"=60'

DESCRIPTION
315 N. Lapeer St., Lake Orion MI
Parcel # 09-02-403-0

EXHIBIT A**LEGAL DESCRIPTION OF THE LAND**

Property situated in the Village of Lake Orion, County of Oakland, State of Michigan, more particularly described as follows:

PART OF LOTS 9 & 10, DESCRIBED AS BEGINNING AT A POINT LOCATED DISTANT N 00°02'49" E 161.78 FEET FROM THE SOUTHEAST CORNER OF LOT 11 OF SAID SUBDIVISION, THENCE N 89°15'57" W 438.88 FEET, THENCE N 00°02'14" E 311.33 FEET, THENCE S 89°27'45" E 82.06 FEET, THENCE N 00°00'14" W 99.91 FEET, THENCE S 58°37'00" E 417.89 FEET, THENCE S 00°02'49" W 198.48 FEET TO BEGINNING, SUPERVISOR'S PLAT NO 8, VILLAGE OF LAKE ORION, OAKLAND COUNTY, MICHIGAN, ALSO, THE WEST 36 FEET OF THE NORTH 80 FEET OF LOT 3, ALSO NORTH 80 FEET OF LOT 4, BLK 24, HEMINGWAYS PLAT, VILLAGE OF LAKE ORION, OAKLAND COUNTY, MICHIGAN.

(Parcel Nos. 09-02-403-019 and 09-02-433-002) commonly known as 55 West Elizabeth St., Lake Orion, Michigan



July 10, 2023

Darwin McClary
Village Manager
Village of Lake Orion
21 E. Church St.
Lake Orion, MI 48362

Re: West Village PUD
Final PUD Review #1
NFE Job No. M900

Dear Mr. McClary:

We have reviewed the Final PUD Plan for the above referenced site. Our review is consistent with the requirements of Article 11 and Article 19 of the Zoning Ordinance, Section D – Required Information and relevant sections of the Zoning Ordinance related to the zoning district. We offer the following comments:

From preliminary PUD requirements (NFE did not receive for review at that stage):

1. Per Section 11.05 A.1 Required Information, a metes and bounds survey and legal description is required. We note that the ALTA Survey provided dates to 2014; is not signed or sealed; does not include a citation for the underlying subdivision in the legal description (necessary, since the legal refers to “said subdivision”); does not show all property line dimensions; does not show the location of the Point of Beginning; and specifically states that the boundary per the legal description does not close. The only area covered by the ALTA legal description is the main school site; the parcel on the east side of Lapeer Road was not included. This is also true of the Warranty Deed submitted as Proof of Ownership; it does not include the parcel on the east side of Lapeer Road.
2. The topographic survey, which is included on the ALTA Survey, does not extend to 100’ past the property lines (50’ required in other Zoning Ordinance sections, but this is also not provided), is nine years old and thus does not show the current conditions, particularly at the intersection of Lapeer Road and Elizabeth Street.

The above items are also required in later sections of the Zoning Ordinance.

From Final PUD requirements:

All information required for site plan approval.

1. The legal descriptions provided between the various plans do not include either gross or net area while both are required. The site plan indicates a total site area of 3.3 acres but does not indicate whether this is the school site only or if it includes the parking parcel across Lapeer Road. If this parcel is not owned by the developer, we question if it can (or indeed has) been used in the density calculations.
2. None of the plans show the existing zoning of this or the surrounding parcels, as required.

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48680 VAN DYKE, SUITE 200
SHELBY TOWNSHIP, MI 48317

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3. None of the plans show the complete setback lines. In addition, the building footprint between the architectural site plan and the preliminary geometry plan are not the same. Provide correct building footprint and all proposed dimensions to property lines.
4. In general, the base plans underlying the photometric, landscaping, architectural and civil plans are not all consistent. Provide consistent existing and proposed improvements on all plans.
5. Plans do not show the location and height of all existing structures within 50' of the site (Preliminary PUD required information within 100').
6. Plans must show proposed fire lanes. We note that the width of the drive near the cell tower is shown as 25' 6" on the site plan but 26' on the preliminary geometry plan. 26' minimum is required. Also, the travel path of the design vehicle does not appear to be shown completely. It appears that the vehicle path was not completed before the template was restarted with straightened wheels. Verify that the required fire vehicle can maneuver around the reverse curve of the southern parking lot drive aisle.
7. Plans are required to show the pavement width of the adjoining streets. We note that the ALTA Survey does not provide detail at the intersection, and the proposed changes shown on GP-1 and UT-1 do not appear to define the connection to existing topography. Only the landscape plan seems to include lines for the existing intersection and Elizabeth Street sidewalk east of Lapeer Road.
8. Height of proposed fences and walls is required. The retaining wall detail and dumpster screen do not indicate height, and the dumpster details are too small for clarity. Also, preliminary grading indicates that the retaining wall may be over 14' high. This will require sealed structural calculations at engineering review.
9. Location of the transformer pad and method of screening is required but not shown.
10. Preliminary utility and detention facilities must be shown, with enough detail to indicate adequacy. Specific issues that are not addressed include the following:
 - Site plan shows the site area as 3.3 acres, yet detention comps indicate just 3.08 acres tributary, which does not appear to include the school property to the south on which the detention pond is/will be located.
 - Proposed water main and fire service are not adequate as shown. The hydrant near the southeast corner of the Flats building is too close for safety in the event of a fire; the design standards require 50' from multi-family buildings, and approximately 5' is provided. The water main must be looped around the west side of the Flats and connect to the main in Elizabeth Street. As shown, the fire connections to the both buildings could not be accepted, as they are tied in to stub lines serving hydrants rather than the live main, which will be corrected by the proposed loop. The mechanical room location also makes it more practical to loop the main, since it is located at the "bend" of the Lofts. The existing mains in both Elizabeth Street and Lapeer Road are 8" diameter; provide an 8" loop through the site.
 - Location and width of all proposed easements is required to be shown, including for the detention basin off-site.
11. The site planning criteria require areas of cut and fill to be identified on the plan, with a statement of how the grade changes will be addressed. This site includes substantial cuts at the north end of the Lofts building and all along the existing bluff, including near the existing cell tower.
12. Include the flood plain location or a note indicating that the site is not within a designated flood plain.

NOWAK & FRAUS ENGINEERS

13. Outdoor light fixtures must be shown, with detailed information. We note that the proposed light poles are only indicated on the preliminary photometric plans, and not shown as required on landscaping, site plan, utility and geometry, or paving and grading plans.
14. The location and type of any proposed sign is required. If the only site-identifying signage is to be the existing school sign, please note this.
15. We note that the location of "optional" carports is shown, along with a detail. However, it appears that the carport supports will make the accessible stalls in the north parking lot non-complaint with ADA requirements. Also, we note that the ADA prefers accessible stalls to be located as close as possible to building entryways.
16. The accessible stalls shown at the south end of the existing school building appear to include a ramped sidewalk as required, but then attach to the existing sidewalk which includes a step at the doorway to the proposed event venue. Indicate how this will be addressed to comply with ADA accessibility requirements.
17. The submitted Traffic Impact Study indicates the proposed development will have minimal impact on the existing traffic of Lapeer Road and Elizabeth Street.

Final Site Plan Requirements. We note that Final Site Plan approval as described in the Zoning Ordinance requires review of detailed final engineering plans, which are not provided with this submittal.

18. Storm sewer profiles, size, slope, type, length and ground rim elevations are required but not provided. Also, what appears to be a proposed roof drain connection at the northernmost corner of the existing school building does not connect to anything.
19. Complete design of water main extensions.
20. Soil Erosion Control Plan; we note that the plan submitted is marked "preliminary".
21. Complete grading plan; again, this is marked "preliminary". Initial review of the proposed paving and grading plan indicates the following concerns:
 - Proposed slopes of over 50% at the northwest corner of the site, with only "gravity retaining rocks" indicated for support. A complete design of retaining structures must be provided. Also, show the existing off-site structure and the proximity to the proposed retaining wall / grade change.
 - Proposed slope across the northern parking lot of nearly 13% flowing toward the building face.
 - Proposed slope of nearly 8% along the southern parking lot reverse curve.
 - Proposed contours shown at the end of the existing wall around the cell tower indicate a cut of over 10' within approximately 5' of the tower base. How is this going to affect the structural stability of the cell tower? Has this been coordinated with the tower owner? Approval by the tower owner will be required.
 - Developer has mentioned utilizing parking in the adjacent school administration parking lot for future events. No connection is indicated between the two lots, though dashed lines seem to indicate a future connection, or possibly an easement. This needs to be clarified and labeled.
 - Location of the existing right of way, pavement edge and sidewalk in Elizabeth Street east of Lapeer Road must be shown. As proposed, it appears that the "City Parking" lot may intrude into the road right of way.
 - Plan UT-1 does not show the proposed on-street parking and sidewalk indicated on the site plan.

- The parking count charted on the site plan does not appear to include the 5 stalls for “Lofts South”.
- 22. The landscape plans must include the location, size and type of any tree larger than 3” caliper to be removed.
- 23. Both the site plan and the proposed landscape plans appear to show proposed planting to the west of the developer’s site. Provide an easement and agreement with the adjoining owner if this is the case. This situation is also shown surrounding the “City Parking” lot east of Lapeer Road. Show the Elizabeth Street right of way and clarify where plantings are proposed in relation to it.

The comments above include more detail related to engineering design than is typical for site plan review, but are not a review of final engineering plans. Due to the extent and nature of the comments above, additional comments may appear in future reviews.

Complete Engineering Plans meeting the requirements of Ordinance 31.26, Design and Construction Standards must be submitted for review, and no construction shall begin prior to engineering approval.

We recommend that the plan be revised and resubmitted subject to the above comments. If you have any questions, please do not hesitate to call.

Sincerely,

Nowak & Fraus Engineers



Wendy E. Spence, PE
 Sr. Project Manager

CC: Laura Haw, McKenna
 Gage Belko, McKenna
 Wesley Sanchez, DPW Director
 Todd Stanfield, Interim Chief of Police, Lake Orion
 John Pender, Assistant Chief, Orion Township Fire Department
 Jeffrey Williams, Fire Marshall, Orion Township Fire Department
 David Goodloe, Building Official, Orion Township
 Susan Galeczka, Clerk, Lake Orion

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Attachment: M900 LT-01 Final PUD Review #1 (6245 : PC 23-004: the Flats & the Lofts of West Village: PUD Site Plan, Review #2)

LOFTS AT WEST VILLAGE

55 ELIZABETH STREET
LAKE ORION, MI. 48362

OWNER:
WEST VILLAGE OWNER, LLC

79 OAKLAND AVE
PONTIAC, MI 48342

GENERAL CONTRACTOR:

WEST CONSTRUCTION

79 OAKLAND AVE
PONTIAC, MI 48342

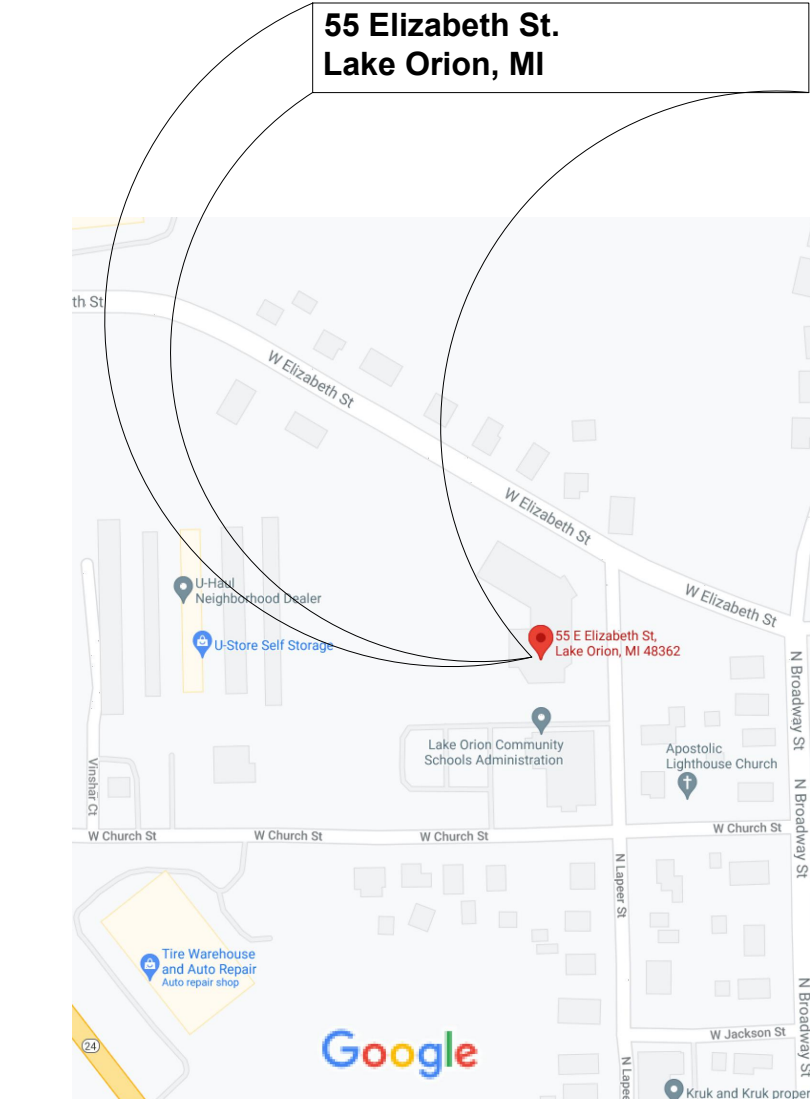
ARCHITECT:
TDG ARCHITECTS

79 Oakland Avenue
Pontiac, MI 48342

ABBREVIATIONS			
A	A.F.F.	ABOVE FINISHED FLOOR	
	A.D.	ACCESS DOOR	
	A.P.	ACCESS PANEL	
	ACoust.	ACOUSTIC, ACOUSTICAL	
	A.C.T.	ACUSTICAL CEILING TILE	
	ADON.	ADDITIONAL	
	ADJ.	ADJACENT	
	AGG.	AGGREGATE	
	AL.	ALTERNATE, ALTERNATING	
	ALUM.	ALUMINUM	
B	ANCH.	ANCHOR, ANCHORAGE	
	B.	BOLT	
	L	ANGLE	
	AND	AND	
	ANOD.	ANODIZED	
	APPR.	APPROVED	
	APPROX.	APPROXIMATE	
	ARCH.	ARCHITECT	
	ASPH.	ASPHALT	
	ASST.	ASSISTANT	
C	#	AT	
	AUTO.	AUTOMATIC	
	AUX.	AUXILIARY	
	AUN.	AUNING	
	B.F.	BARRIER FREE	
	B. PL.	BASE PLATE	
	BENT.	BENT	
	BH.	BEARING	
	BRG.	BEARING	
	B.R.	BEARING PLATE	
D	B.T.U.	BETWEEN	
	B.T.	BETWEEN	
	B.U.K.	BLOCK	
	B.U.K.G.	BLOCKING	
	B.D.	BOARD	
	B.B.	BOND BEAM	
	BOTT.	BOTTLE	
	B.C.	BOTTOM CHORD	
	B.C.E.	BOTTOM CHORD EXTENSION	
	B.O.L.	BOTTOM OF UNTEL	
E	B.M.C.	BOTTOM OF STEEL	
	B.R.C.	BRICK	
	BRDG.	BRIDGE, BRIDGING	
	B.L.D.G.	BUILDING	
	B.U.R.	BUILT UP ROOFING	
	CAB.	CABINET	
	CANT.	CANTILEVER	
	C.O.	CASED OPENING	
	C.P.	CATCH BASIN	
	C.B.	CATCH BASIN	
F	C.B.	CATCH BASIN	
	C.B.	CATCH BASIN	
	C.B.	CATCH BASIN	
	C.B.	CATCH BASIN	
	C.B.	CATCH BASIN	
	C.B.	CATCH BASIN	
	C.B.	CATCH BASIN	
	C.B.	CATCH BASIN	
	C.B.	CATCH BASIN	
	C.B.	CATCH BASIN	
G	G.	GAS	
	G.A.	GAUGE, GAGE	
	G.A.	GALVANIZED	
	G.I.	GALVANIZED IRON	
	G.D.	GUARANTEE, GUARANTEE	
	G.E.N.	GENERAL	
	G.C.	GENERAL CONTRACTOR	
	G.R.	GRINDER	
	G.L.S.	GLASS	
	G.L.U.L.A.M.	GLUE LAMINATED WOOD	
H	H.	HANDICAPPED	
	H.C.	HEADER	
	H.V.A.C.	HEATING, VENTILATING, AIR CONDITIONING	
	H.	HEIGHT	
	H.P.	HIGH POINT	
	H.P.L.	HIGH PRESSURE LAMINATE	
	H.S.	HOLLOW METAL	
	H.S.S.	HOLLOW STRUCTURAL SECTION	
	H.O.R.Z.	HORIZONTAL, HORIZONTALITY	
	H.B.	HOSE BIBB	
I	I.	INCH	
	I.N.	INCH, INCHES	
	I.N.C.L.	INCLUDE, INCLUDED, INCLUDING	
	I.N.F.O.	INFORMATION	
	I.D.	INSIDE DIAMETER	
	I.F.	INSIDE FACE	
	I.N.S.U.L.	INSULATE, INSULATION, INSULATION	
	I.N.T.	INTERIOR	
	I.N.V.	INVERT, INVERTED	
	I.E.	INVERT ELEVATION	
J	J.	JOINT	
	J.B.	JOINT BEARING	
	J.G.	JOINT GIRDER	
	J.S.	JOINT SUBSTITUTE	
	K.C.S.	K-JOIST, CONSTANT SHEAR	
	K.P.	KICK PLATE	
	K.	KIPS	
	K.L.F.	KIPS PER LINEAR FOOT	
	K.S.I.	KIPS PER SQUARE INCH	
	KITCH.	KITCHEN	
L	L.	ANGLE	
	L.A.M.	LAMINATE, LAMINATED	
	L.V.L.	LAMINATED VENEER LUMBER	
	L.H.	LEFT HAND	
	L.H.R.	LEFT HAND REVERSE	
	L.G.	LENGTH, LONG	
	L.T.	LIGHT	
	L.T.G.	LIGHTING	
	L.T.W.	LIGHT WEIGHT	
	L.V.	LONG	
M	M.	MACHINE	
	M.H.	MAN HOLE	
	M.F.	MANUFACTURER	
	M.T.	MATERIAL	
	M.H.	MASONRY	
	M.B.R.	MASTER BEDROOM	
	M.T.L.	MATERIAL	
	M.C.	MECHANICAL	
	M.C.	MEDIUM	
	M.C.	MEDIUM	
N	N.	NATURAL	
	N.O.M.	NORMAL	
	N.	NORTH	
	N.I.C.	NOT IN CONTRACT	
	N.T.S.	NOT TO SCALE	
	N.O.	NUMBER	
	#	NUMBER	
	O.	OFF	
	O.C.	ON CENTER	
	O.P.N.G.	OPENING	
P	P.	PAINT	
	P.R.	PAIR	
	P.N.L.	PAPER TUBEL DISPENSER	
	P.T.D.	PAPER TUBEL RECEPTACLE	
	P.A.R.	PARALLEL	
	P.S.L.	PAPER STRAND LUMBER	
	P.A.R.T.N.	PARTITION	
	P.V.H.T.	PERFORATED	
	P.V.G.	PERFORATED	
	P.E.R.K.	PERFORATED	
Q	Q.	QUARRY TILE	
	R.C.	RAIN CONDUCTOR	
	R.A.D.	RADIUS	
	R.A.P.T.	RADIANT	
	R.E.F.	REFERENCE	
	R.E.F.L.	REFLECTED, REFLECTIVE	
	R.E.F.R.	REFRIGERATION, REFRIGERATOR	
	R.E.N.F.	REINFORCE, REINFORCING	
	R.E.C.O.	REQUIRED	
	R.E.S.	RESIDENT	
R	R.	RISER	
	R.H.	RIGHT HAND	
	R.H.R.	RIGHT HAND REVERSE	
	R.	RISER	
	R.D.	ROOF DRAIN	
	R.S.	ROOF SUMP	
	R.T.U.L.	ROUGH TOP UNIT	
	R.F.G.	ROUGH	
	R.M.	ROUGH OPENING	
	R.S.	ROUGH RAISE	
S	S.	SANITARY	
	S.N.D.	SANITARY NAPKIN DISPENSER	
	S.N.D.P.	SANITARY NAPKIN DISPOSAL	
	S.C.H.E.D.	SCHEDULE	
	S.E.C.	SECTION	
	S.H.T.	SHEATHING	
	S.H.T. MET.	SHEET METAL	
	S.H.W.R.	SHOWER	
	S.L.	SLAB	
	S.L.D.R.	SLIDER	
T	T.	TACK, BOARD	
	T.E.L.	TELEPHONE	
	T.E.P.	TEMPERED	
	T.H.	THICK, THICKNESS	
	T.H.R.E.	THRESHOLD	
	T.L.T.	TOILET	
	T.F.D.	TOILET PAPER DISPENSER	
	T.P.H.	TOILET PAPER HOLDER	
	T.E.B.	TONGUE AND GROOVE	
	T.C.	TOP CHORD	
U	U.	UNDER	
	U.C.L.	UNDER CABINET LIGHTS/LIGHTING	
	U.L.	UNDERLAYMENT	
	U.L.L.	UNDERLAYER'S LABORATORIES, INC.	
	U.N.C.	UNEXCAVATED	
	U.N.O.	UNLESS NOTED OTHERWISE	
	U.R.	UNIFORM	
	V.T.R.	VENT THROUGH ROOF	
	V.E.R.T.	VERTICAL, VERTICALLY	
	V.E.S.T.	VESTIBULE	
V	V.	VENT	
	V.C.T.	VENT COMPOSITION TILE	
	V.T.	VINYL TILE	
	V.U.C.	VINYL WALL COVERING	
	V.	VOLT	
	W.A.S.H.	WASHER	
	W.R.	WATER LEAKER	
	W.R.	WATER RESISTANT	
	W.P.	WATER PROOFING	
	W.T.	WELDED WIRE FABRIC	
W	W.	WELDED WIRE MESH	
	W.F.D.	WIDE FLANGE BEAM	
	W.F.T.	WIDE FLANGE TEE	
	W.	WIDEN	
	W.	WIDEN	
	W.	WIDEN	
	W.	WIDEN	
	W.	WIDEN	
	W.	WIDEN	
	W.	WIDEN	
Y	Y.	YARD	
	Y.	YARD	
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GENERAL NOTES

- DO NOT SCALE DRAWINGS. DIMENSIONS GOVERN. LARGER SCALE DRAWINGS SHALL GOVERN SMALLER SCALE.
- CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS SHOWN ON DRAWINGS AT THE JOB SITE AND SHALL NOTIFY ARCHITECT OF ANY DISCREPANCIES, OMISSIONS, AND/OR CONFLICTS BEFORE PROCEEDING WITH THE JOB.
- CONTRACTOR MUST COMPLY WITH RULES AND REGULATIONS OF AGENCIES HAVING JURISDICTION, CITY, STATE AND FEDERAL CONSTRUCTION, SAFETY AND SANITARY LAWS, CODES, STATUTES AND ORDINANCES. ALL FEES, TAXES, PERMITS, APPLICATIONS AND CERTIFICATES OF INSPECTION, AND THE FILING OF ALL WORK WITH GOVERNMENTAL AGENCIES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- ALL WORK SHALL BE PERFORMED BY SKILLED AND QUALIFIED WORKMEN IN ACCORDANCE WITH THE BEST PRACTICES OF THE TRADES INVOLVED.
- CONTRACTORS SHALL BE RESPONSIBLE FOR THE DISTRIBUTION OF DRAWINGS TO ALL TRADES UNDER HIS/HER JURISDICTION WITH A FULL SET OF DRAWINGS.
- ALL WORK SHALL BE ERECTED AND INSTALLED PLUMB, LEVEL, SQUARE, TRUE AND IN PROPER ALIGNMENT. ALL MATERIALS SHALL BE NEW, UNUSED AND OF THE HIGHEST QUALITY IN EVERY RESPECT, UNLESS OTHERWISE NOTED. MANUFACTURED MATERIALS AND EQUIPMENT SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS AND INSTRUCTIONS.
- THERE SHALL BE NO SUBSTITUTION OF MATERIALS WHERE A MANUFACTURER IS SPECIFIED. WHERE THE TERMS "EQUAL TO" OR "APPROVED EQUAL" ARE USED, THE ARCHITECT SHALL DETERMINE EQUALITY BASED ON INFORMATION SUBMITTED BY THE CONTRACTOR.
- ALL WORK AND MATERIALS SHALL BE GUARANTEED AGAINST DEFECTS FOR A PERIOD OF AT LEAST ONE (1) YEAR FROM APPROVAL FOR FINAL PAYMENT.
- CONTRACTOR SHALL, AT ALL TIMES KEEP THE PREMISES FREE OF ACCUMULATION OF WASTE MATERIALS OR RUBBISH. PREMISES TO BE SWEEP CLEAN DAILY OF RELATED CONSTRUCTION DEBRIS. AT THE COMPLETION OF THE WORK, LEAVE THE JOB SITE FREE OF ALL MATERIALS AND BROOM CLEAN.
- UPON COMPLETION OF WORK THE CONTRACTOR SHALL WALK THROUGH WITH OWNER AND COMPILE A "PUNCH LIST" OF CORRECTIONS AND UNSATISFACTORY AND/OR INCOMPLETE WORK.



LOCATION MAP
NOT TO SCALE

Project
LOFTS AT WEST VILLAGE

55 ELIZABETH STREET
LAKE ORION, MI. 48362

Client
WEST VILLAGE OWNER, LLC

79 OAKLAND AVE
PONTIAC, MI. 48342

Attachment: 23_8_15 21-167.1 A101 LOFTS SPA SET 0245 - PC 25004: the Flats & the Lofts of West Village: PUD Site Plan, Review #2

REVISION SCHEDULE	
DATE	DESCRIPTION
05/26/21	CLIENT REVIEW
08/3/21	HISTORIC REVIEW
08/10/21	HISTORIC SUBMITTAL
08/13/21	PUD SUBMITTAL
08/27/21	PUD SUBMITTAL REVI
09/10/21	HISTORIC SUBMIT REVI
09/15/21	VILL. COMMENT. RESP.
6/19/23	SITE PLAN APP.
7/25/23	SITE PLAN APP.
8/14/23	SITE PLAN APP.



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CHECKED BY: BSG

Drawing Title
COVER SHEET

Project Number

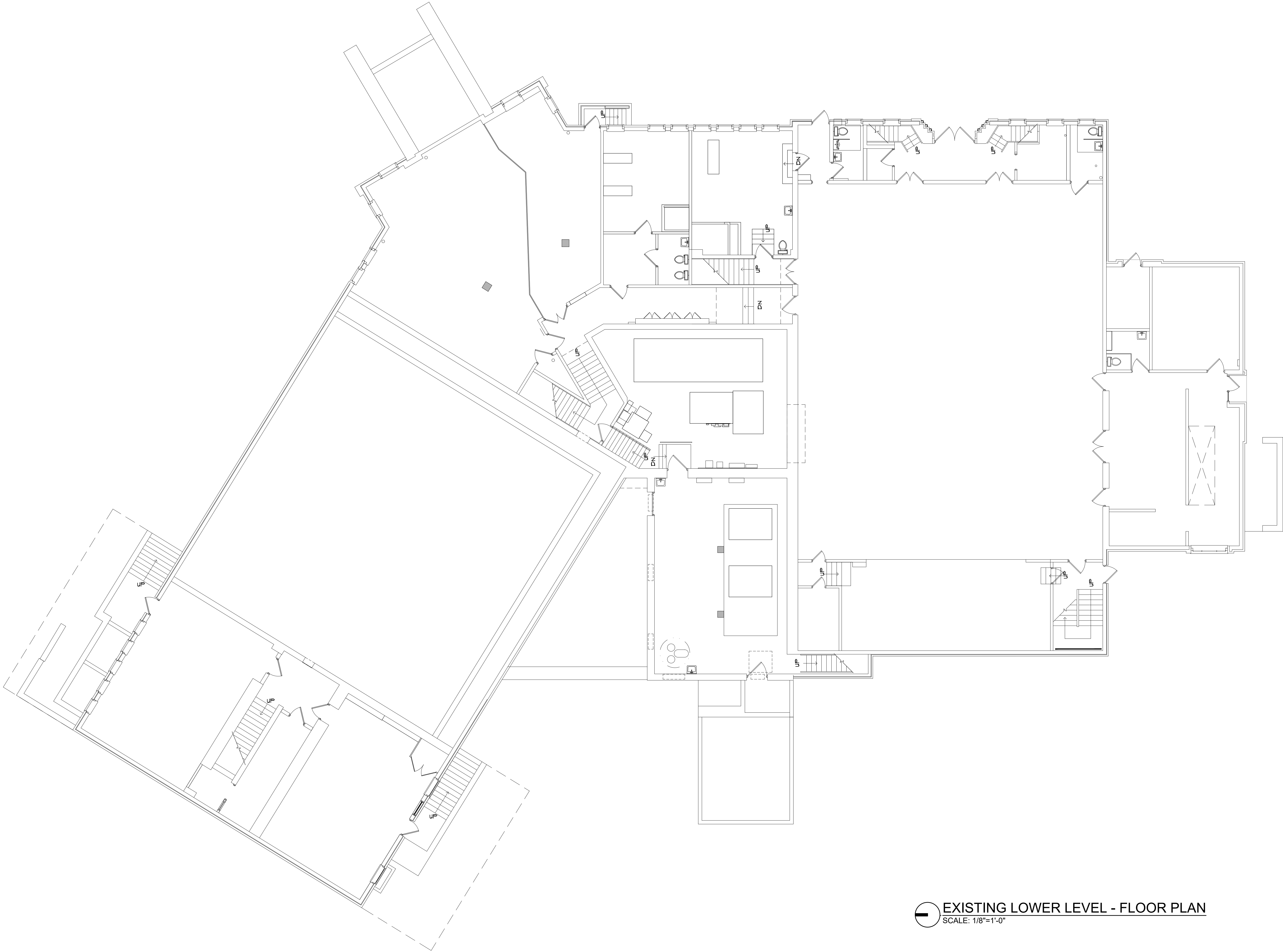
21-167.1

Drawing Number

CS 100

Packet Pg. 92





EXISTING LOWER LEVEL - FLOOR PLAN
SCALE: 1/8"=1'-0"

**EXISTING
LOWER LEVEL
FLOOR PLAN**

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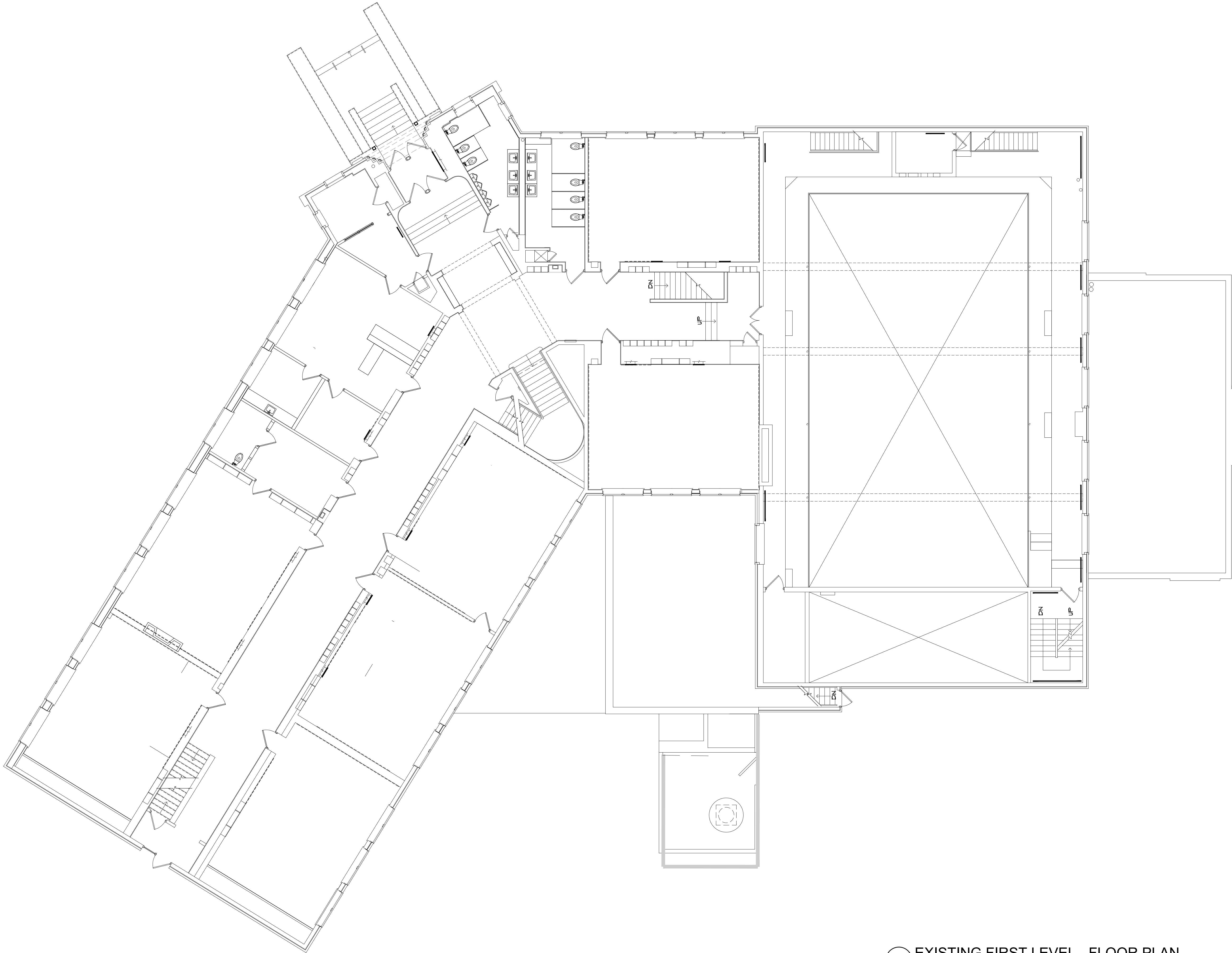
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REVISION SCHEDULE	
DATE	DESCRIPTION
08/26/21	CLIENT REVIEW
08/3/21	HISTORIC REVIEW
08/10/21	HISTORIC SUBMITTAL
08/13/21	PUD SUBMITTAL
08/27/21	PUD SUBMITTAL REV1
09/10/21	HISTORIC SUBMIT REV1
09/15/21	VILL COMMENT. RESP.
6/19/23	SITE PLAN APP.
7/25/23	SITE PLAN APP.
8/14/23	SITE PLAN APP.

Project
LOFTS AT WEST VILLAGE
55 ELIZABETH STREET
LAKE ORION, MI. 48362
Client
WEST VILLAGE OWNER, LLC
79 OAKLAND AVE
PONTIAC, MI. 48342

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EXISTING FIRST LEVEL - FLOOR PLAN
SCALE: 1/8"=1'-0"

**EXISTING
FIRST LEVEL -
FLOOR PLAN**

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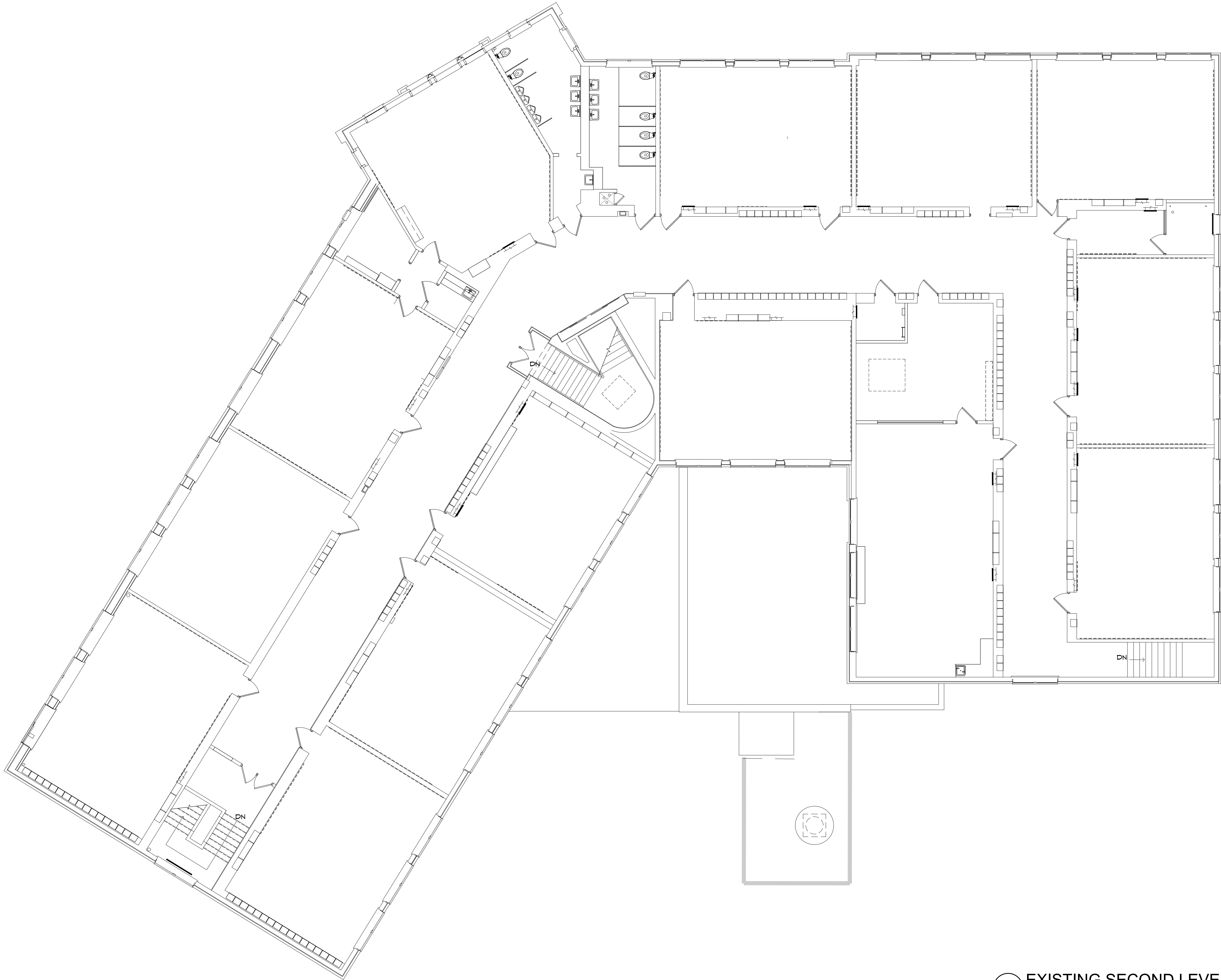
REVISION SCHEDULE	
DATE	DESCRIPTION
08/26/21	CLIENT REVIEW
08/3/21	HISTORIC REVIEW
08/1/0/21	HISTORIC SUBMITTAL
08/1/3/21	PUD SUBMITTAL
08/2/1/21	PUD SUBMITTAL REVI
09/1/0/21	HISTORIC SUBMIT REVI
09/1/5/21	VILL. COMMENT. RESP.
6/19/23	SITE PLAN APP.
7/25/23	SITE PLAN APP.
8/14/23	SITE PLAN APP.

Project
LOFTS AT WEST VILLAGE
55 ELIZABETH STREET
LAKE ORION, MI. 48362
Client
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Project Number
21-167.1
Drawing Number

A 002
Packet Pg. 94



EXISTING SECOND LEVEL - FLOOR PLAN
SCALE: 1/8"=1'-0"

**EXISTING
SECOND LEVEL -
FLOOR PLAN**

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REVISION SCHEDULE	
DATE	DESCRIPTION
08/26/21	CLIENT REVIEW
08/3/21	HISTORIC REVIEW
08/10/21	HISTORIC SUBMITTAL
08/13/21	PUD SUBMITTAL
08/27/21	PUD SUBMITTAL REV1
09/10/21	HISTORIC SUBMIT REV1
09/15/21	VILL. COMMENT. RESP.
6/19/23	SITE PLAN APP.
7/25/23	SITE PLAN APP.
8/14/23	SITE PLAN APP.

Project
LOFTS AT WEST VILLAGE
55 ELIZABETH STREET
LAKE ORION, MI. 48362
Client
WEST VILLAGE OWNER, LLC
79 OAKLAND AVE
PONTIAC, MI. 48342

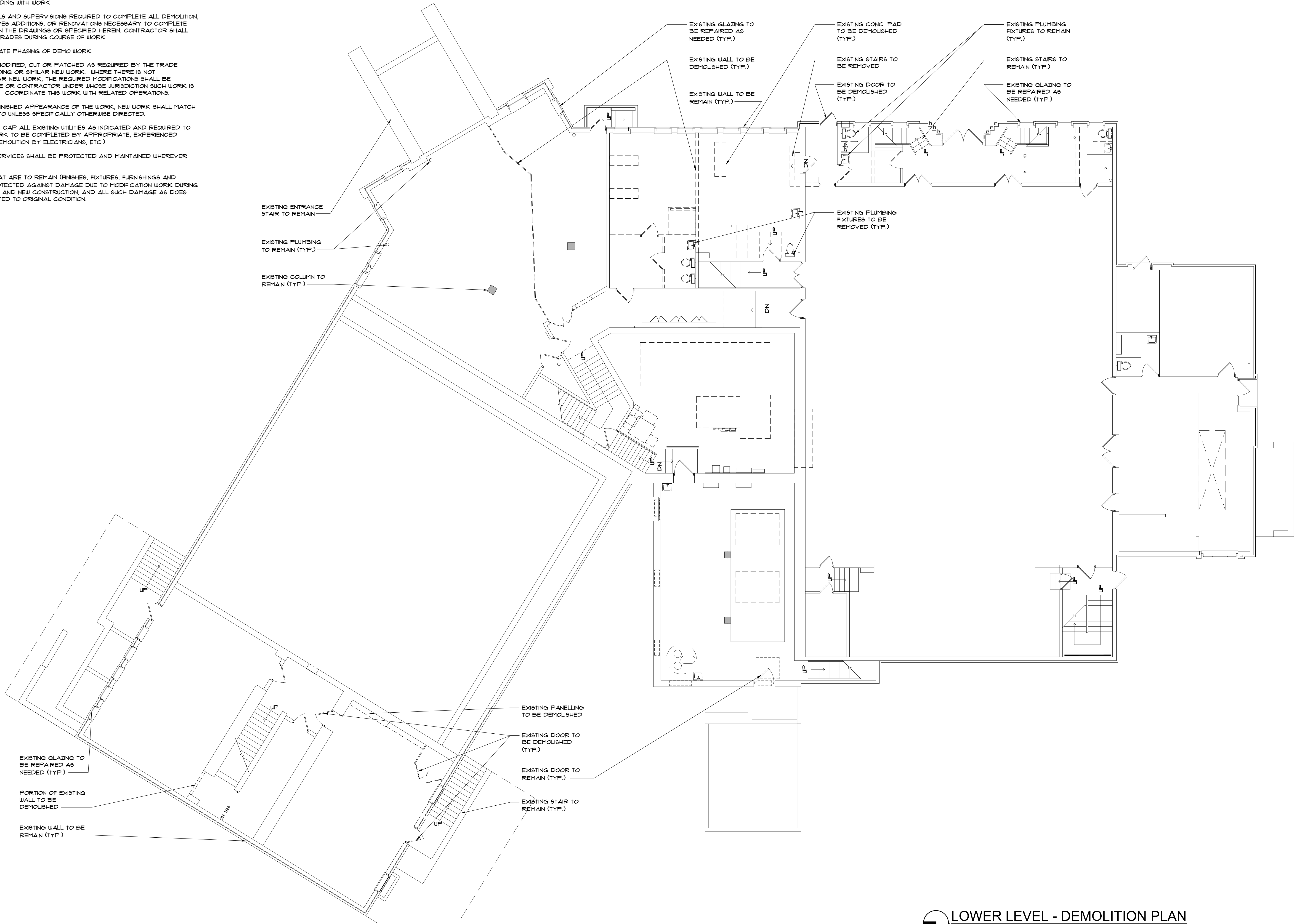
Attachment: 23_8_15 21-167.1 A101 LOFTS SPA SET 6245 : PC 23-004: the Plate & the Lofts of West Village: PUD Site Plan, Review #2)

Project Number
21-167.1
Drawing Number

A 003 Packet Pg. 95

DEMOLITION WORK:

1. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS WITHIN AREA OF WORK BEFORE PROCEEDING WITH WORK.
2. PROVIDE LABOR, MATERIALS AND SUPERVISIONS REQUIRED TO COMPLETE ALL DEMOLITION, MODIFICATIONS, ALTERNATIVES ADDITIONS, OR RENOVATIONS NECESSARY TO COMPLETE THE WORK AS INDICATED ON THE DRAWINGS OR SPECIFIED HEREIN. CONTRACTOR SHALL COORDINATE PHASING OF TRADES DURING COURSE OF WORK.
3. CONTRACTOR TO COORDINATE PHASING OF DEMO WORK.
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5. WHERE REQUIRED BY THE FINISHED APPEARANCE OF THE WORK, NEW WORK SHALL MATCH EXISTING ADJACENT THERETO UNLESS SPECIFICALLY OTHERWISE DIRECTED.
6. DISCONNECT, REMOVE, AND CAP ALL EXISTING UTILITIES AS INDICATED AND REQUIRED TO PERMIT NEW WORK. ALL WORK TO BE COMPLETED BY APPROPRIATE, EXPERIENCED TRADES (I.E. ELECTRICAL DEMOLITION BY ELECTRICIANS, ETC.)
7. INTERFERING UTILITIES OR SERVICES SHALL BE PROTECTED AND MAINTAINED WHEREVER ENCOUNTERED.
8. EXISTING SITE FEATURES THAT ARE TO REMAIN (FINISHES, FIXTURES, FURNISHINGS AND MATERIALS), SHALL BE PROTECTED AGAINST DAMAGE DUE TO MODIFICATION WORK DURING ALL STAGES OF DEMOLITION AND NEW CONSTRUCTION, AND ALL SUCH DAMAGE AS DOES OCCUR SHALL BE CORRECTED TO ORIGINAL CONDITION.



LOWER LEVEL - DEMOLITION PLAN
SCALE: 1/8"=1'-0"

8.A.n

TDGArchitects

TDG Architects

TDGArchitects.com

79 Oakland Avenue
P. (248) 874-1420

Pontiac, Michigan 48342
F. (248) 758-8926

Project

LOFTS AT WEST VILLAGE

55 ELIZABETH STREET
LAKE ORION, MI. 48362

Client

WEST VILLAGE OWNER, LLC
79 OAKLAND AVE
PONTIAC, MI. 48342

REVISION SCHEDULE	
DATE	DESCRIPTION
08/26/21	CLIENT REVIEW
08/31/21	HISTORIC REVIEW
08/10/21	HISTORIC SUBMITTAL
08/13/21	PUD SUBMITTAL
08/27/21	PUD SUBMITTAL REV1
09/10/21	HISTORIC SUBMIT REV1
09/15/21	VILL. COMMENT. RESP.
6/19/23	SITE PLAN APP.
7/25/23	SITE PLAN APP.
8/14/23	SITE PLAN APP.

STATE OF MICHIGAN
BRIAN GILL
ARCHITECT
No. 1301044896
LICENSED ARCHITECT

DRAWN BY:

CMW

CHECKED BY:

BSG

Drawing Title

LOWER LEVEL -
DEMOLITION PLAN

Project Number

21-167.1

Drawing Number

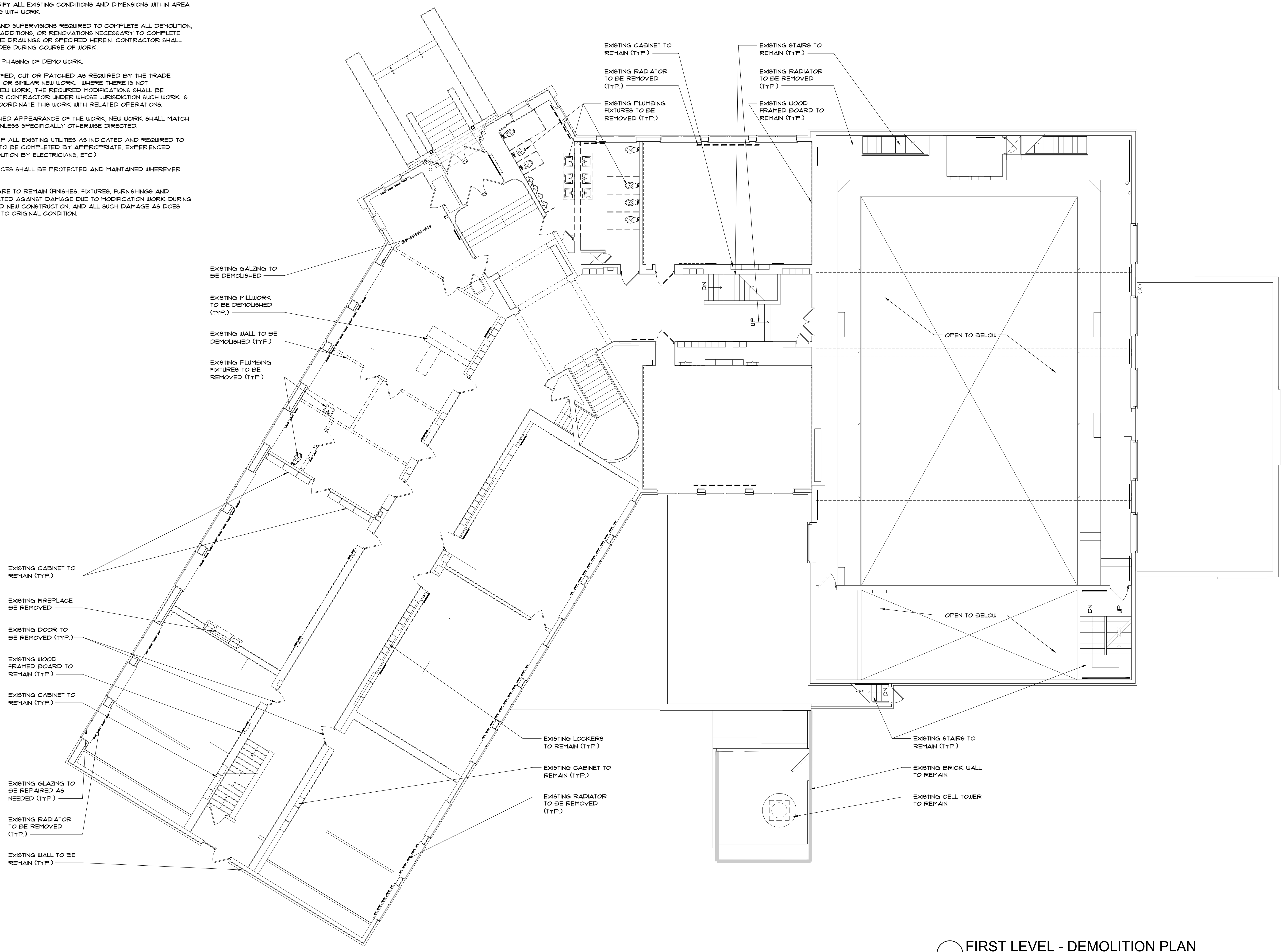
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Attachment: 23_8_15 21-167.1 A101 LOFTS SPA SET 6245 : PC 23-004: the Plate & the Lofts of West Village : PUD Site Plan, Review #2)

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Packet Pg. 96

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TDG Architects

Pontiac, Michigan 48342
P. (248) 758-9926

79 Oakland Avenue
P.(248) 874-1420

TDGArchitects.com

Project

LOFTS AT WEST VILLAGE

55 ELIZABETH STREET
LAKE ORION, MI. 48362

Client

WEST VILLAGE OWNER, LLC
79 OAKLAND AVE
PONTIAC, MI. 48342

REVISION SCHEDULE	
DATE	DESCRIPTION
05/26/21	CLIENT REVIEW
08/3/21	HISTORIC REVIEW
08/10/21	HISTORIC SUBMITTAL
08/13/21	FUD SUBMITTAL
08/27/21	FUD SUBMITTAL REVI
09/10/21	HISTORIC SUBMIT REVI
09/15/21	VILL. COMMENT. RESP.
6/1/9/23	SITE PLAN APP.
7/25/23	SITE PLAN APP.
8/14/23	SITE PLAN APP.

DRAWN BY:

CMW

CHECKED BY:

B5G

Drawing Title

**FIRST LEVEL -
DEMOLITION PLAN**

Project Number

21-167.1

Drawing Number

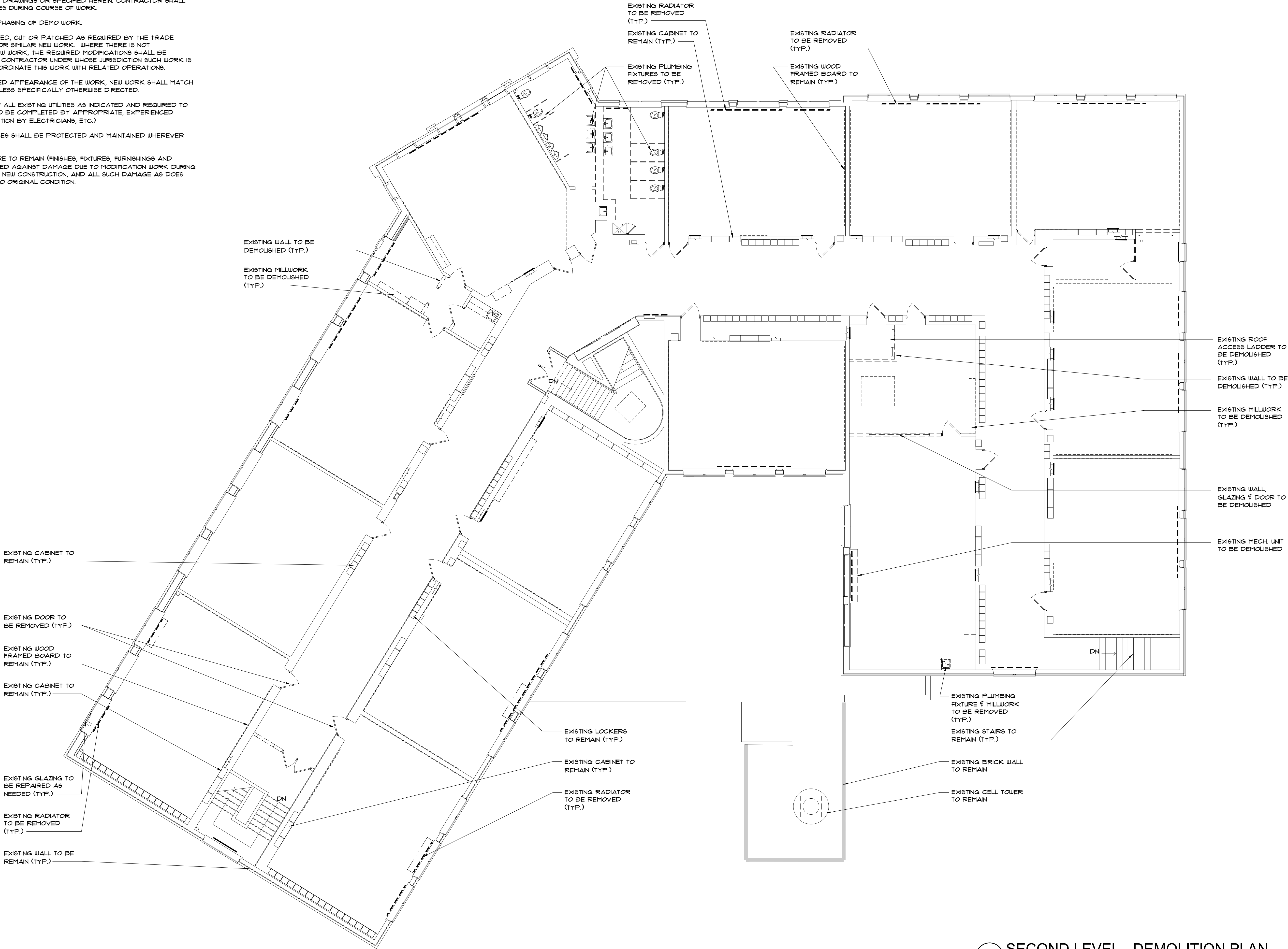
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Packet Pg. 97

DEMOLITION WORK:

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SECOND LEVEL - DEMOLITION PLAN
SCALE: 1/8"=1'-0"

Project

LOFTS AT WEST VILLAGE
55 ELIZABETH STREET
LAKE ORION, MI. 48362

Client

WEST VILLAGE OWNER, LLC
79 OAKLAND AVE
PONTIAC, MI. 48342

REVISION SCHEDULE	
DATE	DESCRIPTION
05/26/21	CLIENT REVIEW
08/13/21	HISTORIC REVIEW
08/10/21	HISTORIC SUBMITTAL
08/13/21	PUD SUBMITTAL
08/27/21	PUD SUBMITTAL REV1
09/10/21	HISTORIC SUBMIT REV1
09/15/21	VILL. COMMENT. RESP.
6/19/23	SITE PLAN APP.
7/25/23	SITE PLAN APP.
8/14/23	SITE PLAN APP.

STATE OF MICHIGAN
BRIAN GILL
ARCHITECT
No. 1301044896
LICENSED ARCHITECT

DRAWN BY:

CMW

CHECKED BY:

BSG

Drawing Title

SECOND LEVEL -
DEMOLITION PLAN

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Project Number

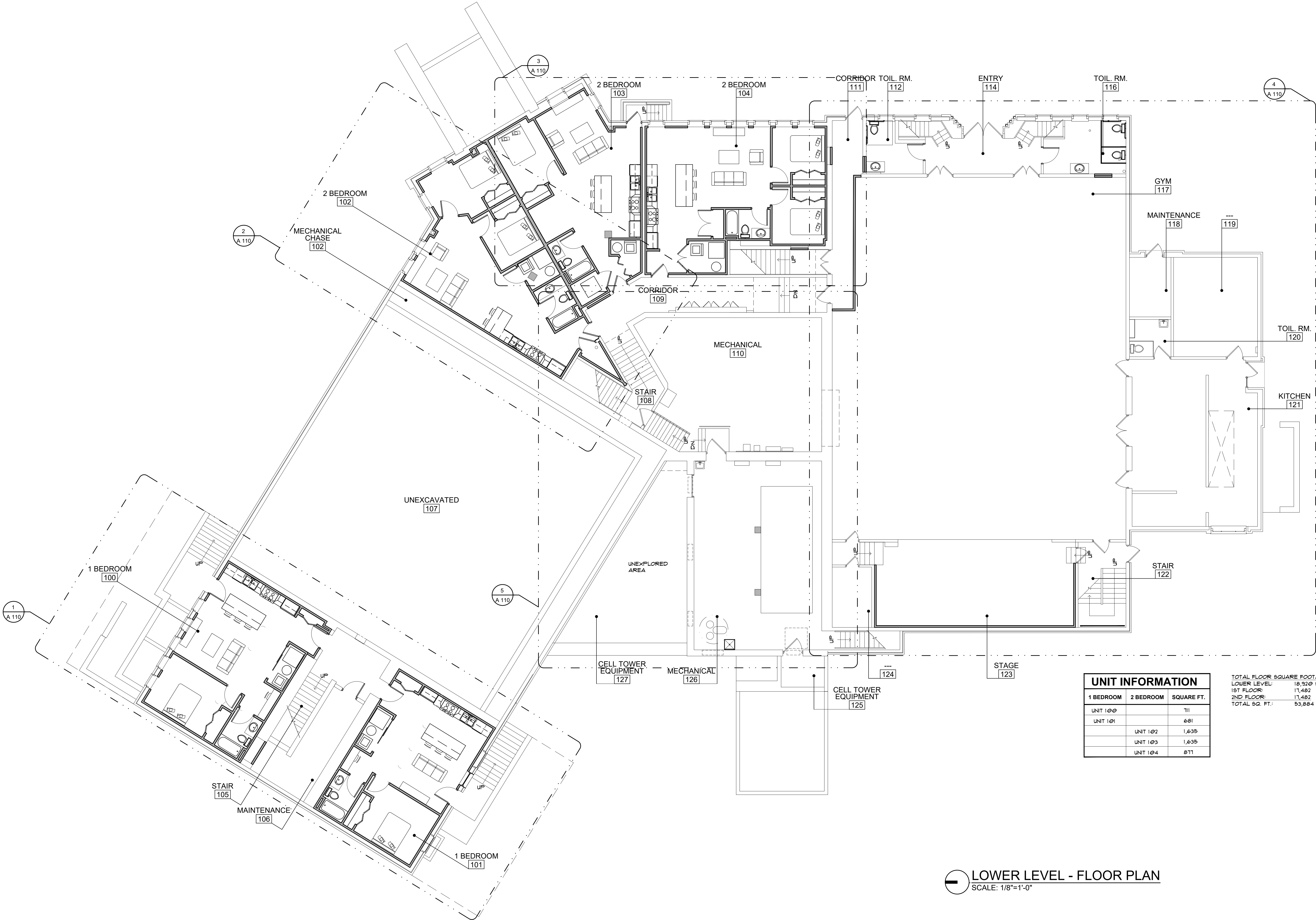
21-167.1

Drawing Number

D 102

Attachment: 23_8_15 21-167.1 A101 LOFTS SPA SET 6245 : PC 23-004: the Plate & the Lofts of West Village : PUD Site Plan, Review #2)

Packet Pg. 98



UNIT INFORMATION		
1 BEDROOM	2 BEDROOM	SQUARE FT.
UNIT 100		711
UNIT 101		621
	UNIT 102	1,635
	UNIT 103	1,635
	UNIT 104	871

TOTAL FLOOR SQUARE FOOTAGE
LOWER LEVEL: 18,528 S.F.
1ST FLOOR: 17,482
2ND FLOOR: 17,482
TOTAL SQ. FT.: 53,492 S.F.

LOWER LEVEL - FLOOR PLAN
SCALE: 1/8"=1'-0"

Project
LOFTS AT WEST VILLAGE
55 ELIZABETH STREET
LAKE ORION, MI. 48362
Client
WEST VILLAGE OWNER, LLC
79 OAKLAND AVE
PONTIAC, MI. 48342

REVISION SCHEDULE	
DATE	DESCRIPTION
08/26/21	CLIENT REVIEW
08/31/21	HISTORIC REVIEW
08/10/21	HISTORIC SUBMITTAL
08/13/21	PUD SUBMITTAL
08/27/21	PUD SUBMITTAL REV1
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09/15/21	VILL. COMMENT. RESP.
6/19/23	SITE PLAN APP.
7/25/23	SITE PLAN APP.
8/14/23	SITE PLAN APP.

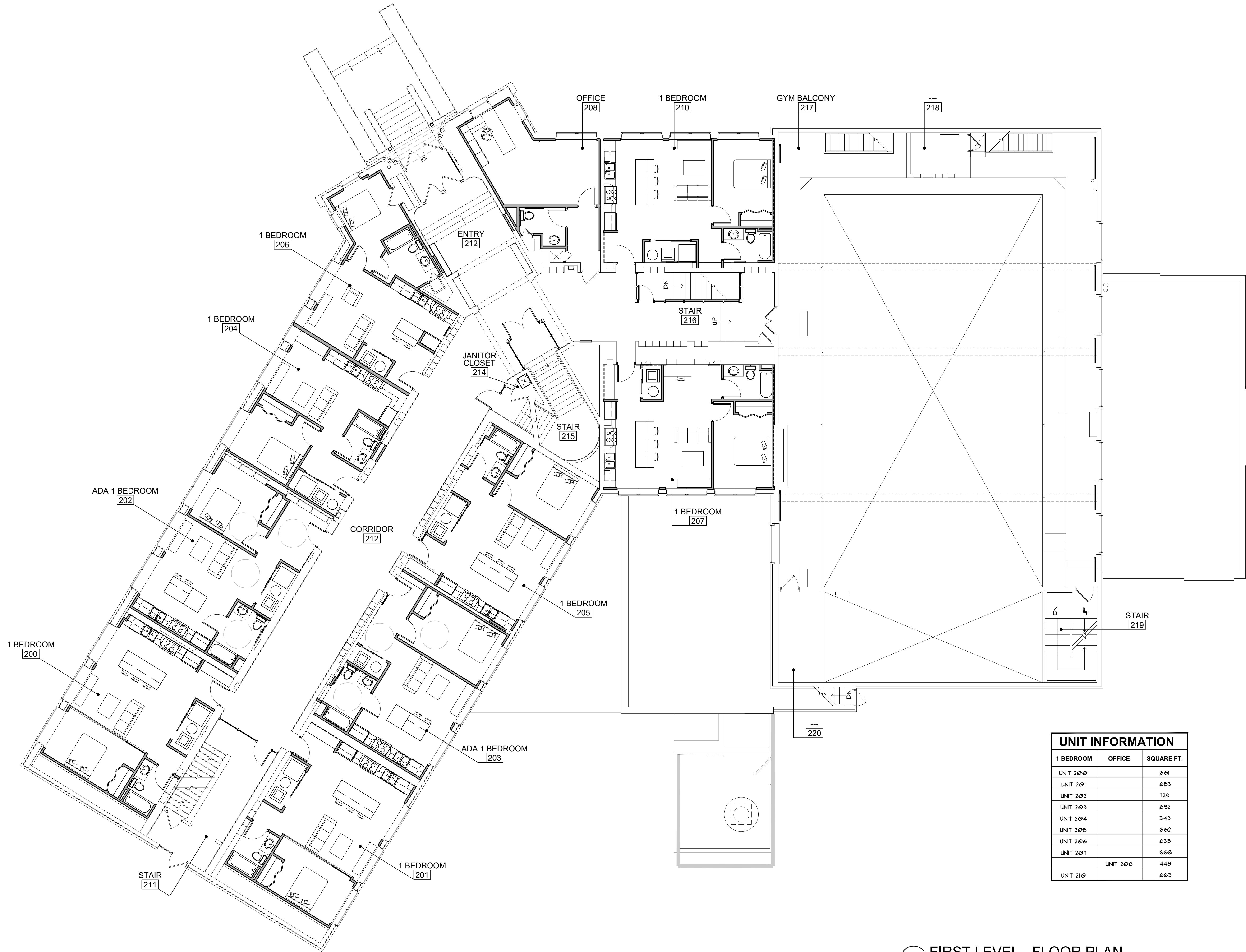


DRAWN BY: CMW
CHECKED BY: BSG

Drawing Title
**LOWER LEVEL
FLOOR PLAN**

Project Number
21-167.1
Drawing Number

A 100



UNIT INFORMATION		
1 BEDROOM	OFFICE	SQUARE FT.
UNIT 200		661
UNIT 201		653
UNIT 202		728
UNIT 203		692
UNIT 204		543
UNIT 205		662
UNIT 206		635
UNIT 207		668
	UNIT 208	448
UNIT 210		663

FIRST LEVEL - FLOOR PLAN
SCALE: 1/8"=1'-0"

Project
LOFTS AT WEST VILLAGE
55 ELIZABETH STREET
LAKE ORION, MI. 48362
Client
WEST VILLAGE OWNER, LLC
79 OAKLAND AVE
PONTIAC, MI. 48342

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05/26/21	CLIENT REVIEW
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08/13/21	PUD SUBMITTAL
08/27/21	PUD SUBMITTAL REV1
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6/19/23	SITE PLAN APP.
7/25/23	SITE PLAN APP.
8/14/23	SITE PLAN APP.



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CHECKED BY: BSG

Drawing Title
**FIRST LEVEL -
FLOOR PLAN**

Project Number
21-167.1
Drawing Number



UNIT INFORMATION			
1 BEDROOM	2 BEDROOM	3 BEDROOM	SQUARE FT.
UNIT 300			715
UNIT 301			618
UNIT 302			673
UNIT 303			691
UNIT 304			691
UNIT 305			639
	UNIT 306		884
UNIT 307			688
UNIT 308			488
		UNIT 309	1,263
UNIT 310			678
UNIT 312			655
UNIT 314			819
UNIT 316			644
UNIT 318			652

SECOND LEVEL - FLOOR PLAN
SCALE: 1/8"=1'-0"

Project
LOFTS AT WEST VILLAGE
55 ELIZABETH STREET
LAKE ORION, MI. 48362
Client
WEST VILLAGE OWNER, LLC
79 OAKLAND AVE
PONTIAC, MI. 48342

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DATE	DESCRIPTION
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7/25/23	SITE PLAN APP.
8/14/23	SITE PLAN APP.



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SECOND LEVEL - FLOOR PLAN

Project Number
21-167.1
Drawing Number

Project

LOFTS AT WEST VILLAGE

55 ELIZABETH STREET
LAKE ORION, MI. 48362

Client

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PONTIAC, MI. 48342

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6/19/23	SITE PLAN APP.
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8/14/23	SITE PLAN APP.

STATE OF MICHIGAN

BRIAN GILL

ARCHITECT

No. 1301044896

LICENSED ARCHITECT

DRAWN BY:

CMW

CHECKED BY:

BSG

Attachment: 23_8_15 21-167.1 A101 LOFTS SPA SET 6245 : PC 23-004: the Plate & the Lofts of West Village : PUD Site Plan, Review #2

BUILDING ELEVATIONS

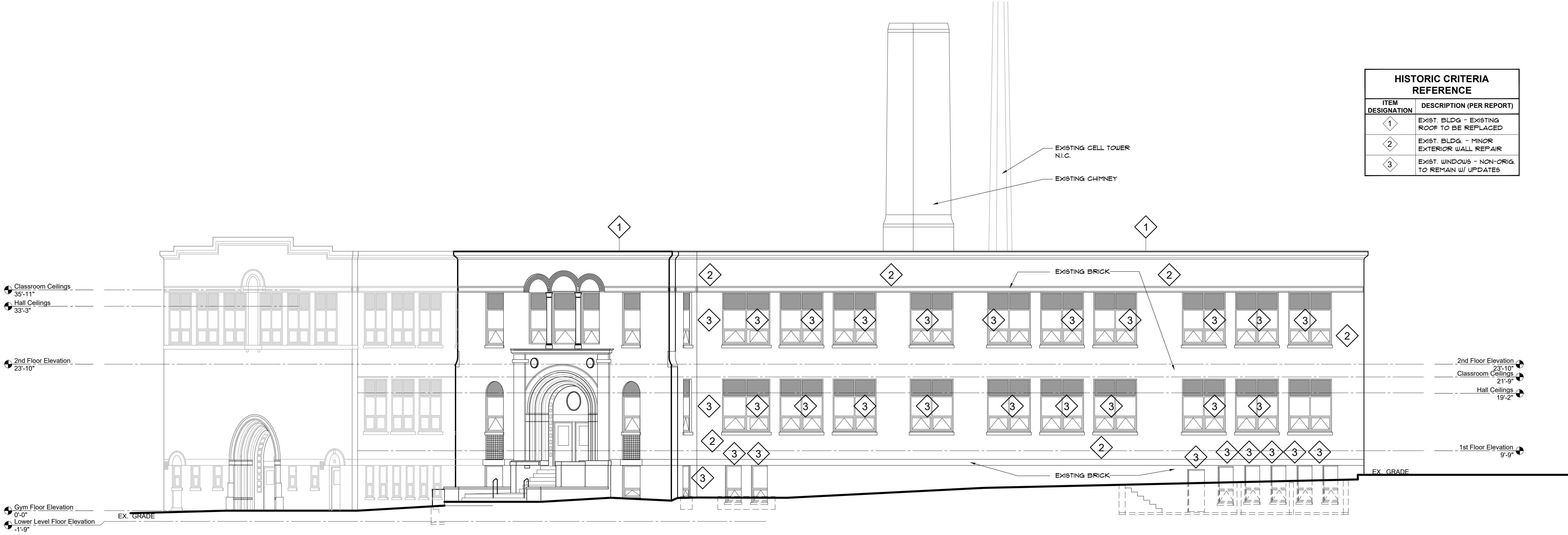
Project Number

21-167.1

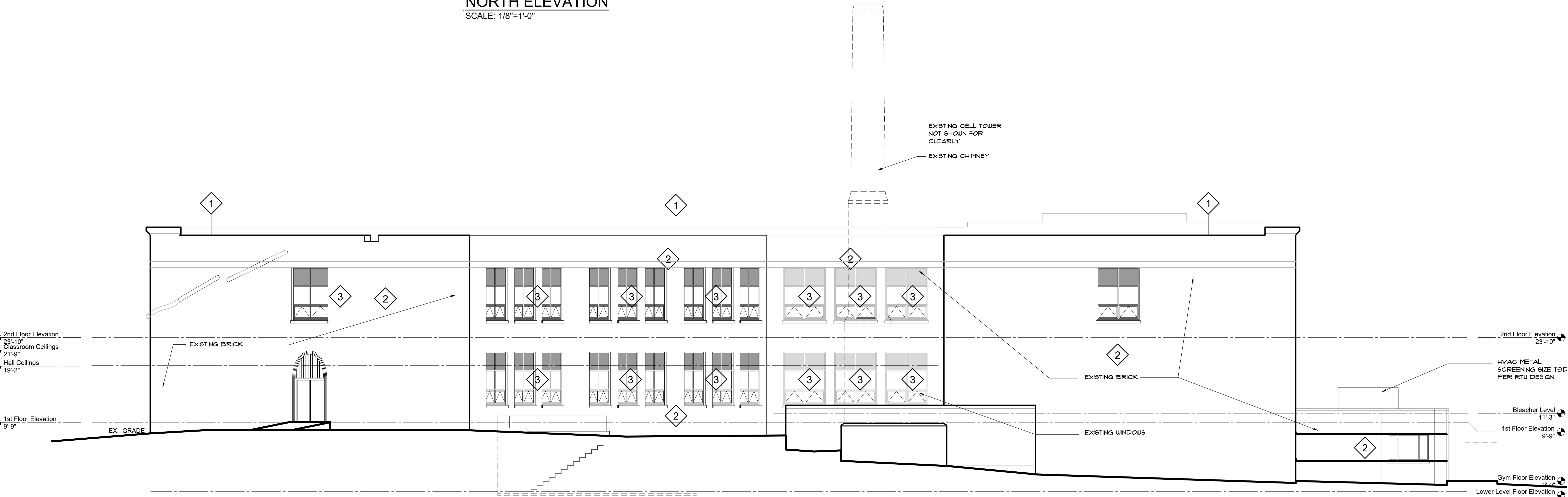
Drawing Number

A 301

HISTORIC CRITERIA REFERENCE	
ITEM DESIGNATION	DESCRIPTION (PER REPORT)
1	EXIST. BLDG - EXISTING ROOF TO BE REPLACED
2	EXIST. BLDG. - MINOR EXTERIOR WALL REPAIR
3	EXIST. WINDOWS - NON-ORIG. TO REMAIN W/ UPDATES



NORTH ELEVATION
SCALE: 1/8"=1'-0"



WEST ELEVATION
SCALE: 1/8"=1'-0"

HISTORIC CRITERIA REFERENCE	
ITEM DESIGNATION	DESCRIPTION (PER REPORT)
1	EXIST. BLDG - EXISTING ROOF TO BE REPLACED
2	EXIST. BLDG. - MINOR EXTERIOR WALL REPAIR
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Project

LOFTS AT WEST VILLAGE

55 ELIZABETH STREET
LAKE ORION, MI. 48362

Client

WEST VILLAGE OWNER, LLC
79 OAKLAND AVE
PONTIAC, MI. 48342

Attachment: 23_8_15 21-167.1 A101 LOFTS SPA SET 6245 : PC 23-004: the Plate & the Lofts of West Village: PUD Site Plan, Review #2)

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6/19/23	SITE PLAN APP.
7/25/23	SITE PLAN APP.
8/14/23	SITE PLAN APP.



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Drawing Title

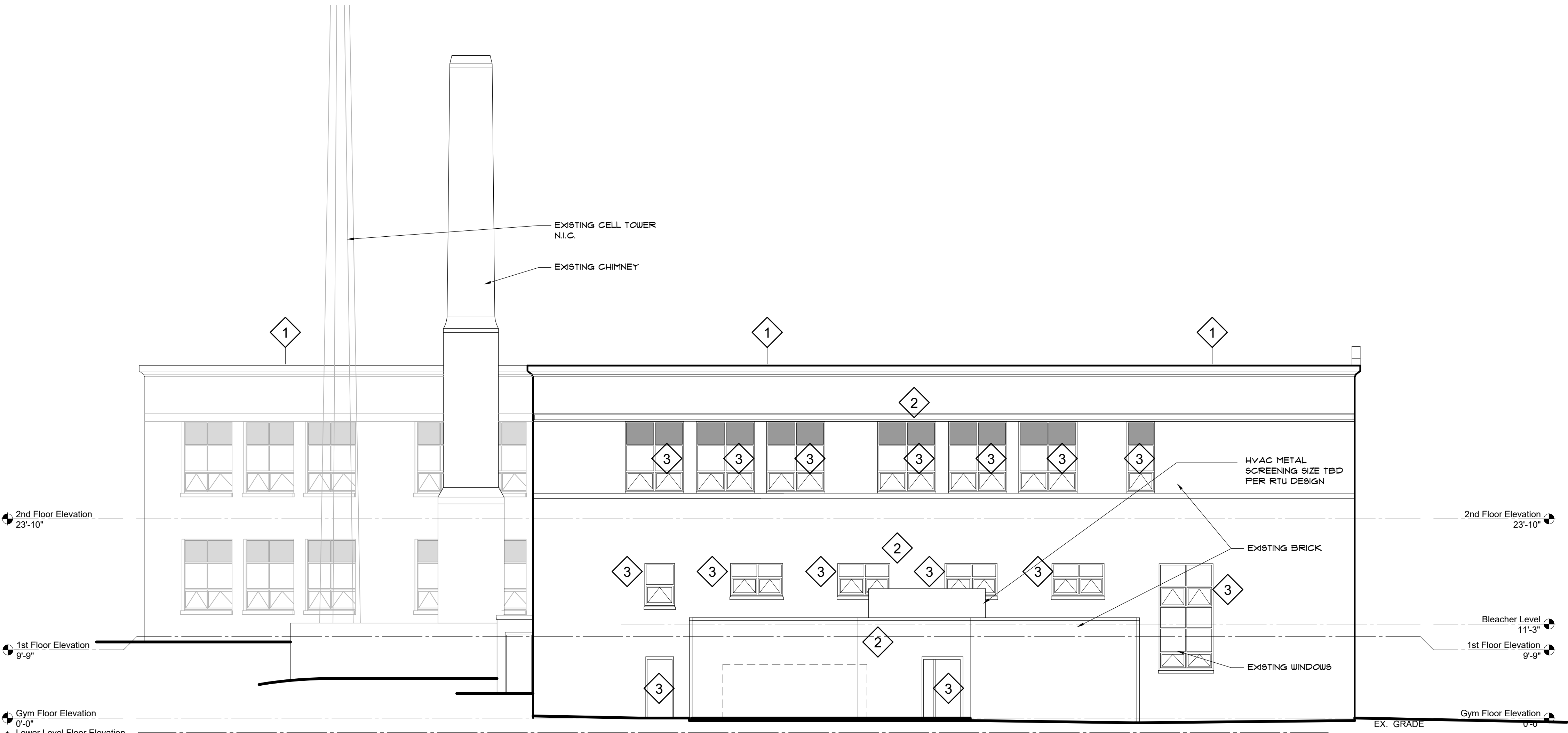
BUILDING ELEVATIONS

Project Number

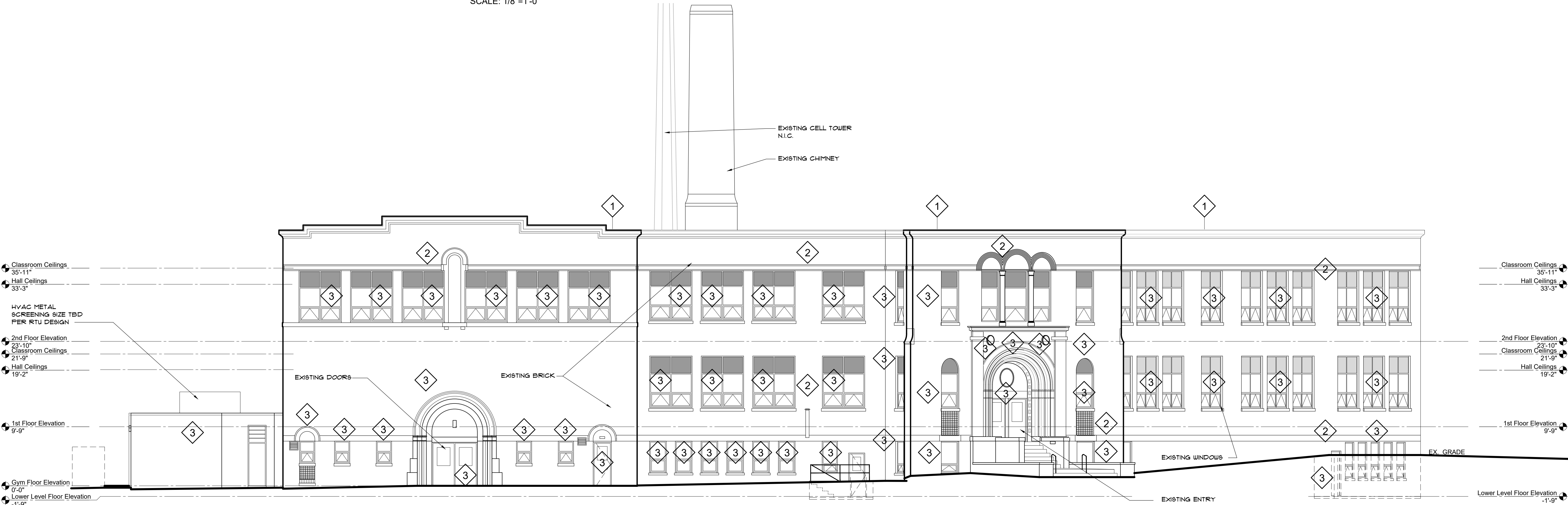
21-167.1

Drawing Number

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SOUTH ELEVATION
SCALE: 1/8"=1'-0"



EAST ELEVATION
SCALE: 1/8"=1'-0"

Project

LOFTS AT WEST VILLAGE

55 ELIZABETH STREET

LAKE ORION, MI. 48362

Client

WEST VILLAGE OWNER, LLC

79 OAKLAND AVE

PONTIAC, MI. 48342

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6/19/23	SITE PLAN APP.
7/25/23	SITE PLAN APP.
8/14/23	SITE PLAN APP.



DRAWN BY: CMW

CHECKED BY: BSG

Drawing Title

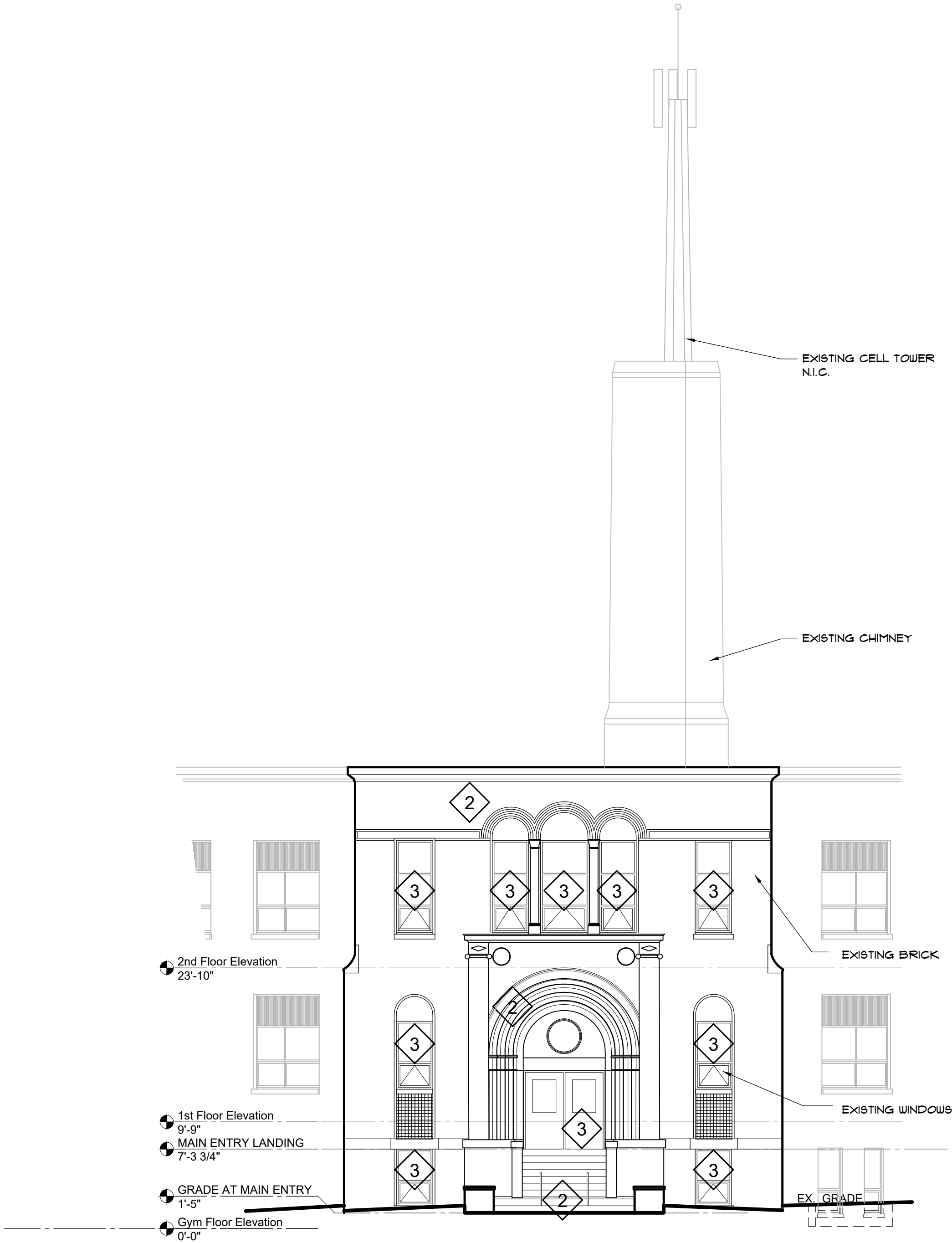
BUILDING ELEVATIONS

Project Number

21-167.1

Drawing Number

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1	EXIST. BLDG - EXISTING ROOF TO BE REPLACED
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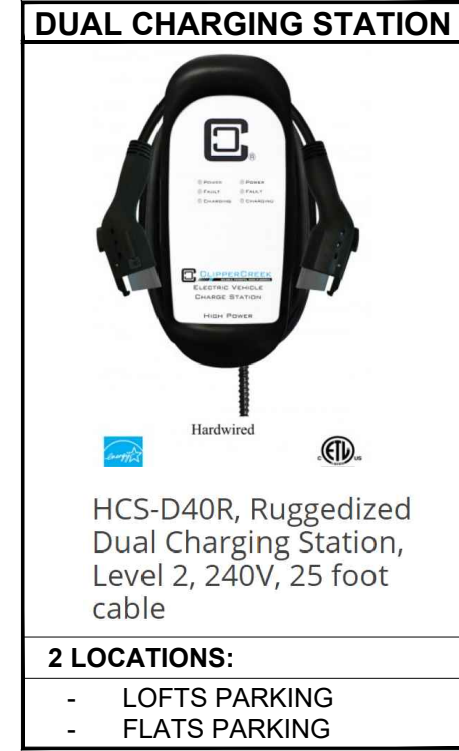
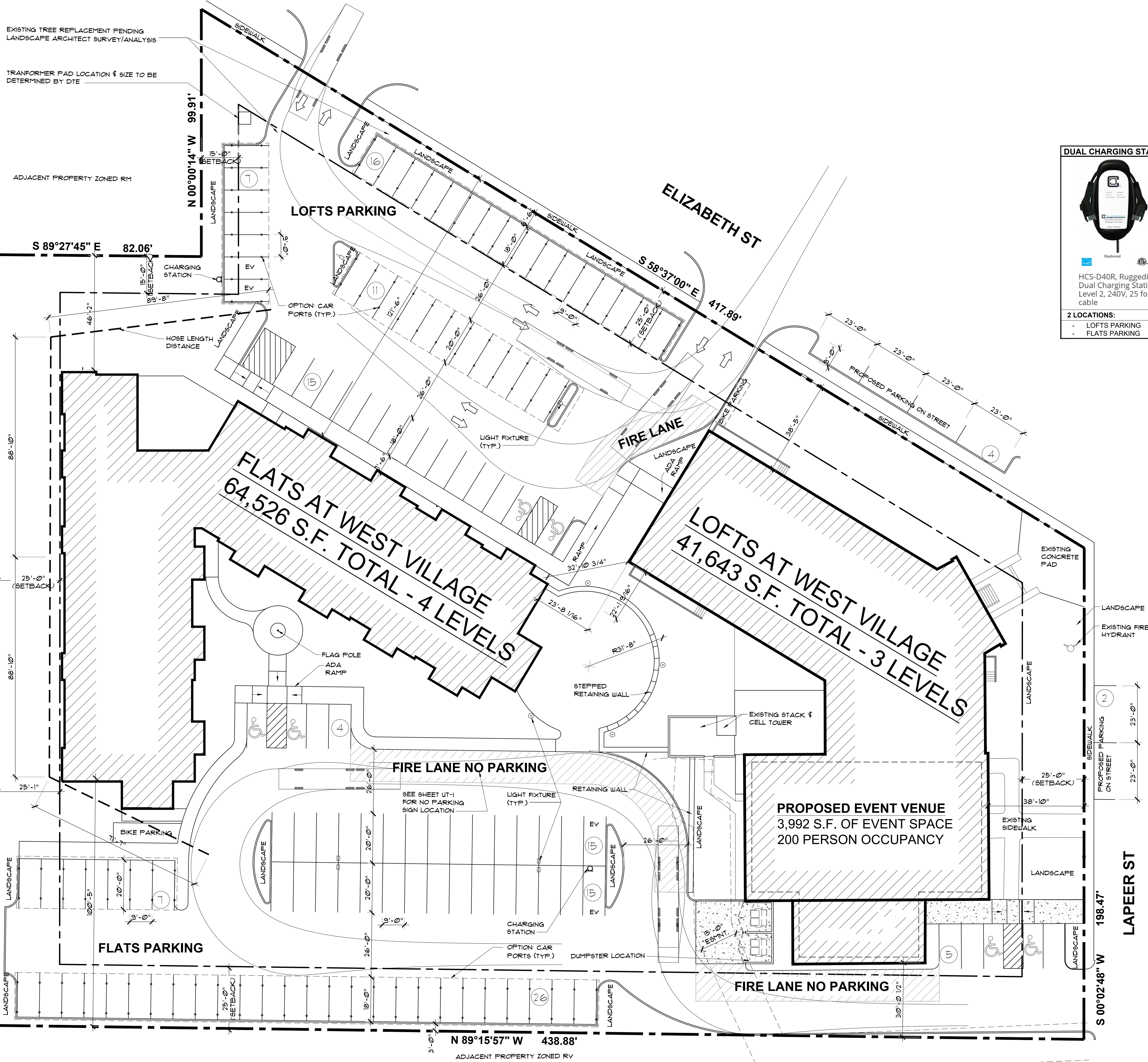
MAIN ENTRANCE (NORTH EAST) ELEVATION

SCALE: 1/8"=1'-0"

EXISTING TREE REPLACEMENT PENDING
LANDSCAPE ARCHITECT SURVEY/ANALYSIS

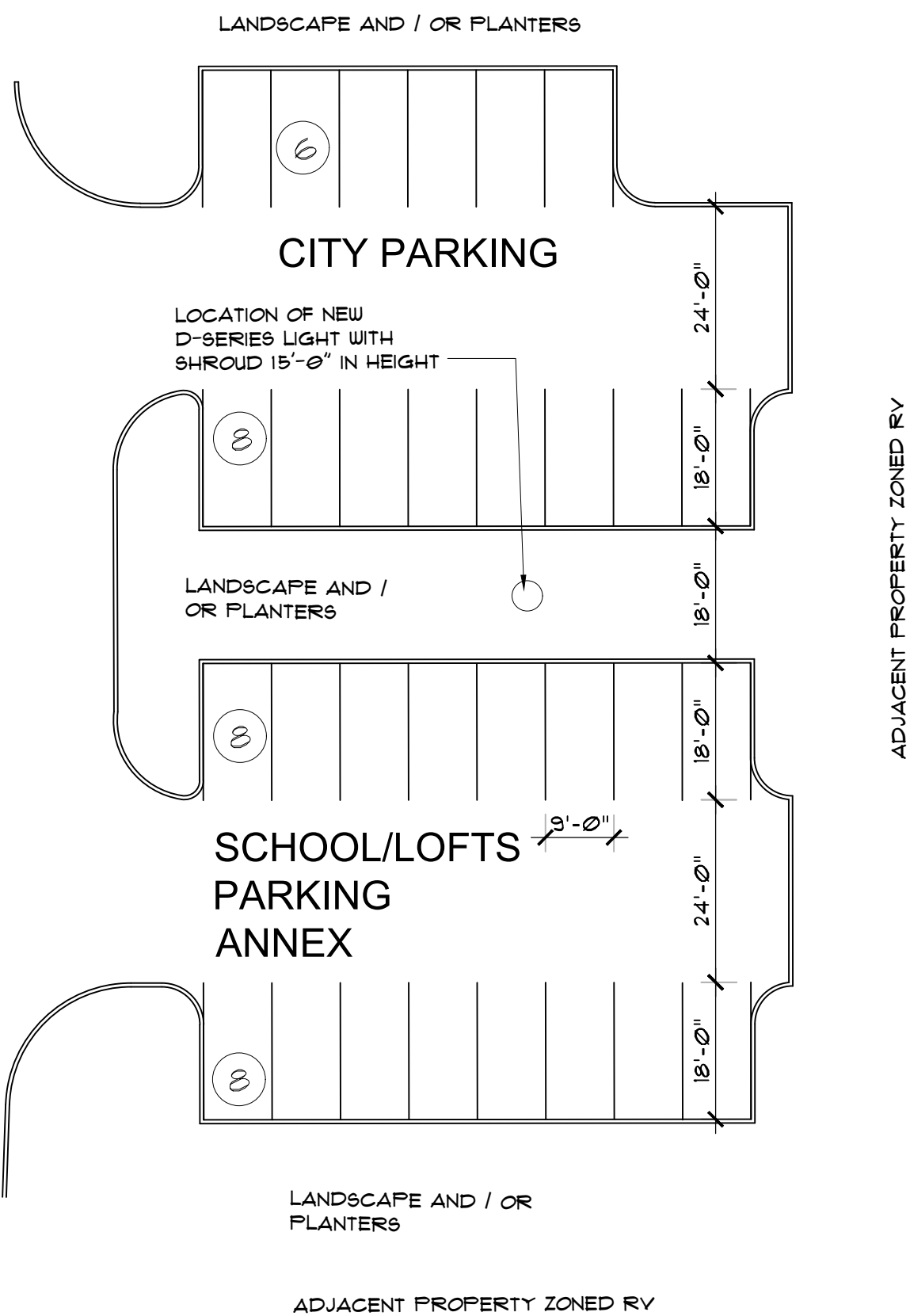
DETENTION BASIN

ADJACENT PROPERTY ZONED RM



PARKING		
TITLE	# OF SPOTS	LOCATION
NORTH (LOFTS)	49	REWORK OF EXISTING NORTH PARKING
SOUTH (FLATS)	67	NEW PARKING TO SOUTH
ANNEX	16	ACROSS LAPEER
CITY PARKING	14	ACROSS LAPEER (SEE BELOW)
VENUE/ EVENT SPACE	67 REQUIRED	55 SCHOOL ADMIN. 14 CITY PARKING 20 ON STREET - (6 ON SITE)

SITE COVERAGE		
SPACE	% COVERAGE	APPROX. SQUARE FOOTAGE
GREEN SPACE	37.0%	50,109 SQ. FT.
IMPERVIOUS SERVICE	37.6%	50,840 SQ. FT.
LOFTS (HISTORIC)	9.8%	13,317 SQ. FT.
FLATS (NEW CONST.)	12.5%	16,907 SQ. FT.
VENUE/ EVENT SPACE	2.9%	3,992 SQ. FT.
TOTAL SITE SQUARE FOOTAGE		3.08 ACRES / 135,165 S.F.



Project
FLATS AT WEST VILLAGE
55 ELIZABETH STREET
LAKE ORION, MI. 48362
Client
WEST VILLAGE OWNER, LLC
79 OAKLAND AVE
PONTIAC, MI. 48342

REVISION SCHEDULE	
DATE	DESCRIPTION
05/26/21	CLIENT REVIEW
06/25/21	PUD DISCUSSION
07/20/21	PUD DISCUSSION
08/02/21	CLIENT BIDDING
08/13/21	PUD SUBMITTAL
09/03/21	FIRE MARSHAL RESP.
09/15/21	VILL. COMMENT. RESP.
11/09/21	HISTORIC UPDATE
6/19/23	SITE PLAN APP.
7/25/23	SITE PLAN APP.
8/15/23	SITE PLAN APP.



DRAWN BY: CMW
CHECKED BY: BSG

Drawing Title
SITE PLAN

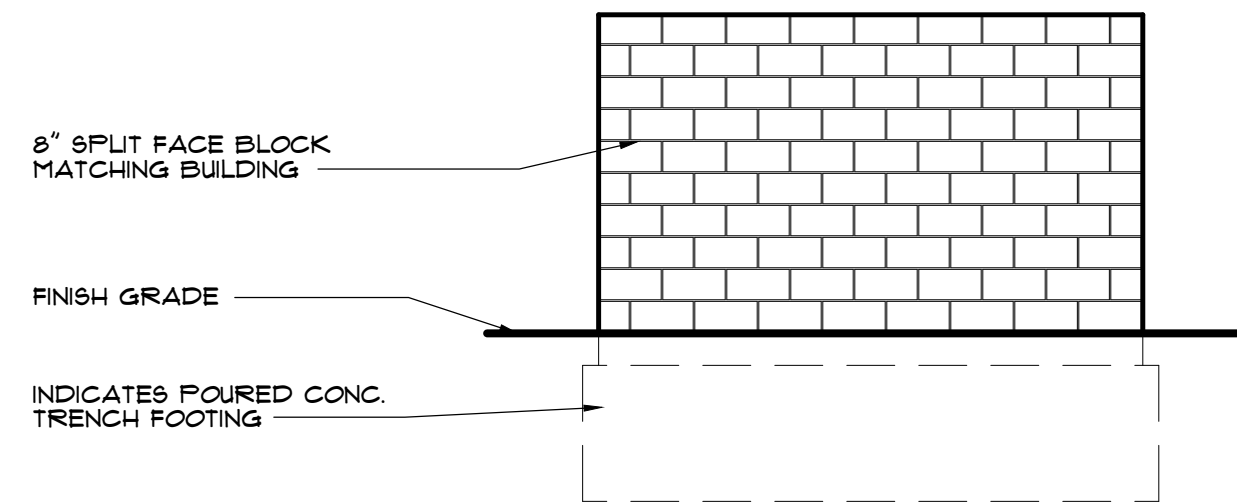
Project Number

21-167

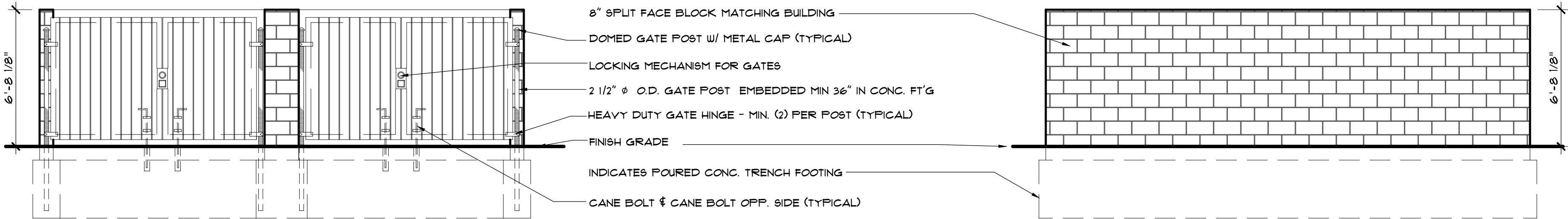
Drawing Number

SP 101

Packet Pg. 106

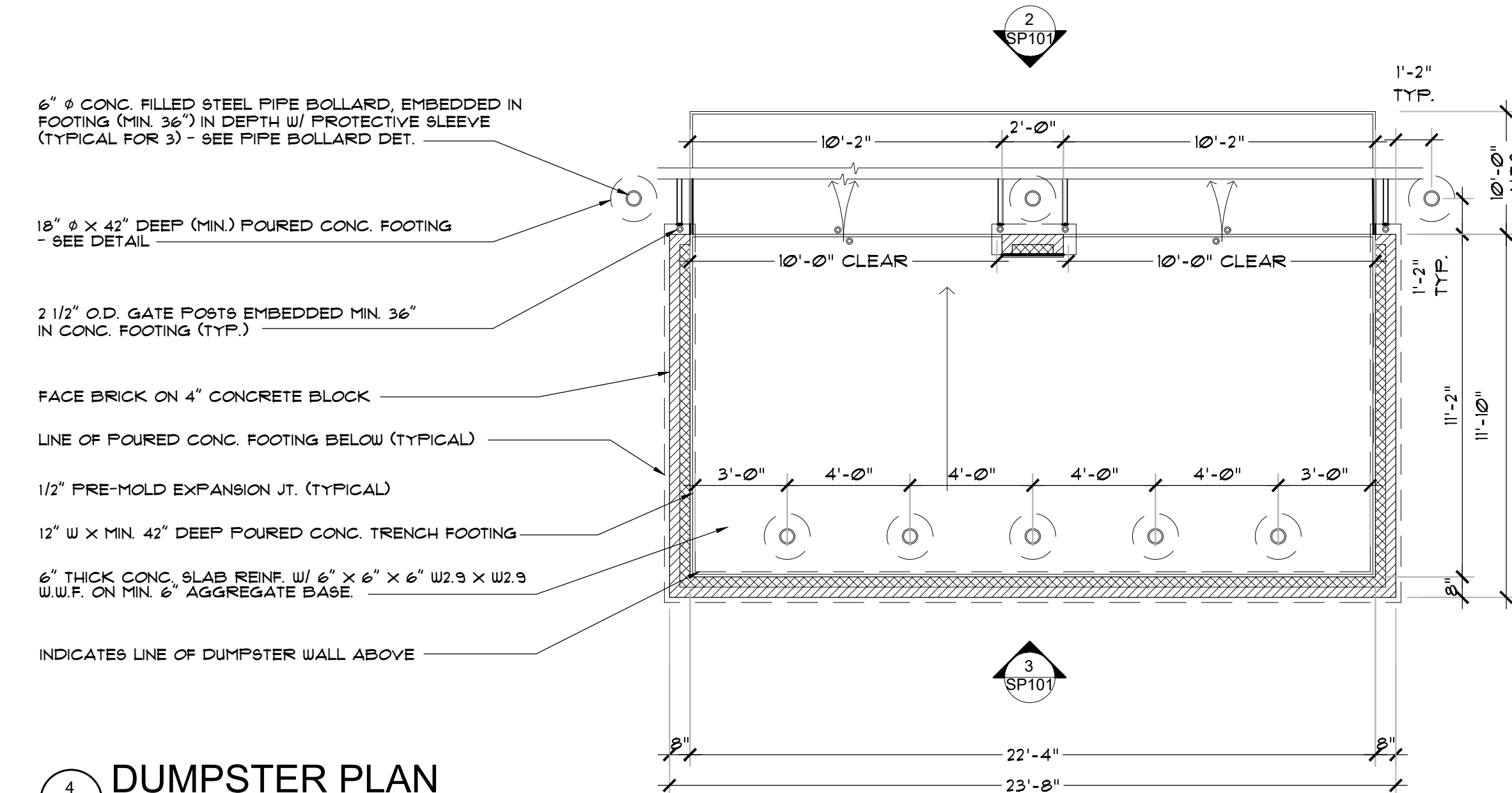


1 DUMPSTER ELEV.
SP103 SCALE: 1/4"=1'-0"

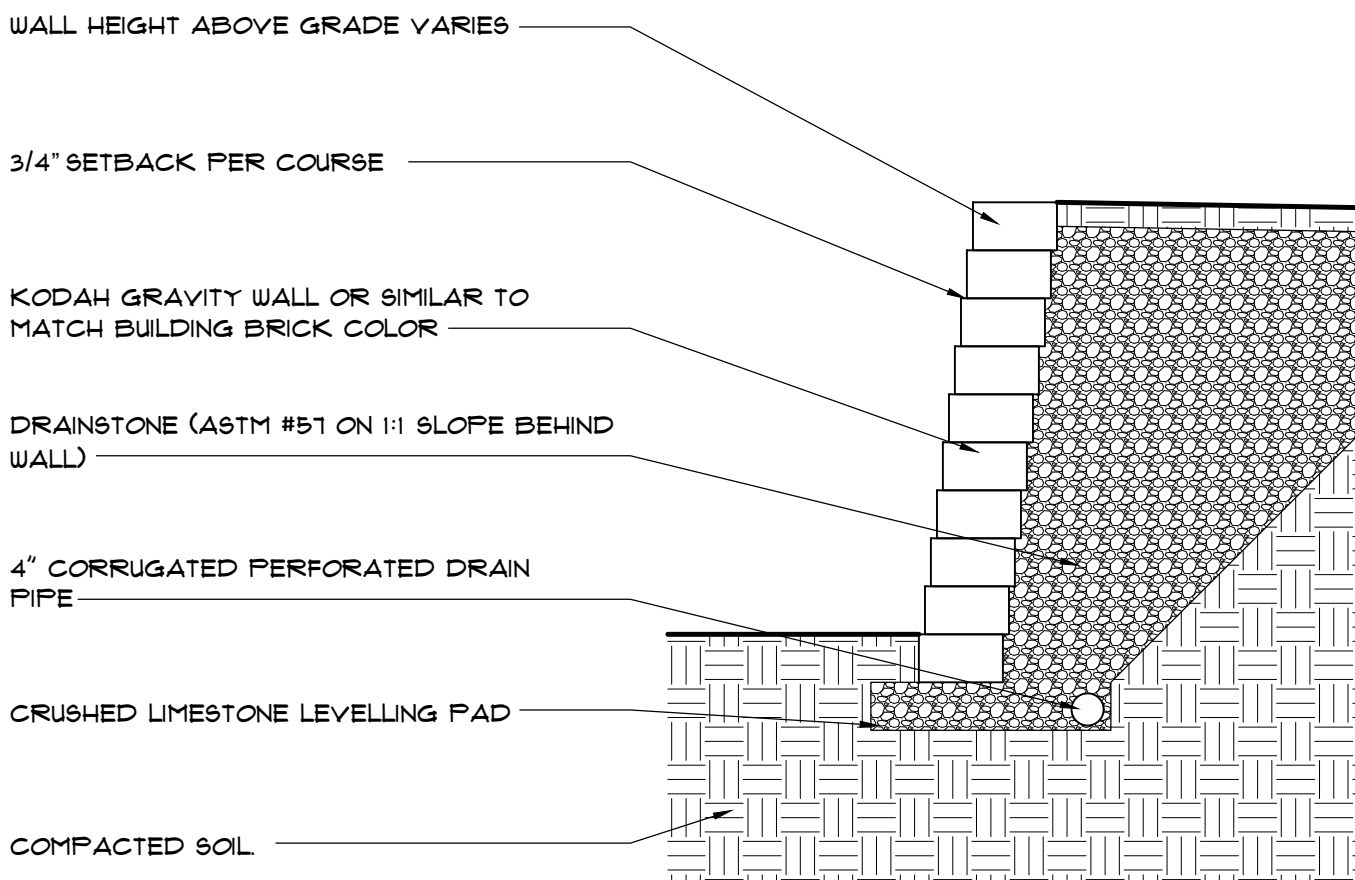


2 DUMPSTER GATE ELEV.
SP103 SCALE: 1/4"=1'-0"

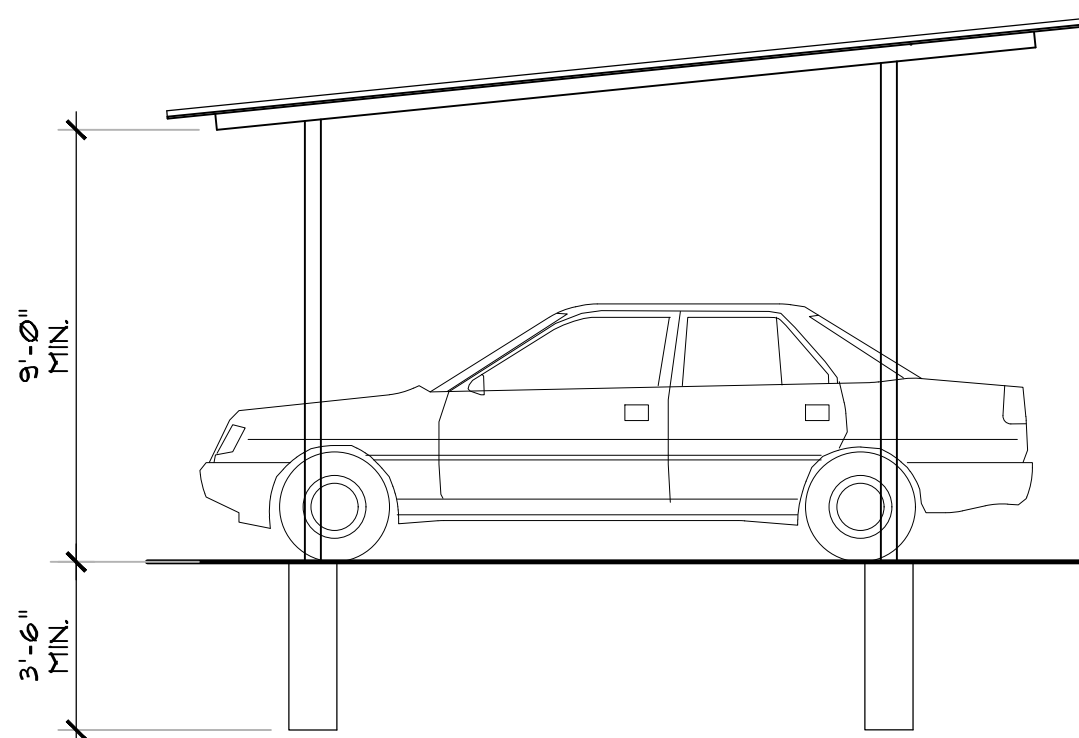
3 DUMPSTER ELEV.
SP103 SCALE: 1/4"=1'-0"



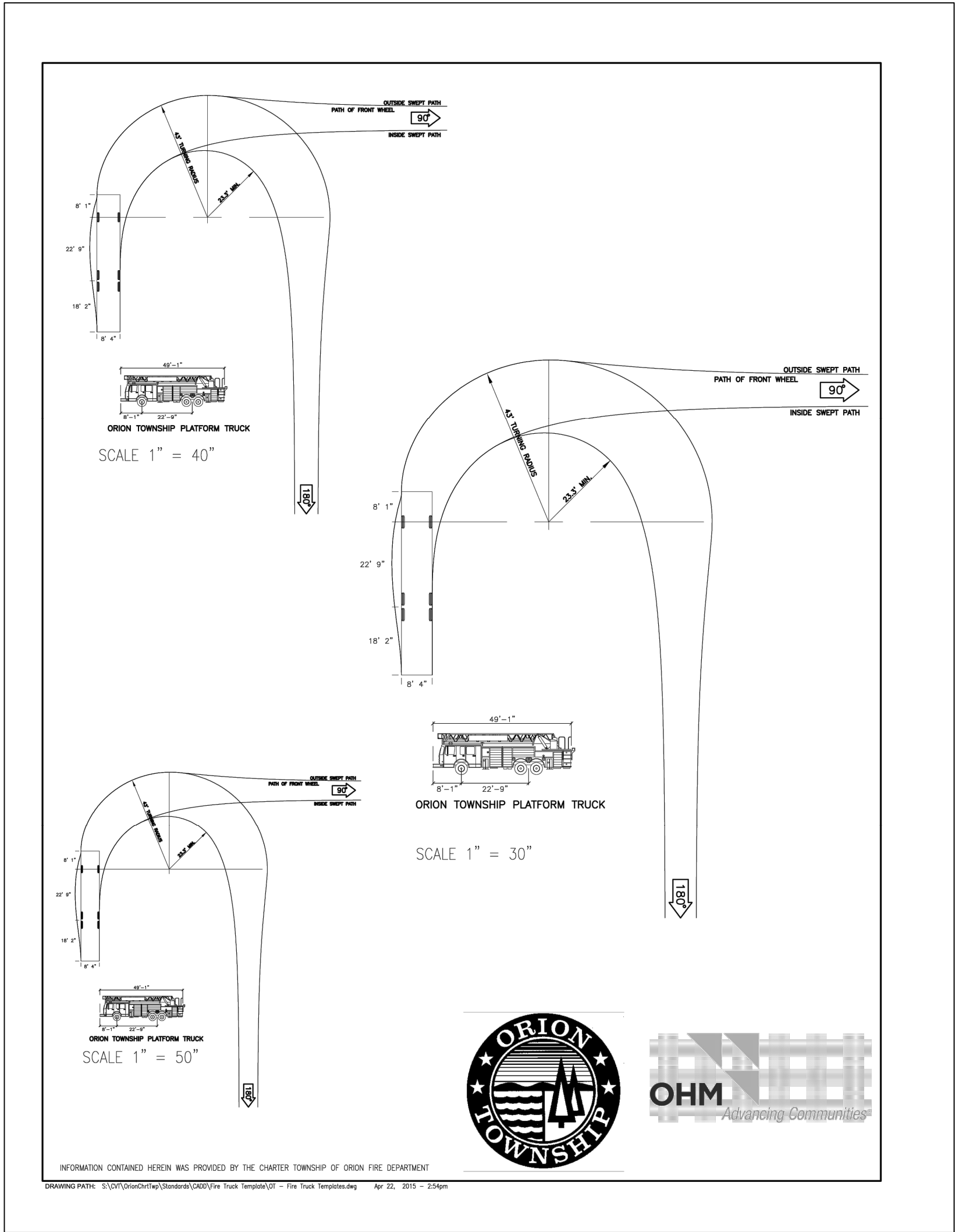
4 DUMPSTER PLAN
SP103 SCALE: 1/4"=1'-0"



1 RETAINING WALL
SP103 SCALE: 1/2"=1'-0"



1 CARPORT ELEVATION
SP103 SCALE: 1/4"=1'-0"



Project
FLATS AT WEST VILLAGE
55 ELIZABETH STREET
LAKE ORION, MI. 48362
Client
WEST VILLAGE OWNER, LLC
79 OAKLAND AVE
PONTIAC, MI. 48342

REVISION SCHEDULE	
DATE	DESCRIPTION
05/26/21	CLIENT REVIEW
06/25/21	PUD DISCUSSION
07/20/21	PUD DISCUSSION
08/02/21	CLIENT BIDDING
08/13/21	PUD SUBMITTAL
09/03/21	FIRE MARSHAL RESP.
09/15/21	VILL. COMMENT. RESP.
11/09/21	HISTORIC UPDATE
6/19/23	SITE PLAN APP.
7/25/23	SITE PLAN APP.
8/15/23	SITE PLAN APP.



DRAWN BY: CMW
CHECKED BY: BSG

Drawing Title
**SITE PLAN
DETAILS**

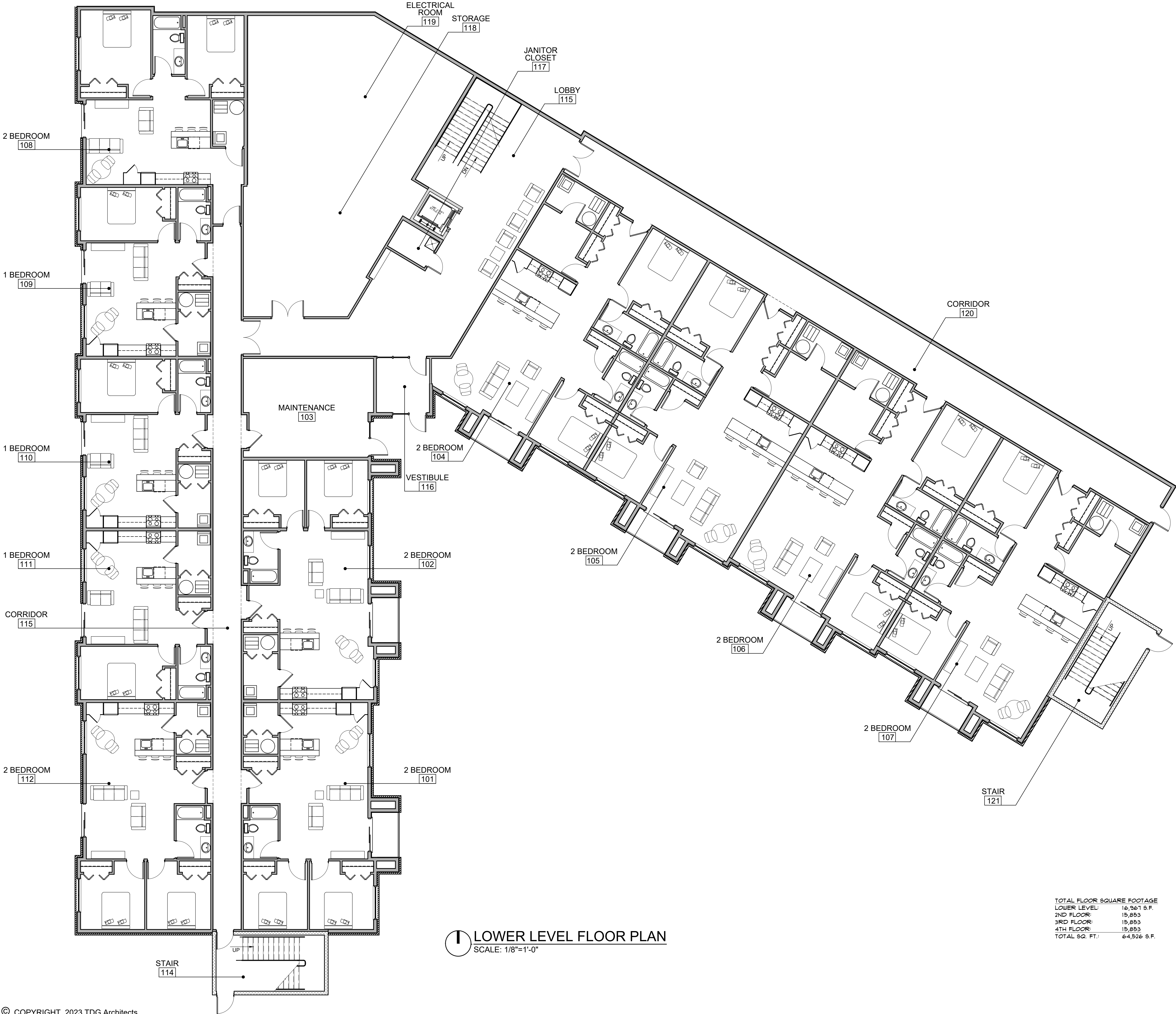
Project Number

21-167

Drawing Number

SP 102

Packet Pg. 107



1 LOWER LEVEL FLOOR PLAN
SCALE: 1/8"=1'-0"

TOTAL FLOOR SQUARE FOOTAGE
LOWER LEVEL: 16,367 S.F.
2ND FLOOR: 15,853
3RD FLOOR: 15,853
4TH FLOOR: 15,853
TOTAL SQ. FT.: 64,926 S.F.

UNIT INFORMATION		
1 BEDROOM	2 BEDROOM	SQUARE FT.
	UNIT 101	967
	UNIT 102	1012
	UNIT 104	1387
	UNIT 105	1359
	UNIT 106	1359
	UNIT 107	1371
	UNIT 108	1271
UNIT 109		718
UNIT 110		718
UNIT 111		721
	UNIT 112	985

Drawing Title

**FIRST LEVEL
FLOOR PLAN**

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Project Number

21-167

Drawing Number

A 101

Packet Pg. 108

Project

FLATS AT WEST VILLAGE
55 ELIZABETH STREET
LAKE ORION, MI. 48362
Client
WEST VILLAGE OWNER, LLC
79 OAKLAND AVE
PONTIAC, MI. 48342

REVISION SCHEDULE	
DATE	DESCRIPTION
05/26/21	CLIENT REVIEW
06/25/21	PUD DISCUSSION
07/20/21	PUD DISCUSSION
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08/13/21	PUD SUBMITTAL
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11/09/21	HISTORIC UPDATE
6/19/23	SITE PLAN APP.
7/25/23	SITE PLAN APP.
8/15/23	SITE PLAN APP.

STATE OF MICHIGAN
BRIAN GILL
ARCHITECT
No. 1301044896
LICENSED ARCHITECT

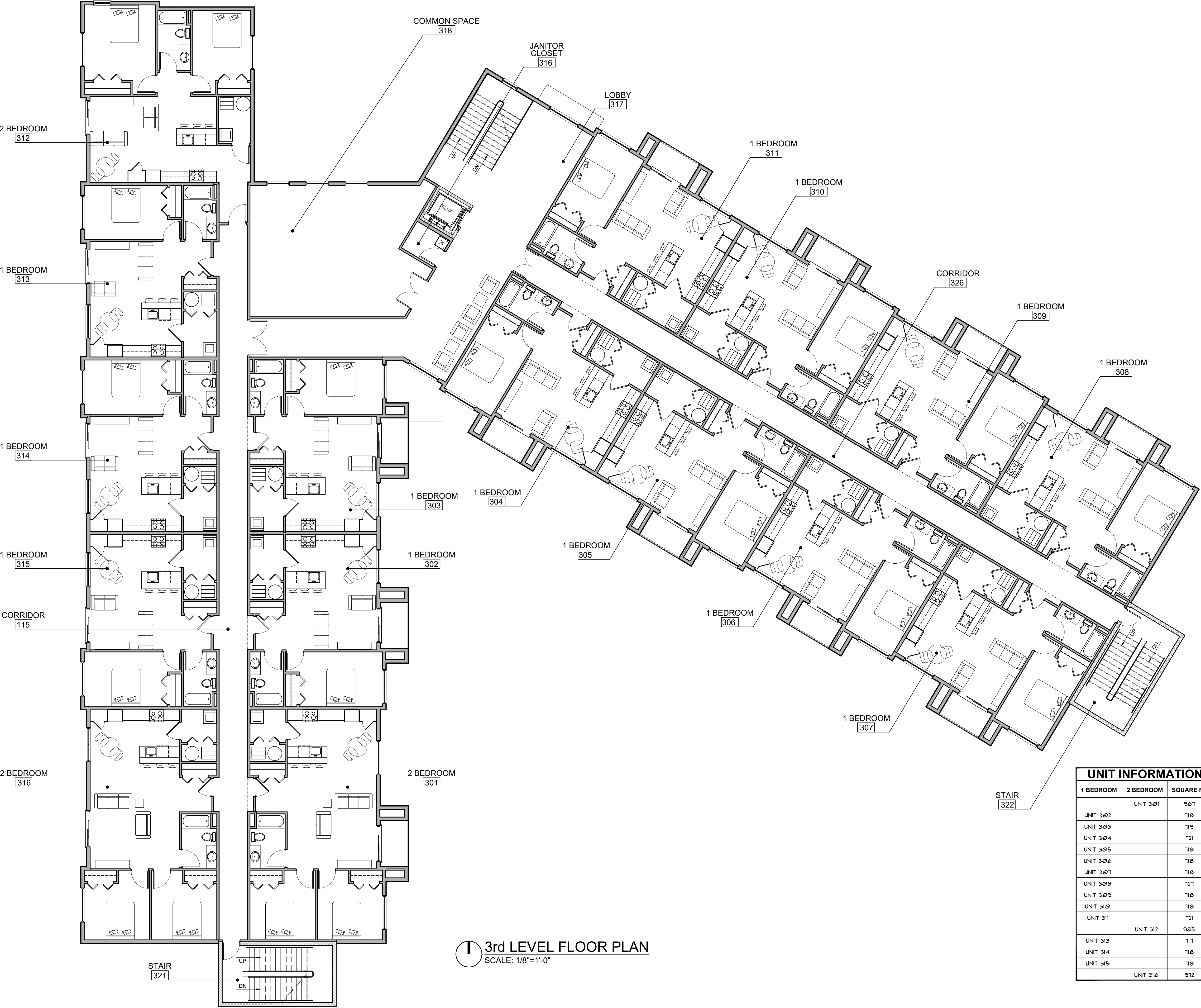
DRAWN BY:

CMW

CHECKED BY:

BSG

Attachment: 23_8_15 21-167 A 101 FLATS SPA SET (6245 : PC 23-004; the Flats & the Lots of West Village: PUD Site Plan, Review #2)



3rd LEVEL FLOOR PLAN
SCALE: 1/8"=1'-0"

UNIT INFORMATION		
1 BEDROOM	2 BEDROOM	SQUARE FT.
UNIT 302	UNIT 301	961
UNIT 303		718
UNIT 304		719
UNIT 305		721
UNIT 306		718
UNIT 307		718
UNIT 308		721
UNIT 309		718
UNIT 310		718
UNIT 311		721
	UNIT 312	985
UNIT 313		711
UNIT 314		718
UNIT 315		718
	UNIT 316	972

TOTAL FLOOR SQUARE FOOTAGE
LOWER LEVEL: 16,961 S.F.
2ND FLOOR: 15,853
3RD FLOOR: 15,853
4TH FLOOR: 15,853
TOTAL SQ. FT.: 64,520 S.F.

Drawing Title

**THIRD LEVEL
FLOOR PLAN**

Project Number

21-167

Drawing Number

A 103

Project

FLATS AT WEST VILLAGE
55 ELIZABETH STREET
LAKE ORION, MI. 48362
Client
WEST VILLAGE OWNER, LLC
79 OAKLAND AVE
PONTIAC, MI. 48342

REVISION SCHEDULE	
DATE	DESCRIPTION
05/26/21	CLIENT REVIEW
06/25/21	PUD DISCUSSION
07/20/21	PUD DISCUSSION
08/02/21	CLIENT BIDDING
08/13/21	PUD SUBMITTAL
09/03/21	FIRE MARSHAL RESP.
09/15/21	VILL. COMMENT. RESP.
11/09/21	HISTORIC UPDATE
6/19/23	SITE PLAN APP.
7/25/23	SITE PLAN APP.
8/15/23	SITE PLAN APP.

STATE OF MICHIGAN
BRIAN GILL
ARCHITECT
No. 1301044896
LICENSED ARCHITECT

DRAWN BY:

CMW

CHECKED BY:

BSG

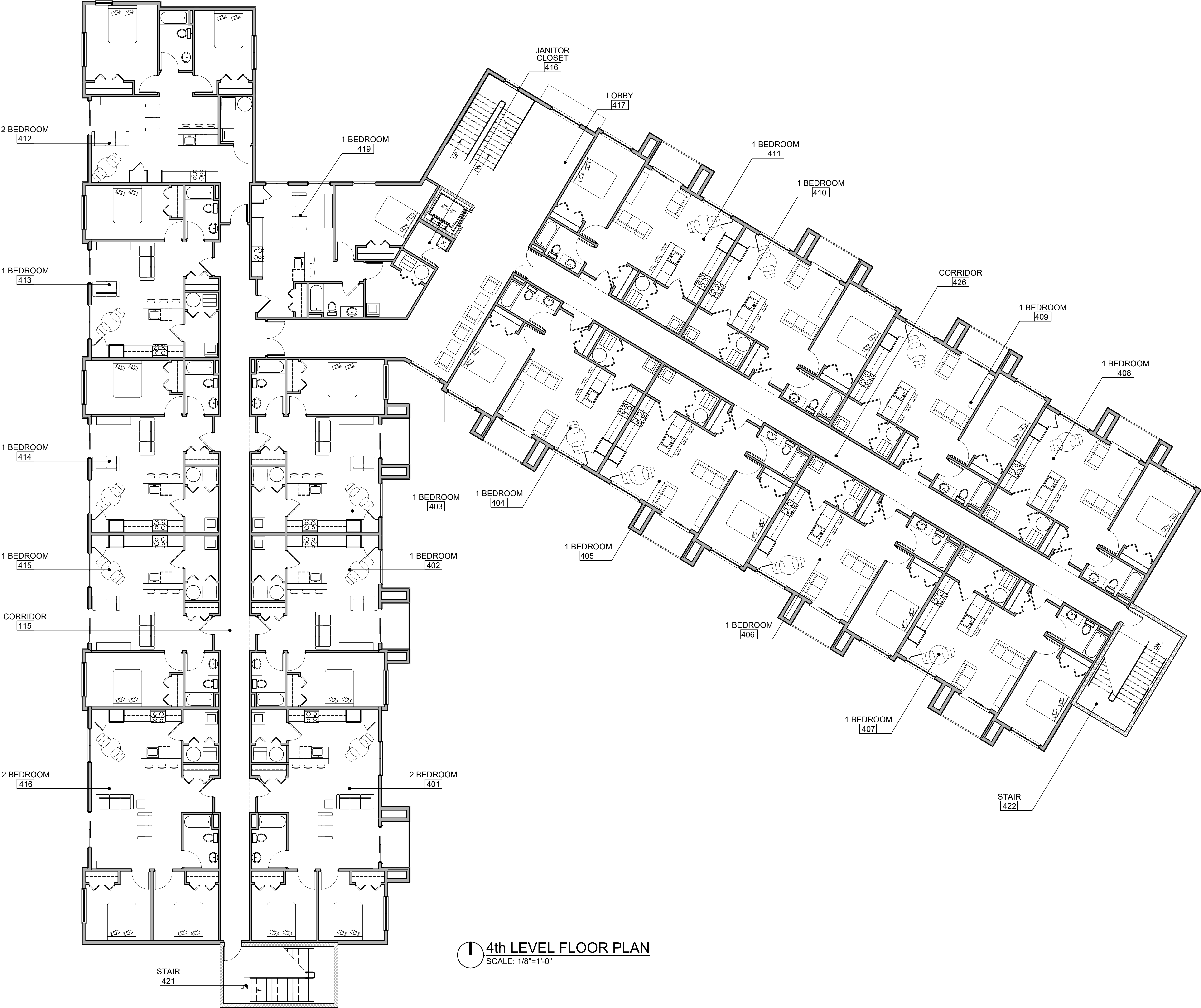
Attachment: 23_B_15 21-167 A 101 FLATS SPA SET (6245 : PC 23-004; the Flats & the Lofts of West Village: PUD Site Plan, Review #2)

TDGArchitects.com

TDGArchitects

TDG Architects

79 Oakland Avenue
P.O. Box 874-1420
Pontiac, Michigan 48342
P: (248) 874-1420
F: (248) 758-8926



UNIT INFORMATION		
1 BEDROOM	2 BEDROOM	SQUARE FT.
UNIT 402	UNIT 401	961
UNIT 403		718
UNIT 404		719
UNIT 405		721
UNIT 406		718
UNIT 407		718
UNIT 408		727
UNIT 409		718
UNIT 410		718
UNIT 411		721
	UNIT 412	981
UNIT 413		717
UNIT 414		718
UNIT 415		718
	UNIT 416	972
UNIT 419		723

Project
FLATS AT WEST VILLAGE
55 ELIZABETH STREET
LAKE ORION, MI. 48362
Client
WEST VILLAGE OWNER, LLC
79 OAKLAND AVE
PONTIAC, MI. 48342

REVISION SCHEDULE	
DATE	DESCRIPTION
05/26/21	CLIENT REVIEW
06/25/21	PUD DISCUSSION
07/20/21	PUD DISCUSSION
08/02/21	CLIENT BIDDING
08/13/21	PUD SUBMITTAL
09/03/21	FIRE MARSHAL RESP.
09/15/21	VILL. COMMENT. RESP.
11/09/21	HISTORIC UPDATE
6/19/23	SITE PLAN APP.
7/25/23	SITE PLAN APP.
8/15/23	SITE PLAN APP.



DRAWN BY: CMW
CHECKED BY: BSG

Drawing Title
**FOURTH LEVEL
FLOOR PLAN**

Project Number
21-167
Drawing Number

A 104

Project
FLATS AT WEST VILLAGE
55 ELIZABETH STREET
LAKE ORION, MI. 48362
Client
WEST VILLAGE OWNER, LLC
79 OAKLAND AVE
PONTIAC, MI. 48342

REVISION SCHEDULE	
DATE	DESCRIPTION
05/26/21	CLIENT REVIEW
06/25/21	PUD DISCUSSION
07/20/21	PUD DISCUSSION
08/02/21	CLIENT BIDDING
08/13/21	PUD SUBMITTAL
09/03/21	FIRE MARSHAL RESP.
09/15/21	VILL. COMMENT. RESP.
11/09/21	HISTORIC UPDATE
6/19/23	SITE PLAN APP.
7/25/23	SITE PLAN APP.
8/15/23	SITE PLAN APP.



DRAWN BY: CMW
CHECKED BY: BSG

BUILDING ELEVATIONS

Project Number

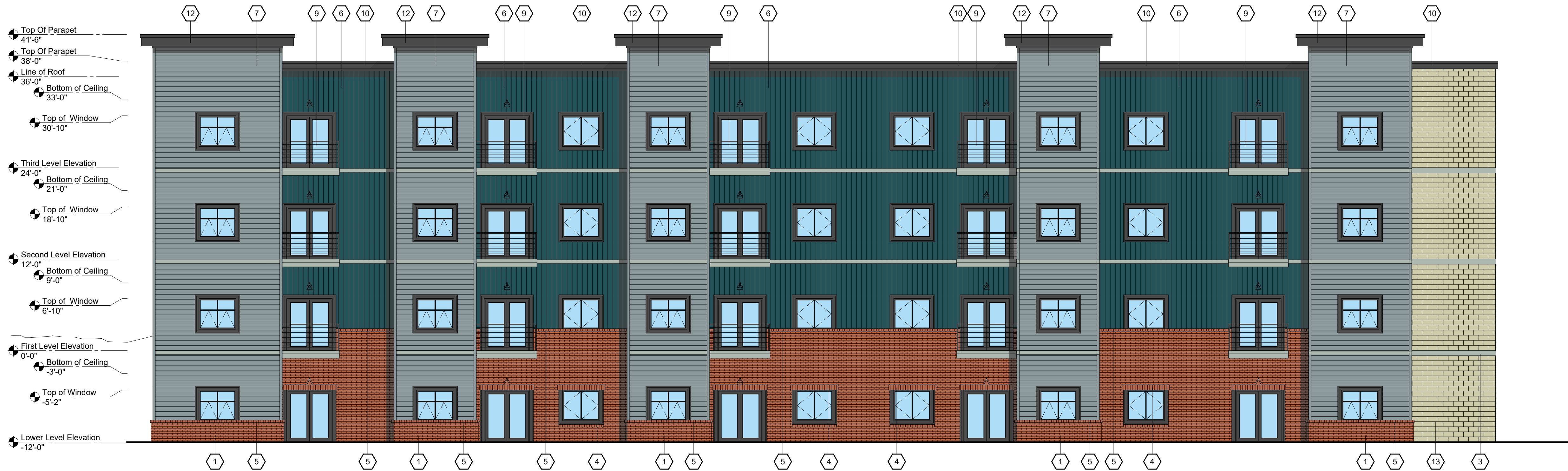
21-167

Drawing Number

A 302



SOUTH ELEVATION
SCALE: 1/8"=1'-0"



WEST ELEVATION
SCALE: 1/8"=1'-0"

PROJECT CONTACTS:

DEVELOPER
WEST CONSTRUCTION SERVICES
79 OAKLAND AVENUE
PONTIAC, MI 48342
248-758-9925

SURVEYOR
SUJAK ENGINEERING PLC
4031 COOLDGE HWY
TROY, MI 48098
248-885-8431

ARCHITECT
TDG ARCHITECTS
79 OAKLAND AVENUE
PONTIAC, MI 48342
248-874-1420

CIVIL ENGINEER
TRI-COUNTY ENGINEERING CONSULTANTS
48701 HAYES ROAD
SHELBY, MI 48315
810-394-7887

UTILITY CONTACTS:

VILLAGE OF LAKE ORION
BUILDING DEPARTMENT
21 EAST CHURCH STREET
LAKE ORION, MI 48362
248-693-8391

ORION TOWNSHIP
PUBLIC WORKS DEPARTMENT
21 EAST CHURCH STREET
LAKE ORION, MI 48362
248-693-8391

DETROIT EDISON
800-477-4747

SEMCO ENERGY
800-624-2019

CONSUMERS ENERGY
800-477-5050

AT&T
844-723-0252

VERIZON WIRELESS
586-977-6500

COMCAST
888-266-2278

WOW
866-496-9669

OAKLAND COUNTY ROAD COMMISSION
248-858-4835

OAKLAND COUNTY WATER RESOURCES
COMMISSIONER
248-858-0958

THE UTILITY LOCATIONS AS SHOWN ARE BASED ON FIELD OBSERVATIONS AND REVIEW OF MUNICIPAL AND UTILITY RECORDS. ACTUAL CONDITIONS MAY VARY. WE CANNOT GUARANTEE OR IMPLY THE ACCURACY AND COMPLETENESS OF UNDERGROUND / OVERHEAD UTILITY INFORMATION AS SHOWN. CONTRACTOR SHALL BE RESPONSIBLE TO FIELD VERIFY ALL INFORMATION PRIOR TO CONSTRUCTION. MAKE EVERY EFFORT TO PROTECT AND SUPPORT AS REQUIRED AT NO COST TO THE OWNER. CONTRACTOR SHALL NOTIFY ENGINEER PROMPTLY OF ALL FOUND DISCREPANCIES.

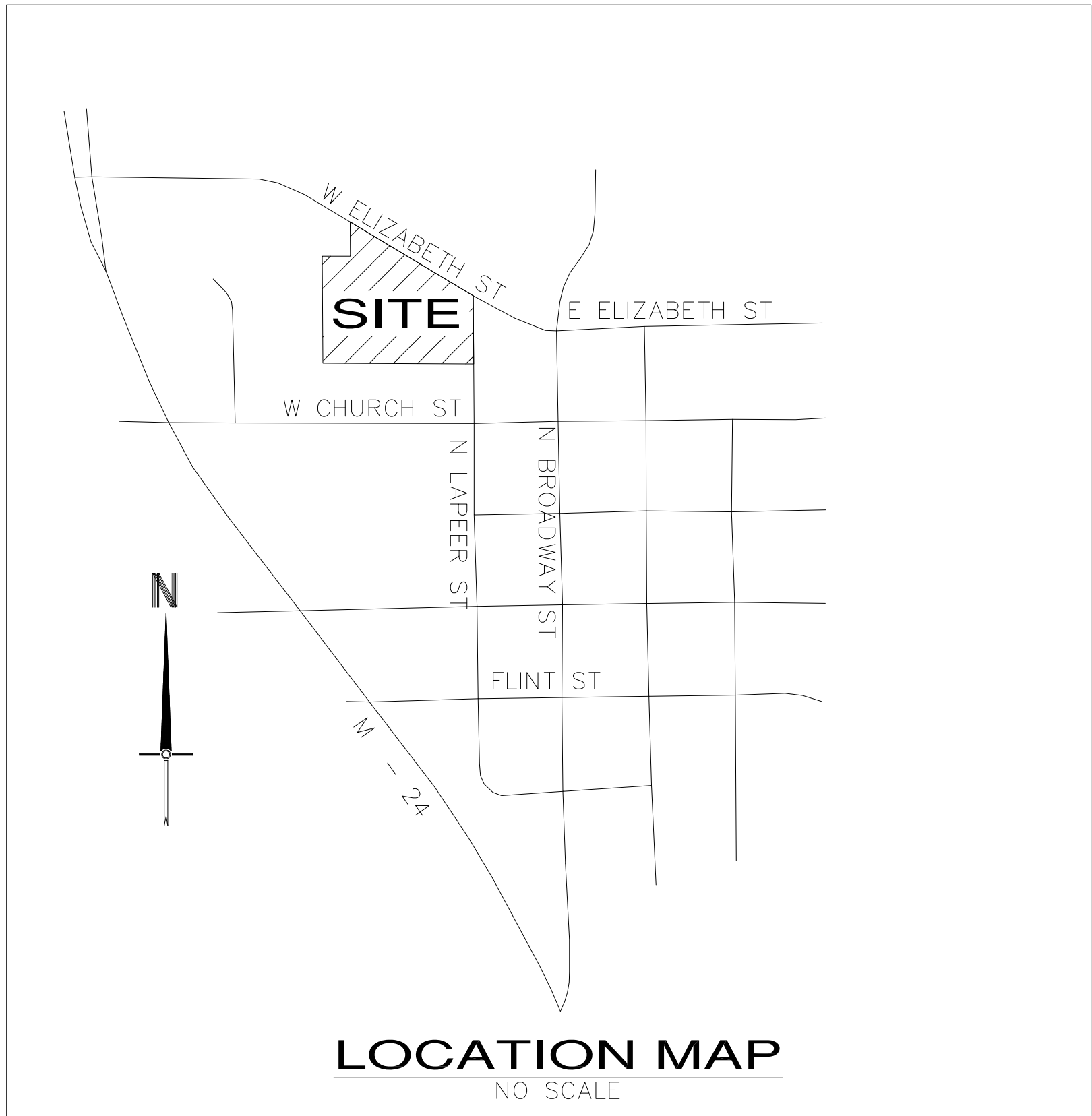
ENGINEERING PLANS FOR:
FLATS AT WEST VILLAGE
55 Elizabeth Street, Lake Orion, MI 48362
OAKLAND COUNTY, MICHIGAN

STANDARD NOTES

1. Notify all jurisdictional agencies a minimum of 72-hours prior to the start of construction.
2. All construction must be conforming to the current standards and specifications adopted by the jurisdictional agencies.
3. Call MISS DIG (1-800-482-7171) a minimum of 72-hours prior to the start of construction.
4. All soil erosion and silt must be controlled and contained onsite.
5. All excavation under or within 3-feet of public pavement, existing or proposed, shall be backfilled and compacted with sand (Class II MDOT - minimum).
6. The Contractor is responsible for all damage to existing utilities.
7. The Contractor is responsible for obtaining all permits including a permit to occupy public utility easements and public rights-of-way.

PRECEDENCE NOTE

IF ANY DISCREPANCY BETWEEN THESE PLANS AND THE JURISDICTIONAL AGENCY STANDARDS OCCURS, THE AGENCY STANDARDS SHALL GOVERN.



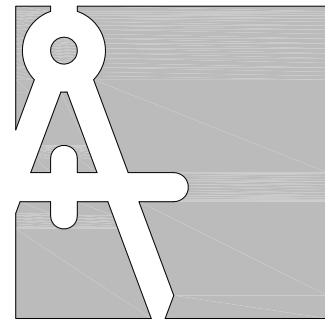
SHEET INDEX

- | | |
|------|--|
| CO-1 | COVER SHEET |
| TP-1 | TOPO SURVEY |
| SP-1 | ARCH SITE PLAN |
| UT-1 | UTILITY & GEOMETRY PLAN |
| GP-1 | PAVING & GRADING PLAN |
| PR-1 | WATER & SEWER PROFILES |
| DR-1 | STORM DRAINAGE PLAN & PROFILES |
| SE-1 | SOIL EROSION & SEDIMENTATION CONTROL PLAN |
| LP-1 | LANDSCAPE PLANING PLAN (2) |
| | OAKLAND COUNTY WATER MAIN STANDARD DETAILS (7) |
| | OAKLAND COUNTY SANITARY STANDARD DETAILS (2) |
| | OAKLAND COUNTY STORM DRAIN NOTES & DETAILS (1) |
| | OAKLAND COUNTY SOIL EROSION DETAILS (1) |

ENGINEER'S CERTIFICATION

I hereby certify that I have read the Municipality Development Ordinance (and its related Engineering Standards), and I have prepared these plans in conformity with the requirements of said Ordinance.

SERMED K. SAIF, PE #51411



TRI-COUNTY
Engineering Consultants

48701 Hayes Road
Shelby Twp, MI 48315
TEL: (810) 394-7887
FAX: (586) 566-4642

info@Tri-CountyEng.com
www.Tri-CountyEng.com

CLIENT NAME:

West Construction Services
79 Oakland Avenue
Pontiac, MI 48342
248-758-9925
KWestberg@WestConstruction.com

3 WORKING DAYS
800-482-7171



Know what's below.
Call before you dig.

PRIOR TO CONSTRUCTION, ALL EXISTING UTILITIES LOCATION AND DEPTH WITHIN THE PROJECT AREA SHALL BE FIELD VERIFIED. CALL MISS DIG SYSTEM 3 WORKING DAYS PRIOR TO CONSTRUCTION.

UTILITY INFORMATION SHOWN ON THIS DRAWING ARE APPROXIMATE AND MAY BE ACCORDING TO AVAILABLE RECORD OR DISCLOSED INFORMATION BY VARIOUS UTILITY COMPANIES, PUBLIC AGENCIES, OR OTHER SOURCES AND THIS MAY NOT NECESSARILY REFLECT ACTUAL FIELD LOCATIONS AND NO GUARANTEE IS GIVEN TO COMPLETENESS OR ACCURACY.
COPYRIGHT (C) 2023. ALL RIGHTS RESERVED. THIS DRAWING AND ALL INFORMATION CONTAINED HEREIN ARE NOT TO BE USED OR REPRODUCED WITHOUT WRITTEN PERMISSION BY TRI-COUNTY ENGINEERING CONSULTANTS.

PROJECT NAME:

FLATS AT WEST VILLAGE
Site Development
55 Elizabeth Street
Lake Orion, MI 48362

COVER SHEET

.

PROJECT LOCATION:

SEC 02, T04N, R10E
VILLAGE OF LAKE ORION
OAKLAND COUNTY

Drawn By: FH
Checked By: SS
Approved By: SS

REVISIONS:

1. PRELIM PLANS 08/05/21
2. PER FD 08/12/21
3. OWNER REVIEW 05/07/23
4. PUD REVIEW 08/12/23



SCALE VERIFICATION:

0 0.5
BAR IS ONE-INCH
ADJUST SCALES ACCORDINGLY IF NOT

SCALE:

NONE

PROJECT NO:

TD21005

DRAWING NO:

TD21005C0

CO-1

SURVEYOR'S CERTIFICATE

TO: TO BE ADVISED
RE: Survey Entitled "ALTA Survey"
dated February 10 2022, prepared by THOMAS M SMITH, PS

The undersigned hereby certifies that the above-referenced survey was prepared from an actual on-the-ground instrument survey of the subject premises, that the same accurately shows the location of all streets, highways, alleys and public ways crossing or abutting said premises; that the dimensions of the improvements and the locations thereof with respect to the boundaries are accurately shown as the same were situated on February 10 2022; that there are no encroachments by improvements appurtenant to adjoining premises upon the subject premises, nor from the subject premises, unless shown thereon; that all buildings and structures, if any, lie wholly within all applicable building restriction lines, if any, and do not violate any restriction or other recorded agreements set forth in the title insurance commitment for the subject premises dated MAY 4, 2014, issued to you by FIDELITY TITLE COMPANY, TITLE SEARCH A07199044; that all easements and rights of way which are appurtenant to or burden the subject premises and (i) are referred to in the Title Commitment or (ii) are apparent from a visual inspection are delineated thereon, and are located other than through the existing building shown hereon; that all parking spaces, if any, are delineated thereon; and that, except as otherwise shown thereon, the subject premises are not located within any flood hazard or flood way area or district as designed by Federal, state or municipal authority.

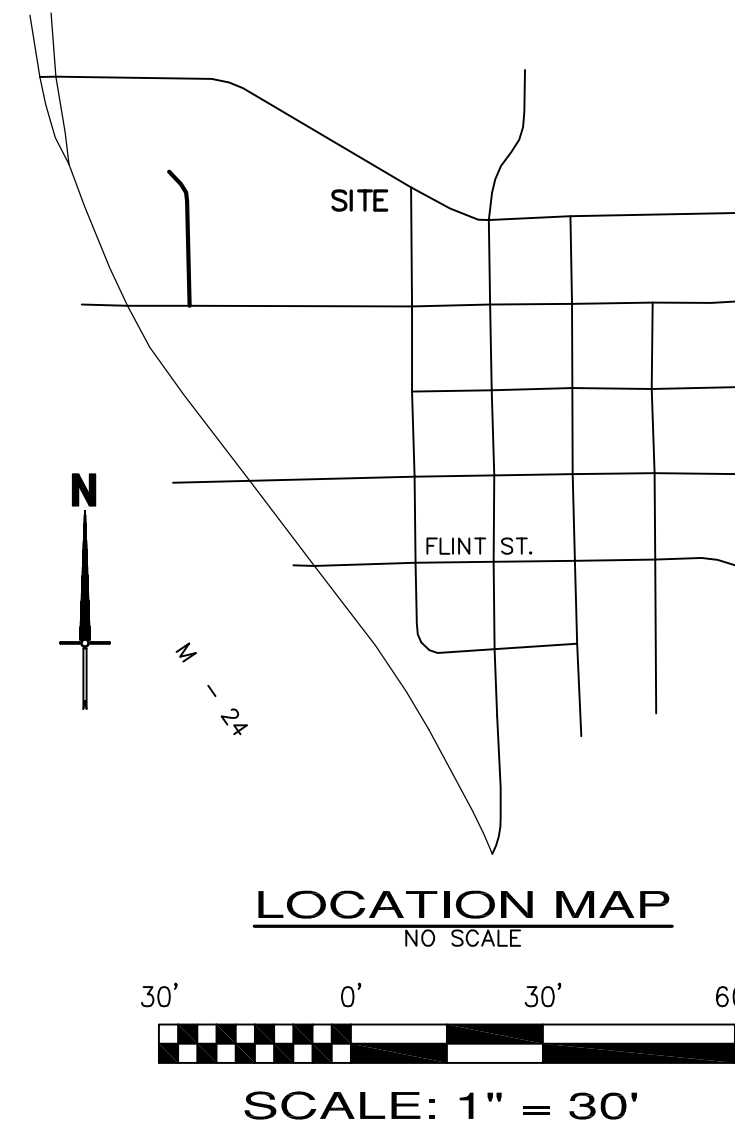
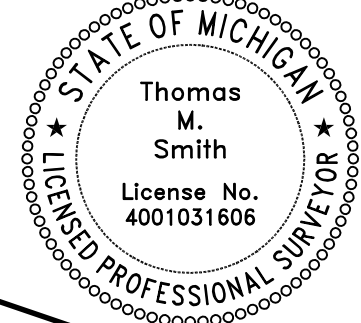
Access to and egress from the subject premises and the improvements and structures thereon to LAPEER & W. ELIZABETH, a public way, are provided by the means indicated thereon. Municipal water, storm sewer facilities and telephone, gas and electric services of public utilities are available in the locations indicated thereon.

The undersigned hereby certifies that the square footage of each parcel delineated on the above referenced survey is as set forth thereon, that all such parcels are contiguous without any strips, gaps or gores existing between any of said parcels, and that said parcels, when combined, form and create one complete and uninterrupted parcel without any strips, gaps or gores.

This survey is made in accordance with the "Minimum Standard Detail Requirements for Land Title Surveys" jointly established and adopted by ALTA and ACSM in 2021.

Dated: February 10, 2022

THOMAS M SMITH, PS
VACANT PARCEL *



LEGAL DESCRIPTION:

PART OF LOTS 9 & 10, DESCRIBED AS BEGINNING AT A POINT LOCATED DISTANT N 00°02'49" E 161.78 FEET FROM THE SOUTHEAST CORNER OF LOT 11 OF SAID SUBDIVISION, THENCE N 89°15'57" W 438.88 FEET, THENCE N 00°02'14" E 311.33 FEET, THENCE S 89°27'45" E 82.06 FEET, THENCE N 00°01'14" W 99.91 FEET, THENCE S 58°37'00" E 417.89 FEET, THENCE S 00°02'49" W 198.48 FEET TO BEGINNING, SUPERVISOR'S PLAT NO 8, VILLAGE OF LAKE ORION, OAKLAND COUNTY, MICHIGAN, CONTAINING 134,381 SQUARE FEET (3.08 ACRES) ALSO, THE WEST 36 FEET OF THE NORTH 80 FEET OF LOT 3, ALSO NORTH 80 FEET OF LOT 4, BLK 24, HEMINGWAY'S PLAT, VILLAGE OF LAKE ORION, OAKLAND COUNTY, MICHIGAN CONTAINING 7,523 SQUARE FEET (0.17) ACRES.

LEGAL DESCRIPTION- LAKE ORION COMMUNITY SCHOOLS PARCEL:

PART OF LOT 10, ALSO ALL OF LOT 11, SUPERVISOR'S PLAT NO 8, VILLAGE OF LAKE ORION, OAKLAND COUNTY, MICHIGAN. ALL DESCRIBED AS BEGINNING AT THE SE CORNER OF SAID LOT 11, THENCE N 89°15'57" W, 438.85 FT, THENCE N 00°02'14" E, 161.78 FT, THENCE S 89°15'57" E, 438.88 FT, THENCE S 00°02'49" W 161.78 FT TO THE POINT OF BEGINNING.

TOPO. NOTES:

- ALL ELEVATIONS ARE EXISTING ELEVATIONS
- SUBJECT PROPERTY IS NOT LOCATED IN FLOOD ZONE PER FEMA FLOOD INSURANCE RATE MAP COMMUNITY PANEL NO. 26125C0236F EFFECTIVE DATE: SEPTEMBER 29, 2006.
- THE LOCATION OF THE EXISTING UTILITIES AS SHOWN WERE OBTAINED FROM MUNICIPAL AND UTILITY COMPANIES RECORDS. NO GUARANTEE CAN BE MADE REGARDING THE COMPLETENESS OR EXACTNESS OF THE UTILITIES LOCATION. IT IS THE CONTRACTORS RESPONSIBILITY TO VERIFY IN THE FIELD THE LOCATION OF ALL UTILITIES. ANY POTENTIAL CONFLICT SHALL BE REPORTED TO THE ENGINEER PRIOR TO CONSTRUCTION.
- THE CONTRACTOR SHALL CONTACT MISS DIG 3 WORKING DAYS PRIOR TO CONSTRUCTION.

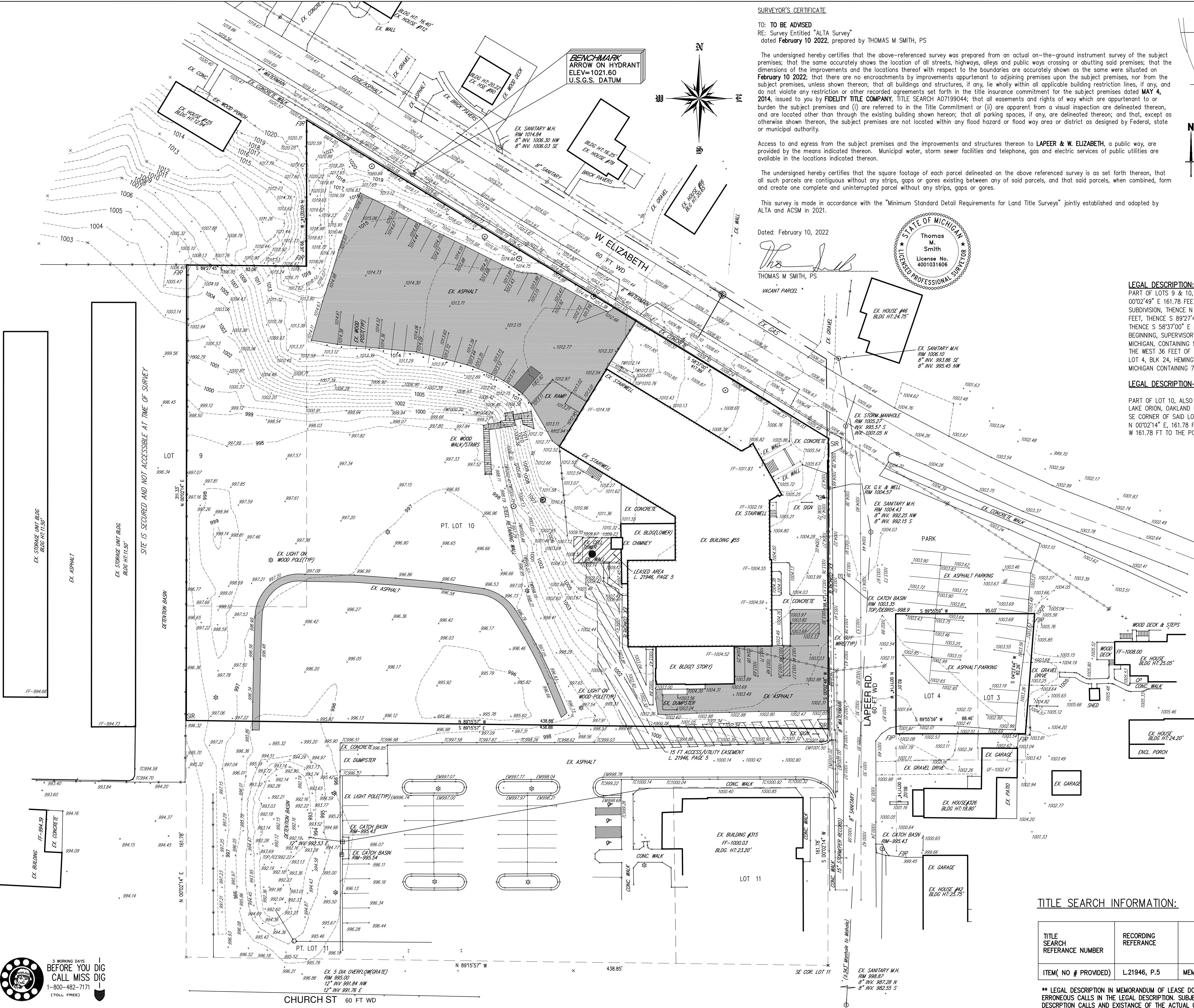
LEGEND

- EX. GRADE
- EX. INDEX CONTOUR
- EX. CONTOUR
- EX. WATER MAIN
- EX. STORM SEWER
- EX. SANITARY SEWER
- EX. OVERHEAD
- EX. GAS
- EX. UNDERGROUND
- EX. FENCE
- EX. RAILROAD
- EX. WALL
- EX. Q. OF DITCH
- EX. WEILAND
- HYDRANT
- CATCH BASIN
- MANHOLE
- SIGN
- GATE VALVE
- LIGHT POLE
- UTILITY POLE
- METAL LIGHT POLE
- TOP OF BERM
- TOE OF BERM
- TREE TAG
- TOP OF CURB
- CUTTER
- TOP OF ASPHALT
- TOP OF WALL
- FOUND IRON ROD
- SET IRON ROD
- FOUND IRON PIPE
- ASPHALT
- CONCRETE

TITLE SEARCH INFORMATION:

TITLE SEARCH REFERENCE NUMBER	RECORDING REFERENCE	DESCRIPTION	STATUS ON PLAT
ITEM(NO # PROVIDED)	L.21946, P.5	MEMORANDUM OF LEASE	** PLOTTED

** LEGAL DESCRIPTION IN MEMORANDUM OF LEASE DOCUMENT DOESN'T CLOSE AND CONTAINS ERRONEOUS CALLS IN THE LEGAL DESCRIPTION. SUBJECT EASEMENT WAS LOCATED BASED ON LEGAL DESCRIPTION CALLS AND EXISTANCE OF THE ACTUAL CELL TOWER



SE Sujak Engineering PLC
CIVIL ENGINEERING \$ PLANNING \$ DESIGN \$
Phone (248) 885-8431
4031 Coudage Highway
Troy, MI 48068
Email: SujakEngineering@Comcast.net
Fax: (248) 885-8432

Lake Orion High School
55 Elizabeth Street
Lake Orion, MI
Alta Survey

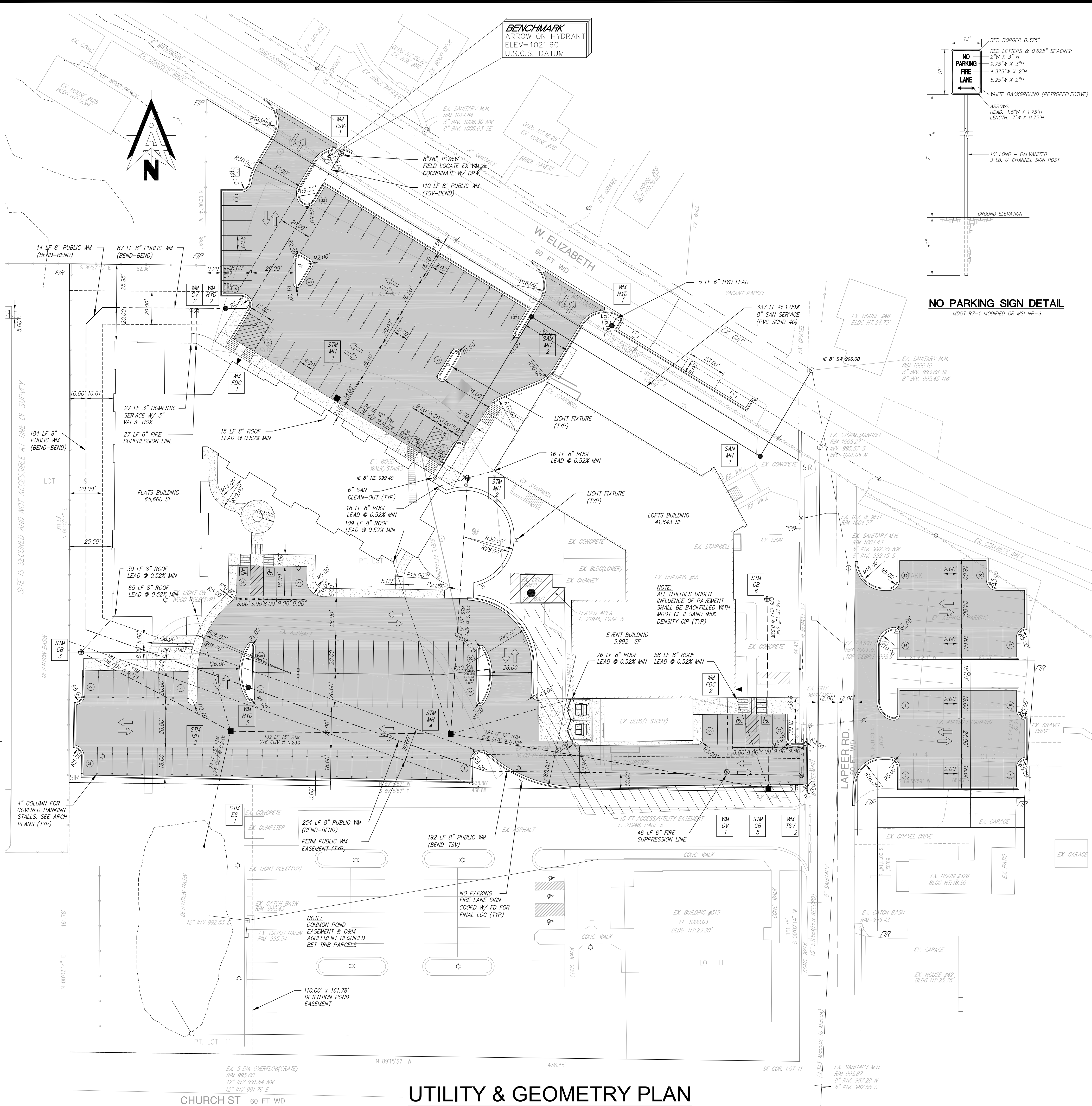
Scale: 1"=30'
Drawn: TMS
Checked: TCS
Approved: TMS
Date: 2/10/2022
Job no. 22-001
Sheet No. CS1.0

GENERAL NOTES

1. THE CONTRACTOR SHALL VISIT THE SITE TO VERIFY ALL SITE CONDITIONS ILLUSTRATED TO BE DEMOLISHED AND IF THERE ARE QUESTIONS OR PERCEIVED & REAL CONFLICTS REGARDING CONSTRUCTION DOCUMENTS COMPARED TO ACTUAL FIELD CONDITIONS, SAID CONTRACTOR SHALL NOTIFY THE ENGINEER OF RECORD OR OWNER PRIOR TO BIDDING.
2. THE CONTRACTOR SHALL NOT INTERRUPT EXISTING UTILITIES DURING THE DEMOLITION. IF A UTILITY INTERRUPTION IS REQUIRED, THE CONTRACTOR SHALL COORDINATE THE INTERRUPTION WITH THE OWNER AND PROPER NOTIFICATIONS WILL BE ISSUED TO THE JURISDICTIONAL AGENCY. NOTIFICATIONS ARE THE RESPONSIBILITY OF THE CONTRACTOR.
3. THE CONTRACTOR SHALL RESTORE ANY STRUCTURES, UTILITY, PAVEMENT, CURBS, SIDEWALKS, LANDSCAPED AREAS, ETC. WITHIN ADJOINING PROPERTIES DISTURBED OR DAMAGED DURING CONSTRUCTION ACTIVITIES.
4. THE CONTRACTOR SHALL BE RESPONSIBLE TO INSTALL AND MAINTAIN TRAFFIC CONTROL DEVICES FOR PROTECTION OF PEDESTRIANS AND VEHICULAR TRAFFIC. CONTROLS MAY CONSIST OF, BUT NOT BE LIMITED TO: FLAGGERS, DRUMS, BARRIERS, SIGNS, LIGHTS, AND FENCING. COST OF TRAFFIC CONTROL SHALL BE BORNE BY THE CONTRACTOR.
5. SITE UTILITIES ILLUSTRATED ON THE CONTRACT DRAWINGS ARE APPROXIMATE AND SHALL NOT BE CONSIDERED AS 100% ACCURATE. THE ENGINEER SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OF THE INFORMATION SHOWN THEREON. THE CONTRACTOR SHALL FIELD LOCATE DEPTH AND LOCATION OF ALL UTILITIES LOCATED WITHIN THE LIMITS OF SITE EXCAVATION. CONTRACTOR SHALL CALL MISS-DIG PRIOR TO EXCAVATING AND LOCAL UTILITIES SHALL BE MARKED OR CLEARED BY UTILITY OWNER PRIOR TO EXCAVATING.
6. THE MUNICIPALITY AND/OR JURISDICTIONAL AGENCY STANDARD DETAIL SHEETS ARE INCORPORATED AND MADE A PART OF THESE PLANS. ALL UTILITY LINE, STRUCTURES, AND TRENCHES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THESE STANDARDS AND ALL OTHER RELATED REQUIREMENTS.
7. NO PHYSICAL CONNECTION TO THE EXISTING UTILITIES SHALL BE MADE UNTIL ALL NEW UTILITIES ARE TESTED AND ACCEPTED BY THE MUNICIPALITY AND/OR JURISDICTIONAL AGENCY.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL JURISDICTIONAL AGENCIES PERMIT COSTS.
9. MAINTAIN 10" MIN HORIZONTAL SEPARATION BETWEEN UTILITIES AND 18" CLEARANCE AT CROSSINGS.
10. MAINTAIN 5.5" MIN COVER OVER ALL EXISTING & PROPOSED WATER MAIN.
11. MAINTAIN 4" MIN COVER OVER ALL EXISTING & PROPOSED SANITARY SEWER.
12. MAINTAIN 3" MIN COVER OVER ALL EXISTING & PROPOSED STORM SEWER.
13. IF REQUIRED, A STORM WATER MAINTENANCE AGREEMENT SHALL BE PROVIDED TO THE MUNICIPALITY PRIOR TO FINAL ACCEPTANCE.
14. IF ANY DISCREPANCY BETWEEN THESE PLANS AND THE JURISDICTIONAL AGENCY STANDARDS OCCURS, THE AGENCY STANDARDS SHALL GOVERN.

PROPOSED LEGEND

- TC 000.00 TOP OF CURB ELEVATION
- G 000.00 TOP OF PAVEMENT ELEVATION
- TW 000.00 TOP OF WALK ELEVATION
- FG 000.00 FINISH GRADE ELEVATION
- FLOW DIRECTION
- CONCRETE
- GRAVEL
- COMPACTED SAND BACKFILL
- WATERMAIN
- SANITARY SEWER
- STORM SEWER
- GAS MAIN
- ELECTRIC LINE
- HYDRANT
- GATE VALVE & WELL
- TAPPING SLEEVE VALVE & WELL
- REAR YARD CATCH BASIN
- STORM MANHOLE
- CATCH BASIN
- INLET
- END SECTION
- SANITARY MANHOLE
- STM MH 48 STRUCTURE TYPE
- STRUCTURE ID NO



UTILITY & GEOMETRY PLAN

SCALE 1:30

NO PARKING SIGN DETAIL

MOOT R7-1 MODIFIED OR M51 W/P-9

LOCATION MAP

NO SCALE

LEGAL DESCRIPTION:

PART OF LOTS 9 & 10, DESCRIBED AS BEGINNING AT A POINT LOCATED DISTANT N 0°02'49" E 161.78 FEET FROM THE SOUTHEAST CORNER OF LOT 11 OF SAID SUBDIVISION, THENCE N 89°15'57" W 438.89 FEET, THENCE N 0°02'41" E 311.33 FEET, THENCE S 89°27'45" E 82.06 FEET, THENCE N 0°02'41" W 99.91 FEET, THENCE S 58°37'00" E 417.89 FEET, THENCE S 0°02'49" W 198.48 FEET TO BEGINNING, SUPERVISOR'S PLAT NO 8, VILLAGE OF LAKE ORION, OAKLAND COUNTY, MICHIGAN, ALSO, THE WEST 36 FEET OF THE NORTH 80 FEET OF LOT 3, ALSO NORTH 80 FEET OF LOT 4, BLK 24, HEMINGWAY'S PLAT, VILLAGE OF LAKE ORION, OAKLAND COUNTY, MICHIGAN.

LEGAL DESCRIPTION- LAKE ORION COMMUNITY SCHOOLS PARCEL:

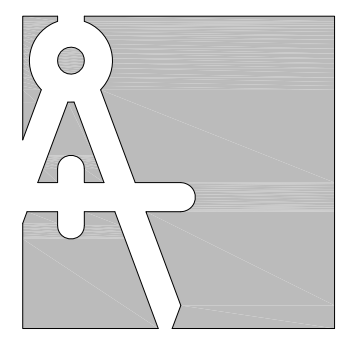
PART OF LOT 10, ALSO ALL OF LOT 11, SUPERVISOR'S PLAT NO 8, VILLAGE OF LAKE ORION, OAKLAND COUNTY, MICHIGAN, ALL DESCRIBED AS BEGINNING AT THE SE CORNER OF SAID LOT 11, THENCE N 89°15'57" W, 438.85 FT, THENCE N 0°02'41" E, 161.78 FT, THENCE S 89°15'57" E, 438.88 FT, THENCE S 0°02'49" W 161.78 FT TO THE POINT OF BEGINNING.

TOWNSHIP STANDARD NOTES

1. CONSTRUCTION SHALL CONFORM TO CURRENT CHARTER TOWNSHIP OF ORION STANDARDS.
2. NO SITE WORK SHALL OCCUR WHATSOEVER UNTIL THE SITE PLAN AND ENGINEERING PLAN HAVE BEEN APPROVED, ALL FEES HAVE BEEN PAID TO THE TOWNSHIP, AND THE PRE-CONSTRUCTION MEETING HAS BEEN HELD. IT SHALL ALSO BE NOTED THAT NO WORK SHALL BE PERFORMED WITHOUT INSPECTION.
3. ALL STREETS MUST BE MAINTAINED DURING CONSTRUCTION. STREETS SHALL BE KEPT FREE OF MUD, DIRT, CONSTRUCTION DEBRIS, DUST AND THE LIKE.
4. WORKING HOURS (INCLUDING RUNNING OF ANY MACHINERY) SHALL BE RESTRICTED TO MONDAY THROUGH SATURDAY, 7:00 AM TO 7:00 PM; SUNDAY TO SUNDOWN, WHICHEVER IS LESS. CONSTRUCTION OPERATIONS BEYOND THE PERIODS MENTIONED ABOVE SHALL BE PERMITTED ONLY AFTER WRITTEN APPROVAL OF THE TOWNSHIP SUPERVISOR OR THEIR DESIGNEE. PLEASE REFER TO ORDINANCE 135 (NOISE ORDINANCE) FOR ORION TOWNSHIP TO OBTAIN ADDITIONAL REQUIREMENTS FOR NOISE RESTRICTIONS.
5. ALL MATERIALS AND MANUFACTURERS SHALL CONFORM TO THE STANDARD DETAILS.
6. UTILITY STRUCTURES SHALL NOT BE LOCATED IN DRIVEWAYS, AND WHERE POSSIBLE, SHALL NOT BE LOCATED IN PAVED AREAS.
7. THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES IN ACCORDANCE WITH ACT 53 OF PUBLIC ACT 174 OF 2013 AND ALSO CONTACT OAKLAND COUNTY UTILITY AND PROTECTION SERVICE (MISS DIG 1-800-482-7171) THREE (3) WORKING DAYS BEFORE THE START OF ANY CONSTRUCTION.
8. THE CONTRACTOR SHALL PROVIDE NECESSARY SIGNS, BARRICADES AND LIGHTS TO PROTECT TRAFFIC AND THE WORK AS DIRECTED BY THE ENGINEER. SUCH DEVICES SHALL BE PLACED PRIOR TO STARTING WORK IN AFFECTED AREAS.
9. PER INTERNATIONAL FIRE CODE 3310 - ACCESS FOR FIRE FIGHTING: APPROVED VEHICLE ACCESS FOR FIRE FIGHTING SHALL BE PROVIDED TO ALL CONSTRUCTION OR DEMOLITION SITES. VEHICLE ACCESS SHALL BE PROVIDED TO WITHIN 100 FEET OF THE TEMPORARY OR PERMANENT FIRE DEPARTMENT CONNECTION. VEHICLE ACCESS SHALL BE PROVIDED BY EITHER TEMPORARY OR PERMANENT ROADS, CAPABLE OF SUPPORTING VEHICLE LOADING UNDER ALL WEATHER CONDITIONS. VEHICLE ACCESS SHALL BE MAINTAINED UNTIL PERMANENT FIRE APPARATUS ROADS ARE AVAILABLE.
10. ALL SOIL EROSION AND SEDIMENTATION CONTROLS SHALL BE IN ACCORDANCE WITH THE OAKLAND COUNTY STANDARDS AND DETAILS. THE CONTRACTOR SHALL FOLLOW LOCAL RULES AND REGULATIONS FOR SOIL EROSION AND SEDIMENTATION CONTROL FOR ALL MATERIALS THAT ARE DISPOSED OF OFF OF THE PROJECT SITE.
11. ALL SOIL EROSION MEASURES MUST BE PROPERLY PLACED PRIOR TO GRADING OR OTHER CONSTRUCTION ACTIVITIES.
12. FIELD CHANGES TO THE APPROVED PLAN SHALL BE BROUGHT TO THE ATTENTION OF THE INSPECTOR ON SITE, WHO WILL DETERMINE WHETHER THE CHANGE IS CONSIDERED "SIGNIFICANT." "SIGNIFICANT" FIELD CHANGES SHALL BE SUBMITTED TO THE TOWNSHIP BY THE DESIGN ENGINEER. THE TOWNSHIP SHALL NOT BE HELD RESPONSIBLE FOR DELAYS IN APPROVAL OF CHANGES TO THE APPROVED SITE IMPROVEMENT (ENGINEERING) PLAN.
13. WHERE POSSIBLE, PUBLIC UTILITIES SHALL NOT BE PLACED UNDER PAVEMENT. THE CHARTER TOWNSHIP OF ORION SHALL NOT BE RESPONSIBLE FOR PAVEMENT, CURB, OR OTHER RESTORATION OF PERMANENT FACILITIES LOCATED WITHIN THE MUNICIPAL EASEMENT.
14. 3 WORKING DAYS PRIOR TO STARTING CONSTRUCTION, CONTACT THE CONSTRUCTION DEPARTMENT OF ORCHARD, HILTZ & MCCLINT, INC. AT (734) 466-4539 TO SCHEDULE INSPECTION. OHM SHALL INSPECT ALL SITE IMPROVEMENTS INCLUDING UNDERGROUND INSTALLATION, EARTHWORK OPERATIONS, RETAINING WALLS, ALL SIDEWALKS OR SAFETY PATHS IN ANY PUBLIC R.O.W., AND ANY ADDITIONAL ITEMS NOTED DURING REVIEW OR AT THE PRE-CONSTRUCTION MEETING. FINAL OCCUPANCY MAY BE AFFECTED IF PROCEDURES ARE NOT FOLLOWED FOR PROPER INSPECTION.
15. PERMANENT FACILITIES OF ANY TYPE, INCLUDING BUT NOT LIMITED TO, TREES, LIGHT POLES, DRAINAGE STRUCTURES, SANITARY STRUCTURES, BENCHES, TRASH RECEPTACLES, ETC., WILL NOT BE ALLOWED WITHIN THE INFLUENCE OF THE PUBLIC WATER MAIN OR SANITARY SEWER EASEMENTS.
16. THE OWNER WILL REGULARLY CLEAN AND MAINTAIN ALL STORM SEWER AND DETENTION BASINS PER THE TOWNSHIP'S STORMWATER MANAGEMENT AND EROSION CONTROL ORDINANCE NO. 139.

ESTIMATED QUANTITIES THIS SHEET

ITEM	UNIT	QUANTITY
8" SAN CLEAN-OUT	EA	1
8" SAN SERVICE (PVC SCHD 40)	LF	337
4" DIA SAN MANHOLE	EA	2
3" WM SERVICE DIP CL54 (DOMESTIC)	LF	27
6" WM SERVICE DIP CL54 (SUPPRESSION)	LF	73
8"x8" TAPPING SLEEVE VALVE & WELL	EA	2
8" GATE VALVE & WELL	EA	2
8" WM DIP CL54 (PUBLIC)	LF	840
6" WM DIP CL54 (HYD LEAD)	LF	5
8" ROOF LEAD (PVC SCH 40)	LF	478
15" STM PIPE (RCP C76 CL IV)	LF	439
12" STM PIPE (RCP C76 CL IV)	LF	778
4' DIA STM CATCH BASIN	EA	6
4' DIA STM MANHOLE	EA	5
MOOT CL II SAND BACKFILL	LF	1,800
NO PARKING SIGN	EA	4



TRI-COUNTY
Engineering Consultants

48701 Hayes Road
Shelby Twp, MI 48315
TEL: (810) 394-7887
FAX: (586) 666-4642

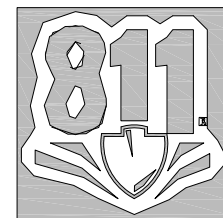
info@Tri-CountyEng.com
www.Tri-CountyEng.com

CLIENT NAME:

West Construction Services
79 Oakland Avenue
Pontiac, MI 48342

248-758-9925
KWestberg@WestConstruction.com

3 WORKING DAYS
800-482-7171



Know what's below.
Call before you dig.

PRIOR TO CONSTRUCTION, ALL EXISTING UTILITIES LOCATION AND DEPTH WITHIN THE PROJECT AREA SHALL BE FIELD VERIFIED. CALL MISS DIG SYSTEM 3 WORKING DAYS PRIOR TO CONSTRUCTION.

UTILITY INFORMATION SHOWN ON THIS DRAWING ARE APPROXIMATE AND MAY BE APPROVED TO AVAILABLE RECORD OR DISCLOSED INFORMATION BY VARIOUS UTILITY COMPANIES, PUBLIC AGENCIES, OR OTHER SOURCES AND THIS MAY NOT NECESSARILY REFLECT ACTUAL FIELD LOCATIONS AND NO GUARANTEE IS GIVEN TO COMPLETENESS OR ACCURACY.

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PROJECT NAME:

FLATS AT WEST VILLAGE

Site Development
55 Elizabeth Street
Lake Orion, MI 48362

UTILITY & GEOMETRY PLAN

PROJECT LOCATION:

SEC 02, T04N, R10E
VILLAGE OF LAKE ORION
OAKLAND COUNTY

Drawn By: FH
Checked By: SS
Approved By: SS

REVISIONS:

1. PRELIM PLANS 08/05/21
2. PER FD 08/12/21
3. OWNER REVIEW 05/07/23
4. PUD REVIEW 08/12/23

NOT FOR
CONSTRUCTION



SCALE VERIFICATION:

0 0.5
BAR IS ONE-INCH
ADJUST SCALES ACCORDINGLY IF NOT

SCALE:

1" = 30'

PROJECT NO:

TD21005

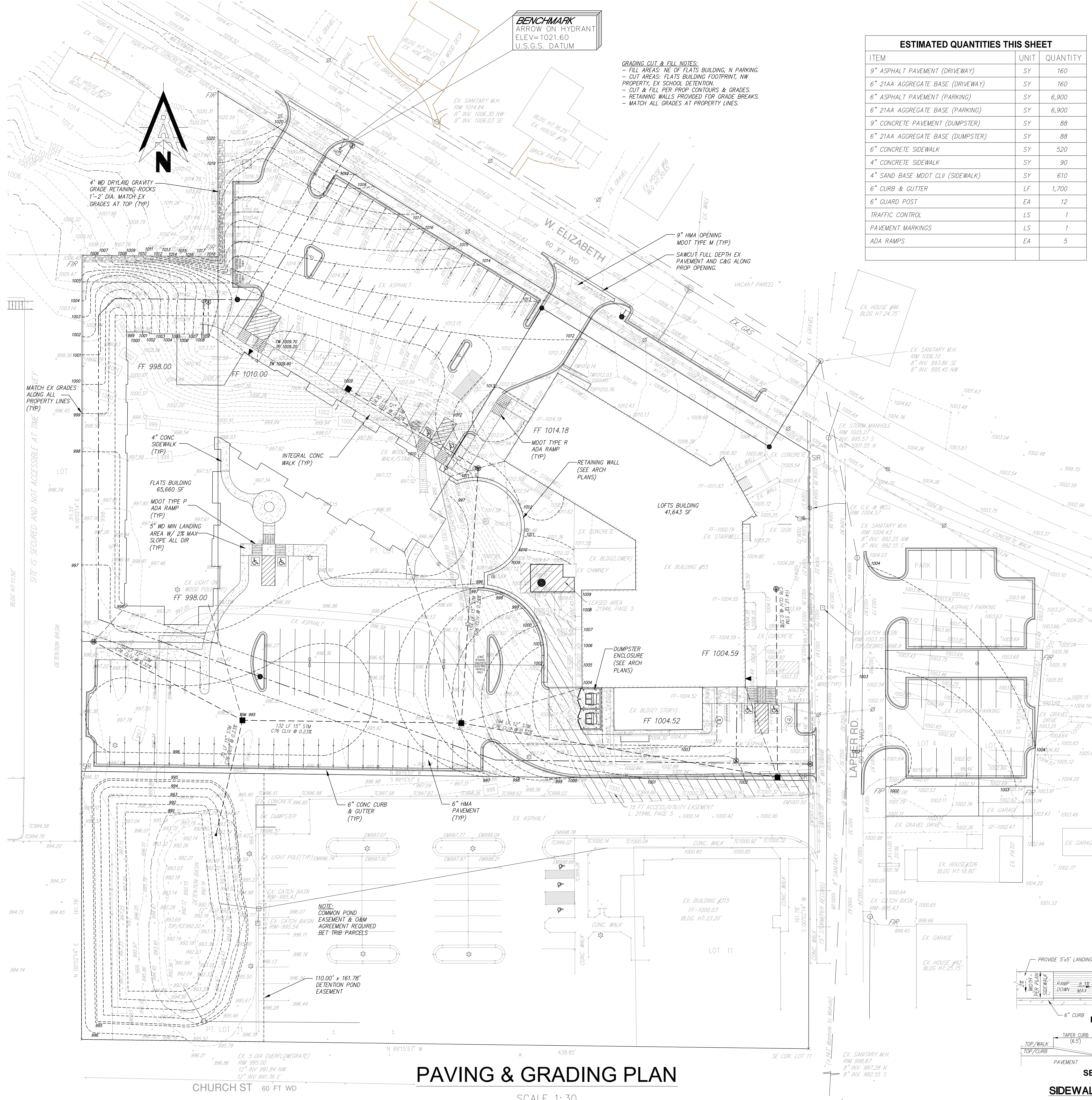
DRAWING NO:

TD20005UT

UT-1

PAVING AND GRADING NOTES

1. EARTHWORK AND PAVEMENT CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH CURRENT MCDR STANDARD SPECIFICATIONS FOR CONSTRUCTION UNLESS OTHERWISE NOTED IN THE FOLLOWING ITEMS.
 2. REMOVE ANY EXISTING TOPSOIL, VEGETATION, TREES AND OTHER DELETERIOUS MATERIALS TO EXPOSE THE SUBGRADE SOIL. TREE ROOTS SHALL BE COMPLETELY REMOVED.
 3. EXCAVATE TO THE DEPTH OF THE FINAL SUBGRADE ELEVATION TO ALLOW FOR GRADE CHANGES AND THE PLACEMENT OF THE RECOMMENDED PAVEMENT SYSTEM.
 4. THE TOP 12 INCHES OF THE EXPOSED SUBGRADE SHALL BE COMPACTED TO ACHIEVE A 95 PERCENT COMPACTION LEVEL (MODIFIED PROCTOR - ASTM D 1557-91).
 5. SUBGRADE SHALL BE THOROUGHLY PRODFILLED UNDER THE OBSERVATION OF THE JURISDICTIONAL AGENCY AND/OR GEOTECHNICAL ENGINEER. SUBGRADE UNDERCUTTING TO BE PERFORMED AS NECESSARY TO REMOVE AND REPLACE UNSUITABLE GROUND, ON AN "AS NEEDED" BASIS AND AS DIRECTED, IN ACCORDANCE WITH CURRENT MCDR STANDARD SPECIFICATIONS.
 6. THE AGGREGATE BASE SHALL BE COMPACTED TO ACHIEVE A 95 PERCENT COMPACTION LEVEL (MODIFIED PROCTOR - ASTM D 1557-91). THE BASE SHALL EXTEND A MINIMUM OF 1 FOOT BEYOND THE PAVED EDGE.
 7. ON SITE FILL MATERIAL CAN BE USED IF THE SPECIFIED COMPACTION REQUIREMENTS CAN BE ACHIEVED. IF ON SITE MATERIAL IS USED, SHOULD BE CLEAN AND FREE OF FROZEN SOIL, ORGANIC, OR OTHER DELETERIOUS MATERIALS.
 8. CONSTRUCTION ACCESS SHALL BE KEPT CLEAN AND MAINTAINED IN GOOD CONDITION THROUGHOUT THE CONSTRUCTION PERIOD.
 9. THE CONTRACTOR SHALL GRADE THE SITE TO THE SUB-GRADE BASED ON THE GRADES AND CROSS-SECTIONS SHOWN ON THESE PLANS AND ANY OTHER ACCOMPANYING PLANS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO GRADE THE SITE SO THAT THE BUILDING PAD REMAINS DRY AND FREE FROM OBSTRUCTION AT ALL TIMES.
 10. SITE SHALL FIRST BE ROUGH-GRADED, THEN CONTRACTOR SHALL RETURN UPON COMPLETION OF UTILITIES TO FINE GRADE THE SITE FOR PAVEMENT CONSTRUCTION.
 11. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE EARTHWORK QUANTITIES FOR THE PROJECT. THE CONTRACTOR'S BID SHALL INCLUDE ANY REQUIRED IMPORT OR EXPORT OF MATERIALS TO OR FROM THE SITE.
 12. STRIPING AND MARKINGS SHALL BE FURNISHED USING GUIDE LINES, FORMS STENCILS AND TEMPLATES PER CURRENT MCDR STANDARDS. FREE HAND PAINTING NOT ALLOWED.
 13. REMOVE PAVEMENT, DRIVEWAYS, CURB, GUTTERS, SIDEWALK, TO AN EXISTING JOINT OR SAVED JOINT. BITUMINOUS AND CONCRETE SHALL BE SAVED FULL DEPTH. ADJACENT CUT SOILS OR BASE MATERIALS REMOVED WHEN REMOVING CONCRETE SHALL BE REPLACED WITH IN-KIND ACCEPTABLE MATERIAL.
 14. IT SHALL BE UNLAWFUL FOR ANY PERSON TO INTERFERE WITH OR OBSTRUCT FLOW OF SURFACE WATER OVER EASEMENTS FOR PUBLIC UTILITIES OR TO IMPERE THE FLOW OF SURFACE WATER ACROSS PRIVATE PROPERTY IN A MANNER DIFFERENT FROM THE APPROVED GRADING PLAN AND DRAINAGE PATTERN.
- ### FIRE DEPARTMENT NOTES
1. NO PARKING SHALL BE PERMITTED AND/OR NO OBSTRUCTIONS SHALL BE PLACED OR CONSTRUCTED WITHIN FIFTEEN (15) FEET OF ANY FIRE HYDRANT OR FIRE DEPARTMENT CONNECTION, PUBLIC OR PRIVATE.
 2. THE FIRE DEPARTMENT CONNECTION MUST BE LOCATED WITHIN ONE HUNDRED (100) FEET OF A FIRE HYDRANT AND WITHIN FIFTY (50) FEET OF A MINIMUM EIGHTEEN (18) FOOT WIDE PAVED DRIVEWAY OR STREET.
 3. GAS METERS, PROPANE TANKS, OVERHEAD ELECTRICAL SERVICE, AND TRANSFORMERS MUST NOT BE LOCATED ON THE SAME SIDE OF THE BUILDING OR STRUCTURE AS THE FIRE DEPARTMENT CONNECTION UNLESS A CLEAR DISTANCE OF ONE HUNDRED FIFTY (150) FEET CAN BE MAINTAINED BETWEEN UTILITIES AND THE FIRE DEPARTMENT CONNECTION.
 4. ALL DRIVE AREAS MUST BE POSTED AS FIRE LANES WITH UNIFORM SIGNS IN KEEPING WITH THE STANDARD ESTABLISHED IN THE MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. SIGNS MUST BE ERECTED ON BOTH SIDES OF THE FIRE LANES WITH SPACING BETWEEN SIGNS NOT TO EXCEED ONE HUNDRED (100) FEET.
 5. DESIGNATED EXIT DOORS ONTO DRIVES OR PARKING AREAS MUST BE PROTECTED WITH GUARD POSTS OR PARKING BLOCKS.
 6. A WHITE HIGH VISIBILITY STRIP SHALL BE PAINTED ON THE UPPER FLANGE OF ALL FIRE HYDRANTS.
- ### PROPOSED LEGEND
- TC 000.00 TOP OF CURB ELEVATION
 - G 000.00 GUTTER ELEVATION
 - TP 000.00 TOP OF PAVEMENT ELEVATION
 - TW 000.00 TOP OF WALK ELEVATION
 - FG 000.00 FINISH GRADE ELEVATION
 - FLOW DIRECTION
 - CONCRETE
 - GRAVEL
 - COMPACTED SAND BACKFILL
 - WATERMAIN
 - SANITARY SEWER
 - STORM SEWER
 - GAS MAIN
 - ELECTRIC LINE
 - HYDRANT
 - GATE VALVE & WELL
 - TAPPING SLEEVE VALVE & WELL
 - REAR YARD CATCH BASIN
 - STORM MANHOLE
 - CATCH BASIN
 - INLET
 - END SECTION
 - SANITARY MANHOLE
 - STM MH 48 STRUCTURE TYPE
 - STRUCTURE ID NO

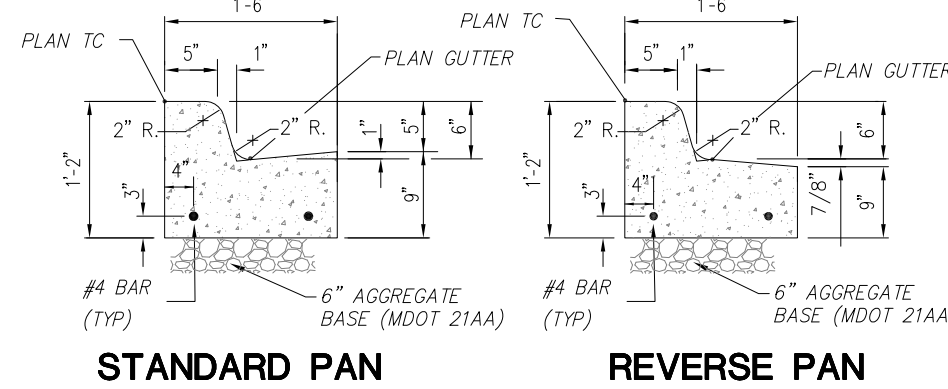
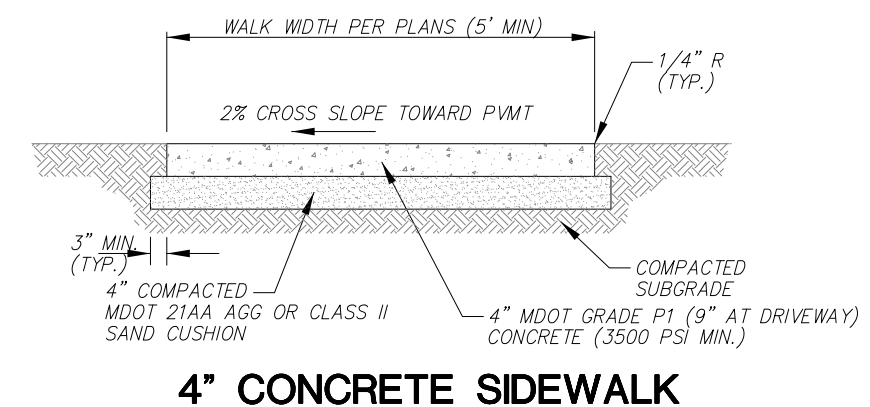
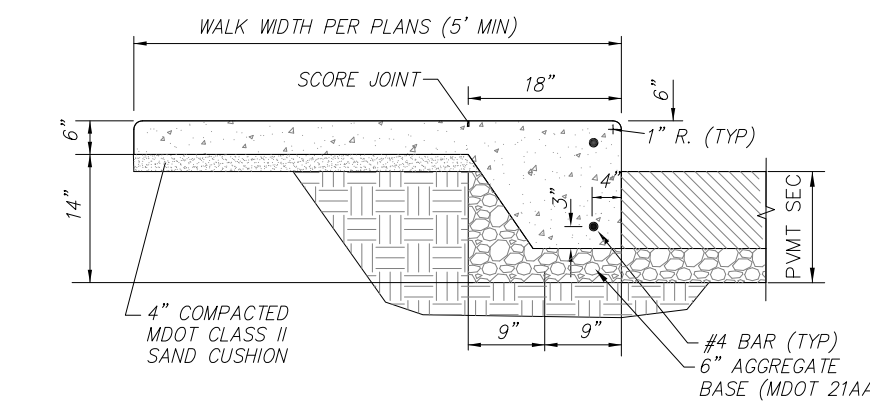


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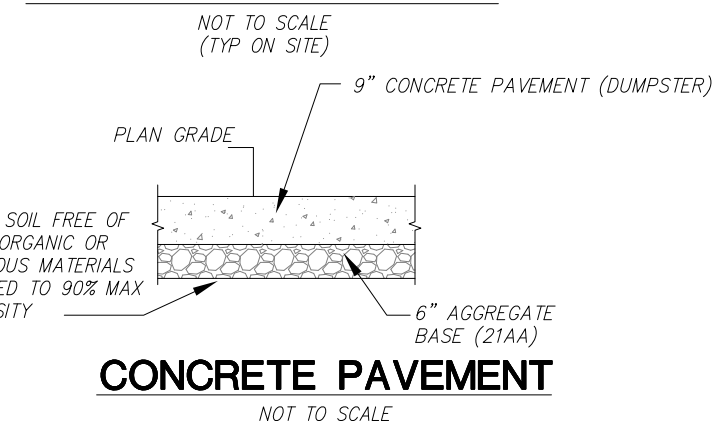
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LEGAL DESCRIPTION-- LAKE ORION COMMUNITY SCHOOLS PARCEL:

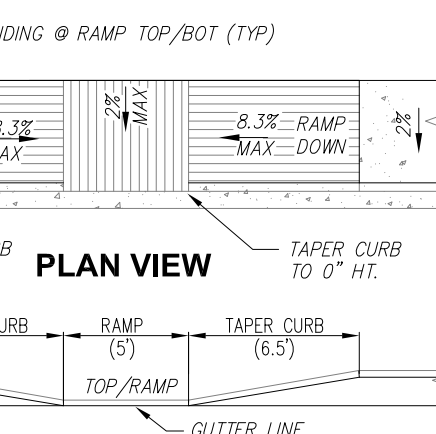
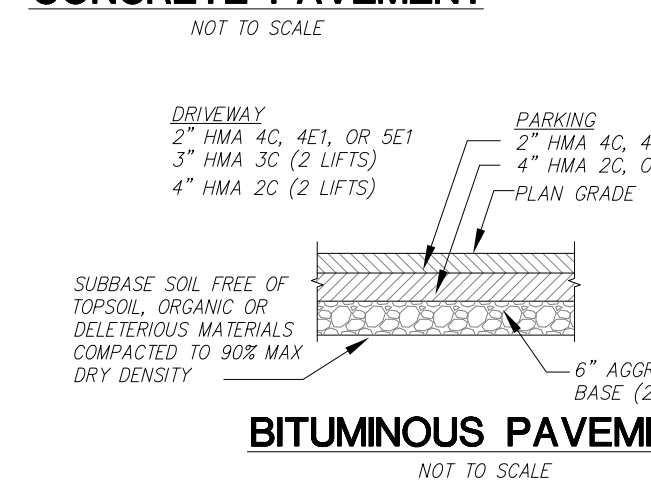
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CONC CURB & GUTTER

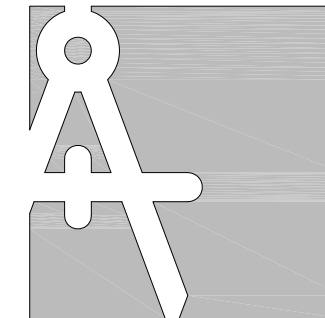


CONCRETE PAVEMENT



SIDEWALK RAMP DETAIL

NOT TO SCALE



TRI-COUNTY
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TEL: (810) 394-7887
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CLIENT NAME:

West Construction Services
79 Oakland Avenue
Pontiac, MI 48342

248-758-9925

KWestberg@WestConstruction.com

3 WORKING DAYS
800-482-7171



Know what's below.
Call before you dig.

PRIOR TO CONSTRUCTION, ALL EXISTING UTILITIES LOCATION AND DEPTH WITHIN THE PROJECT AREA SHALL BE FIELD VERIFIED. CALL 811 PRIOR TO ANY WORKING DAYS PRIOR TO CONSTRUCTION.

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PROJECT NAME:

FLATS AT WEST VILLAGE

Site Development
55 Elizabeth Street
Lake Orion, MI 48362

PAVING & GRADING PLAN

PROJECT LOCATION:

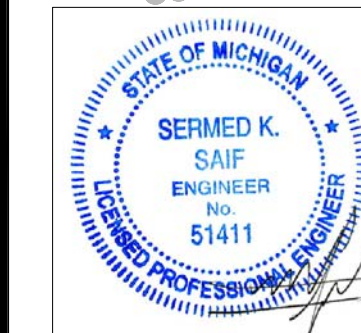
SEC 02, T04N, R10E
VILLAGE OF LAKE ORION
OAKLAND COUNTY

Drawn By: FH
Checked By: SS
Approved By: SS

REVISIONS:

1. PRELIM PLANS 08/05/21
2. PER FD 08/12/21
3. OWNER REVIEW 05/07/23
4. PUD REVIEW 08/12/23

NOT FOR CONSTRUCTION



SCALE VERIFICATION:

0 0.5
BAR IS ONE-INCH
ADJUST SCALES ACCORDINGLY IF NOT

SCALE: 1" = 30'

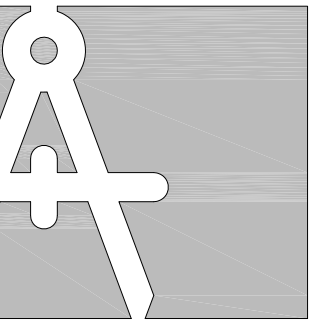
PROJECT NO:

TD21005

DRAWING NO:

TD21005GP

GP-1



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Shelby Twp, MI 48315
TEL: (810) 394-7887
FAX: (586) 566-4642

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CLIENT NAME:

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Westberg@WestConstruction.com

3 WORKING DAYS
800-482-7171



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ILITIES LOCATION AND DEPTH WITHIN THE
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ALL MISS DIG SYSTEM 3 WORKING DAYS
FOR TO CONSTRUCTION.

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 CONSULTANTS.

PROJECT NAME:

LATS AT WEST VILLAGE
Site Development
55 Elizabeth Street
Lake Orion, MI 48362

WATER MAIN & SANITARY SEWER PROFILES

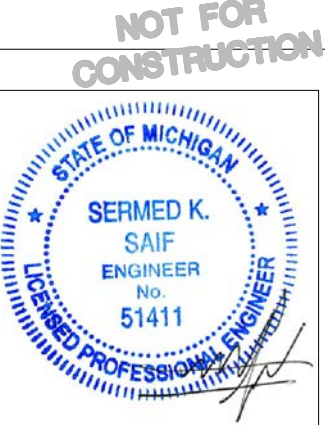
PROJECT LOCATION:

SEC 02, T04N, R10E
VILLAGE OF LAKE ORION
OAKLAND COUNTY


Drawn By: FH
Checked By: SS
Approved By: SS

REVISIONS:

- PRELIM PLANS 08/05/21
PER FD 08/12/21
OWNER REVIEW 05/07/23
PUD REVIEW 08/12/23



SCALE VERIFICATION:



BAR IS ONE-INCH
ADJUST SCALES ACCORDINGLY IF NOT

SCALE:
1" = 3' VER
1" = 30' HOR

PROJECT NO:
TD21005

DRAWING NO:
TD21005DP

OP-1

SANITARY SEWER PROFILES

SCALE 1:3 V
SCALE 1:30 H

Detention Basin Design

(Q21 Standards - 100 YEAR STORM)
Job Name: Flats at West Village
Job No.: TD21005
Designed by: SS
Checked by: FH

Total Area Tributary (At) = 3.08 Acres

Forebay Requirements:				
Area Label	A (SF)	C		A/C
Impervious Area	86,153	0.50		77,538
Pervious Surface	48,228	0.20		9,649
Sum	134,381			87,183

Weighted C Factor : 0.65
Overall site acreage contributing to the basin (A): 3.08 AC

Channel Protection Rate Control (CPRC)

Channel Protection Volume Required:
V(CP-R) = 3,630 X 1.30 X C X A
= 3,630 X 1.30 X 0.65 X 3.08
= 9,447 CF

Extended Detention Volume:
V(ED) = 3,630 X 1.90 X C X A
= 3,630 X 1.90 X 0.65 X 3.08
= 13,808 CF

Water Quality Control (WQC)

Water Quality Volume:
V(WQ) = 3,630 X 1.00 X C X A
= 3,630 X 1.00 X 0.65 X 3.08
= 7,267 CF

Sediment Forebay Volume Required:
V(F) = 3,630 X 0.15 X C X A
= 3,630 X 0.15 X 0.65 X 3.08
= 1,090 CF

Flood Control

Maximum Allowable Variable Release Rate:
If A = < 2 Acres
Q(VRR) = 1.00 CFS/AC

If 2 Acres < A < 100 Acres
Q(VRR) = 1.1055 X In (A)
= 1.1055 X In (3.08)
= 0.87 CFS/AC

If A > 100 Acres
Q(VRR) = 0.15 CFS/AC

Allowable Peak Flow:
Q(100P) = Q(VRR) X A
= 0.87 X 3.08
= 2.69 CFS

Detention

Runoff Volume (100-Year):
V(100R) = 3,630 X 5.28 X C X A
= 3,630 X 5.28 X 0.65 X 3.08
= 38,371 CF

Flow Rate (100-Year):
Q(100in) = C X I(100) X A
= 0.65 X 6.31 X 3.08
= 12.64 CFS

I(100) = 83.3
(Tc + 9.17)^{0.01}
Tc = 20 Residential
Tc = 15 Commercial / Industrial
= 6.31 in/hr

Storage Curve Factor (100-Year):
R = 0.206 - 0.15 In [Q(100P) / Q(100in)]
= 0.206 - 0.15 In [2.69 / 12.64]
= 0.44

Detention Volume (100-Year):
V(100D) = V(100R) X R - V(CP-P)
= 38,371 X 0.44 - 9,447
= 16,814 CF

Check: V(100D) >= V(ED)
16,814 >= 13,808 OK

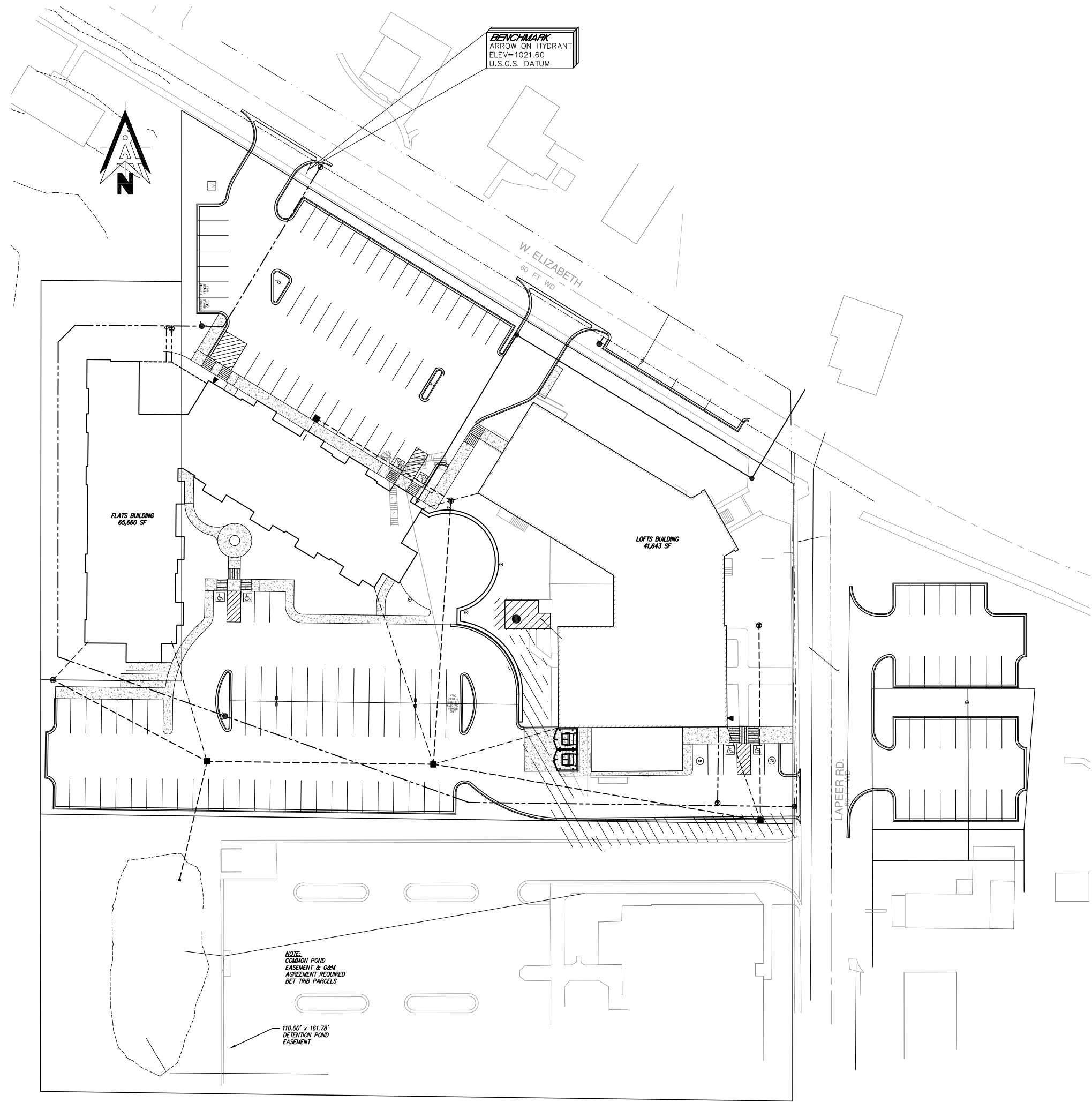
Basin Capacity

(Oakland County Standards)
Job Name: WCS
Job No.: TD21005
Designed by: SS
Date: 7/20/2023

Detention Basin Capacity

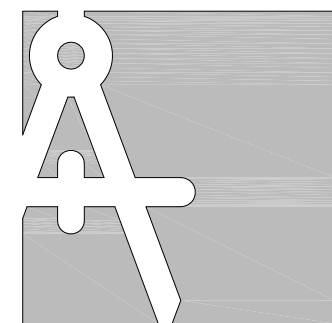
Contour (FT)	Area (SF)	Volume (CF)	Accum Volume (CFT)
994.80	12,360.00	9,216.00	32,800.50
994.00	10,680.00	9,697.50	23,584.50
993.00	8,715.00	7,817.50	13,887.00
992.00	6,920.00	6,069.50	6,069.50
991.00	5,219.00		

Total Volume Provided = 32,800.50 CF
Volume Required (School) = 12,544.59 CF (see LC PC-06-02)
Volume Required (WCS) = 16,813.99 CF
Total Volume Required = 29,358.58 CF
OK



DRAINAGE PLAN

SCALE 1:60



TRI-COUNTY
Engineering Consultants

48701 Hayes Road
Shelby Twp, MI 48315
TEL: (810) 394-7887
FAX: (586) 666-4642

info@Tri-CountyEng.com
www.Tri-CountyEng.com

CLIENT NAME:

West Construction Services
79 Oakland Avenue
Pontiac, MI 48342
248-758-9925
KWestberg@WestConstruction.com

3 WORKING DAYS
800-482-7171



Know what's below.
Call before you dig.

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PROJECT NAME:

FLATS AT WEST VILLAGE
Site Development
55 Elizabeth Street
Lake Orion, MI 48362

STORM
DRAINAGE PLAN
& PROFILES

PROJECT LOCATION:

SEC 02, T04N, R10E
VILLAGE OF LAKE ORION
OAKLAND COUNTY

Drawn By: FH
Checked By: SS
Approved By: SS

REVISIONS:

1. PRELIM PLANS 08/05/21
2. PER FD 08/12/21
3. OWNER REVIEW 05/07/23
4. PUD REVIEW 08/12/23

NOT FOR
CONSTRUCTION



SCALE VERIFICATION:

0 0.5
BAR IS ONE-INCH
ADJUST SCALES ACCORDINGLY IF NOT

SCALE:
1" = 30'

PROJECT NO:
TD21005

DRAWING NO:
TD21005DR

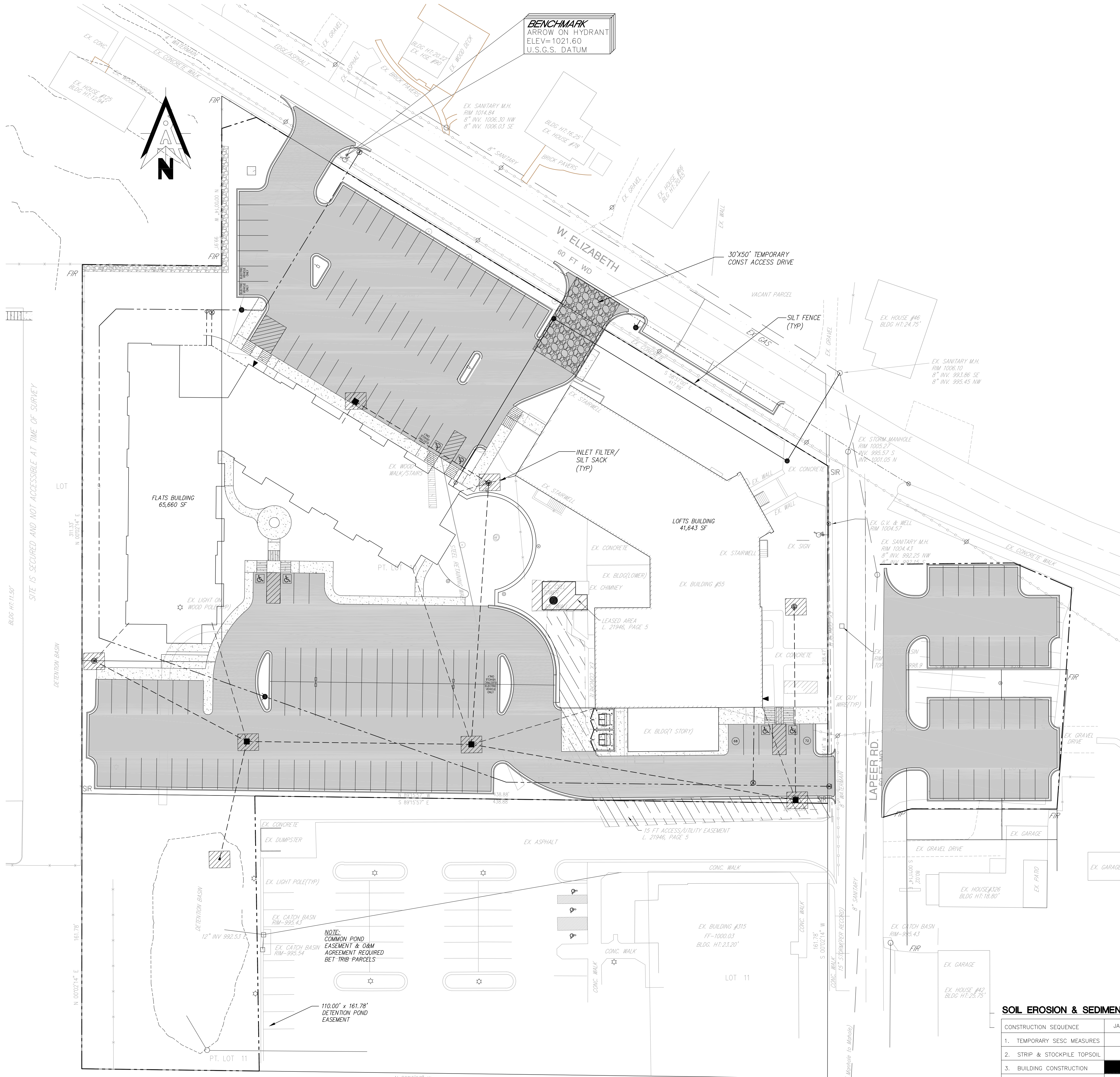
DR-1

STORM SEWER PROFILES

SCALE 1:3 V
SCALE 1:30 H

GENERAL NOTES

1. INSTALL SILT FENCE AROUND DEFINED PERIMETER AS SHOWN, INSTALL TREE PROTECTION & CONSTRUCT TEMPORARY CONSTRUCTION ACCESS.
2. CLEAR, GRUB & STRIP TOPSOIL IN AREAS OF EARTH DISRUPTION.
3. COMPLETE LAND BALANCING OPERATIONS.
4. INSTALL UNDERGROUND UTILITIES & PLACE INLET FILTERS WHERE INDICATED.
5. PERFORM PAVING OPERATIONS, FINE GRADING, LANDSCAPING.
6. EROSION CONTROL MEASURES ARE NOT TO BE REMOVED UNTIL THE LOCAL MUNICIPALITY AND/OR COUNTY GRANTS ITS APPROVAL.
7. EROSION CONTROL MEASURES SHALL BE PERIODICALLY INSPECTED & MAINTAINED WEEKLY & AFTER EVERY STORM EVENT.
8. PERSON(S) RESPONSIBLE FOR THE MAINTENANCE OF ALL SOIL EROSION CONTROL MEASURES: PROJECT OWNER LISTED.
9. ALL EROSION CONTROL MEASURES SHALL BE INSTALLED APPROXIMATELY ACCORDING TO THE PROP SCHEDULE.



PROPOSED LEGEND

- TC 000.00 TOP OF CURB ELEVATION
- G 000.00 GUTTER ELEVATION
- TP 000.00 TOP OF PAVEMENT ELEVATION
- TW 000.00 TOP OF WALK ELEVATION
- FG 000.00 FINISH GRADE ELEVATION
- FLOW DIRECTION
- CONCRETE
- GRAVEL
- COMPACTED SAND BACKFILL
- WATERMAIN
- SANITARY SEWER
- STORM SEWER
- GAS MAIN
- ELECTRIC LINE
- HYDRANT
- GATE VALVE & WELL
- TAPPING SLEEVE VALVE & WELL
- REAR YARD CATCH BASIN
- STORM MANHOLE
- CATCH BASIN
- INLET
- END SECTION
- SANITARY MANHOLE
- STM MH 48
- STRUCTURE TYPE
- STRUCTURE ID NO

SOIL EROSION & SEDIMENTATION CONTROL PLAN

SCALE 1: 30



LEGAL DESCRIPTION:

PART OF LOTS 9 & 10, DESCRIBED AS BEGINNING AT A POINT LOCATED DISTANT N 0°02'49" E 161.78 FEET FROM THE SOUTHEAST CORNER OF LOT 11 OF SAID SUBDIVISION, THENCE N 89°15'57" W 438.88 FEET, THENCE N 0°02'14" E 311.33 FEET, THENCE S 89°27'45" E 82.06 FEET, THENCE N 0°00'14" W 99.91 FEET, THENCE S 58°37'00" E 417.89 FEET, THENCE S 0°02'49" W 198.48 FEET TO BEGINNING, SUPERVISOR'S PLAT NO 8, VILLAGE OF LAKE ORION, OAKLAND COUNTY, MICHIGAN, ALSO, THE WEST 36 FEET OF THE NORTH 80 FEET OF LOT 3, ALSO NORTH 80 FEET OF LOT 4, BLK 24, HEMINGWAY'S PLAT, VILLAGE OF LAKE ORION, OAKLAND COUNTY, MICHIGAN.

LEGAL DESCRIPTION- LAKE ORION COMMUNITY SCHOOLS PARCEL:

PART OF LOT 10, ALSO ALL OF LOT 11, SUPERVISOR'S PLAT NO 8, VILLAGE OF LAKE ORION, OAKLAND COUNTY, MICHIGAN, ALL DESCRIBED AS BEGINNING AT THE SE CORNER OF SAID LOT 11, THENCE N 89°15'57" W, 438.85 FT, THENCE N 0°02'14" E, 161.78 FT, THENCE S 89°15'57" E, 438.88 FT, THENCE S 0°02'49" W 161.78 FT TO THE POINT OF BEGINNING.

SOIL EROSION CONTROL LEGEND

- INLET FILTER
- DITCH SEDIMENT TRAP
- SOIL EROSION CONTROL FENCE

SOIL TYPES

(FOR SOIL EROSION CONTROL PURPOSES)
18D - Fox Sandy Loam, Huron Loam, 12% to 25% slopes
60B - Urban land-Marlette Complex, 0% to 8% slopes
(USDA/NRCS OAKLAND COUNTY, MICHIGAN)

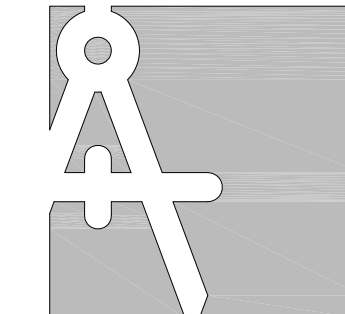
NEAREST WATER COURSE: Point Creek ±1700 FT
APPROX. GROSS ACREAGE DISTURBED = 3.30 ACRE
DOMINANT EX LAND FEATURES: VACANT LAND

ESTIMATED QUANTITIES THIS SHEET

ITEM	UNIT	QUANTITY
SILT FENCE	LF	2,200
INLET FILTER	EA	8
TEMP CONST ACCESS DRIVE	EA	1

SOIL EROSION & SEDIMENTATION CONTROL CONSTRUCTION & MAINTENANCE SCHEDULE

CONSTRUCTION SEQUENCE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1. TEMPORARY SESC MEASURES												
2. STRIP & STOCKPILE TOPSOIL												
3. BUILDING CONSTRUCTION												
4. UNDERGROUND UTILITIES												
5. PAVEMENT INSTALLATION												
6. PERMANENT SESC MEASURES												
7. FINAL GRADING												
8. LANDSCAPING												



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PROJECT NAME:

FLATS AT WEST VILLAGE
Site Development
55 Elizabeth Street
Lake Orion, MI 48362

SOIL EROSION & SEDIMENTATION CONTROL PLAN

PROJECT LOCATION:

SEC 02, T04N, R10E
VILLAGE OF LAKE ORION
OAKLAND COUNTY

Drawn By: FH
Checked By: SS
Approved By: SS

REVISIONS:

1. PRELIM PLANS 08/05/21
2. PER FD 08/12/21
3. OWNER REVIEW 05/07/23
4. PUD REVIEW 08/12/23



SCALE VERIFICATION:

0.5
BAR IS ONE-INCH
ADJUST SCALES ACCORDINGLY IF NOT

SCALE:
1" = 30'

PROJECT NO:
TD21005

DRAWING NO:
TD21005SE

SE-1

PLANT LIST

KEYQTY.	BOTANICAL NAME	COMMON NAME	SIZE
PARKING LOT LANDSCAPING			
South Parking Area			
ALC	3 <i>Amelanchier laevis</i> 'Cumulus'	Cumulus Alleghany Serviceberry	2" cal. B&B
GBF	3 <i>Ginkgo biloba</i> 'Fastigiata'	Fastigate Maidenhair Tree	3" - 3-1/2" cal. B&B
LTF	2 <i>Liriodendron tulipifera</i> 'Fastigiatum'	Fastigate Tuliptree	3" - 3-1/2" cal. B&B
LSS	2 <i>Liquidambar styraciflua</i>	Slender Silhouette	
	'Slender Silhouette'	American Sweetgum	3" - 3-1/2" cal. B&B
TCG	1 <i>Tilia cordata</i> 'Greenspire'	Greenspire European Linden	3" - 3-1/2" cal. B&B
HHR	150 <i>Hemerocallis</i> sp. 'Happy Returns'	Happy Returns Daylily	1 gal. pot, 30" o.c.
PAJ	40 <i>Pennisetum alopecuroides</i> 'Jambalaya'	Jambalaya Fountain Grass	1 gal. pot, 36" o.c.
North Parking Area			
ALC	3 <i>Amelanchier laevis</i> 'Cumulus'	Cumulus Alleghany Serviceberry	2" cal. B&B
ASA	1 <i>Acer saccharum</i> 'Apollo'	Apollo Sugar Maple	3" - 3-1/2" cal. B&B
LTF	6 <i>Liriodendron tulipifera</i> 'Fastigiata'	Fastigate Tuliptree	3" - 3-1/2" cal. B&B
HHR	80 <i>Hemerocallis</i> sp. 'Happy Returns'	Happy Returns Daylily	1 gal. pot, 30" o.c.
PAH	104 <i>Pennisetum alopecuroides</i>	Burgandy Bunny	
	'Burgandy Bunny'	Dwarf Fountain Grass	1 gal. pot, 24" o.c.
East Parking Area			
ALC	4 <i>Amelanchier laevis</i> 'Cumulus'	Cumulus Alleghany Serviceberry	2" cal. B&B
ARA	2 <i>Acer rubrum</i> 'Armstrong Gold'	Armstrong Gold Red Maple	3" - 3-1/2" cal. B&B
LTF	1 <i>Liriodendron tulipifera</i> 'Fastigiata'	Fastigate Tuliptree	3" - 3-1/2" cal. B&B
QR	2 <i>Quercus rubra</i>	Red Oak	3" - 3-1/2" cal. B&B
CVM	150 <i>Coreopsis verticillata</i> 'Moonbeam'	Moonbeam Threadleaf Coreopsis	1 gal. pot, 24" o.c.
PERIMETER PARKING LOT LANDSCAPING			
South Parking Area			
JCS	30 <i>Juniperus chinensis</i> 'Skyrocket'	Skyrocket Upright Juniper	4' ht. B&B
North Parking Area			
CAH	29 <i>Clethra alnifolia</i> 'Hummingbird'	Hummingbird Summersweet	24" ht., 3 gal. pot
GBF	5 <i>Ginkgo biloba</i> 'Fastigiata'	Fastigate Maidenhair Tree	3" - 3-1/2" cal. B&B
JGO	10 <i>Juniperus horizontalis</i> 'Grey Owl'	Grey Owl Spreading Juniper	24" spr., 3 gal. pot
JHP	29 <i>Juniperus horizontalis</i> 'Plumosa'	Andorra Spreading Juniper	24" spr., 3 gal. pot
SJM	23 <i>Spiraea japonica</i> 'Magic Carpet'	Magic Carpet Spirea	24" ht., 3 gal. pot
East Parking Area			
CAH	21 <i>Clethra alnifolia</i> 'Hummingbird'	Hummingbird Summersweet	24" ht., 3 gal. pot
GBP	1 <i>Ginkgo biloba</i> 'Princeton Sentry'	Princeton Sentry Maidenhair Tree	3" - 3-1/2" cal. B&B
IGS	10 <i>Ilex glabra</i> 'Shamrock'	Shamrock Compact Inkberry	24" ht., 3 gal. pot
JSG	10 <i>Juniperus x phitzleriana</i> 'Sea Green'	Sea Green Spreading Juniper	24" spr., 3 gal. pot
PFG	25 <i>Potentilla fruticosa</i> 'Goldfinger'	Goldfinger Shrub Cinquefoil	24" ht., 3 gal. pot
RAG	82 <i>Rhus aromatica</i> 'Gro-Low'	Gro-Low Fragrant Sumac	24" ht., 3 gal. pot
PAJ	40 <i>Pennisetum alopecuroides</i> 'Jambalaya'	Jambalaya Fountain Grass	1 gal. pot, 36" o.c.
GENERAL SITE PLANTING			
ALC	2 <i>Amelanchier laevis</i> 'Cumulus'	Cumulus Alleghany Serviceberry	2" cal. B&B
AS	3 <i>Acer saccharum</i> 'Legacy'	Legacy Sugar Maple	3" - 3-1/2" cal. B&B
CAH	18 <i>Clethra alnifolia</i> 'Hummingbird'	Hummingbird Summersweet	30" ht., 5 gal. pot
CKS	10 <i>Cornus kousa</i> 'Summer Fun'	Summer Fun Kousa Dogwood	2" cal. B&B
FSR	2 <i>Fagus sylvatica</i> 'Red Obelisk'	Red Obelisk European Beech	3" - 3-1/2" cal. B&B
HQA	7 <i>Hydrangea quercifolia</i> 'Alice'	Alice Oakleaf Hydrangea	30" ht., 5 gal. pot
IVL	44 <i>Itea virginica</i> 'Little Henry'	Little Henry Virginia Sweetspire	24" ht., 3 gal. pot
PFA	32 <i>Potentilla fruticosa</i> 'Abbotswood'	Abbotswood Shrub Cinquefoil	24" ht., 3 gal. pot
PSF	6 <i>Pinus strobus</i> 'Fastigiata'	Fastigate White Pine	8' ht. B&B
RSM	36 <i>Rosa</i> sp. 'Meigalpio'	Red Drift Rosa	18" ht., 2 gal. pot
SJM	11 <i>Spiraea japonica</i> 'Magic Carpet'	Magic Carpet Spirea	24" ht., 3 gal. pot
TMD	66 <i>Taxus x media</i> 'Densiformis'	Densiformis Yew	24" ht., B&B
TOW	22 <i>Thuja occidentalis</i> 'Wintergreen'	Wintergreen Arborvitae	4' ht. B&B
VCC	20 <i>Viburnum carlesii</i> 'Compactum'	Compact Fragrant Viburnum	30" ht., 5 gal. pot
HSG	110 <i>Hosta</i> sp. 'Guacamole'	Guacamole Hosta	1 gal. pot, 30" o.c.
PAG	9 <i>Pennisetum alopecuroides</i> 'Ginger Love'	Ginger Love Fountain Grass	1 gal. pot, 36" o.c.

LANDSCAPE CALCULATIONS:

PARKING LOT LANDSCAPING

South Parking Area (30,556 sq. ft. of Vehicular Use Area)

- * Landscape areas equivalent to five percent (5%) of the vehicular use area.
- * 30,556 sq. ft. times 0.05 equals 1,528 sq. ft. of required landscape area.
- * One (1) deciduous shade shall be required for each one hundred fifty (150) sq. ft. of interior landscaped area.
- * 1,528 sq. ft. divided by one tree for each 150 sq. ft. equals 10.19 = 11 trees.

North Parking Area (19,884 sq. ft. of Vehicular Use Area)

- * One (1) deciduous or evergreen tree per 3,000 sq. ft. or fraction thereof of any unpaved open area for which specific landscaping requirements do not apply
- * 24,166 / 3,000 = 8.17 = 9 trees

East Parking Area (10,540 sq. ft. of Vehicular Use Area)

- * Landscape areas equivalent to five percent (5%) of the vehicular use area.
- * 10,540 sq. ft. times 0.05 equals 528 sq. ft. of required landscape area.
- * One (1) deciduous shade shall be required for each one hundred fifty (150) sq. ft. of interior landscaped area.
- * 528 sq. ft. divided by one tree for each 150 sq. ft. equals 3.52 = 4 trees.

PERIMETER PARKING LOT LANDSCAPING (24,498 square feet)

- * Perimeter landscaping shall be provided along the edge of any parking lot facing and located within one hundred feet (100') of a public right-of-way.

North Parking Area (198 In. ft. of frontage on a Public right-of-way)

- * One (1) deciduous shade shall be required for each thirty lineal feet.
- * 198 In. ft. divided by one tree for each 30 In. ft equals 6.6 trees = 7 trees.
- * A continuous hedge of deciduous or upright evergreen shrubs shall be provided planted not more than thirty inches (30") on center.

East Parking Area (100 In. ft. of frontage on a Public right-of-way)

- * One (1) deciduous shade shall be required for each thirty lineal feet.
- * 100 In. ft. divided by one tree for each 30 In. ft equals 4 trees.
- * A continuous hedge of deciduous or upright evergreen shrubs shall be provided planted not more than thirty inches (30") on center.

NOTE:

- * See Sheet LP - 2: LANDSCAPE NOTES & DETAILS for landscape development notes, landscape planting details, detention pond notes, composition for seed mixes, and landscape construction details.

LANDSCAPE PLAN FOR:

West Construction Services
79 Oakland Avenue
Pontiac, Michigan 48342

PROJECT LOCATION:

Flats at West Village
55 W. Elizabeth Road
Village of Lake Orion,
Michigan

LANDSCAPE PLAN BY:

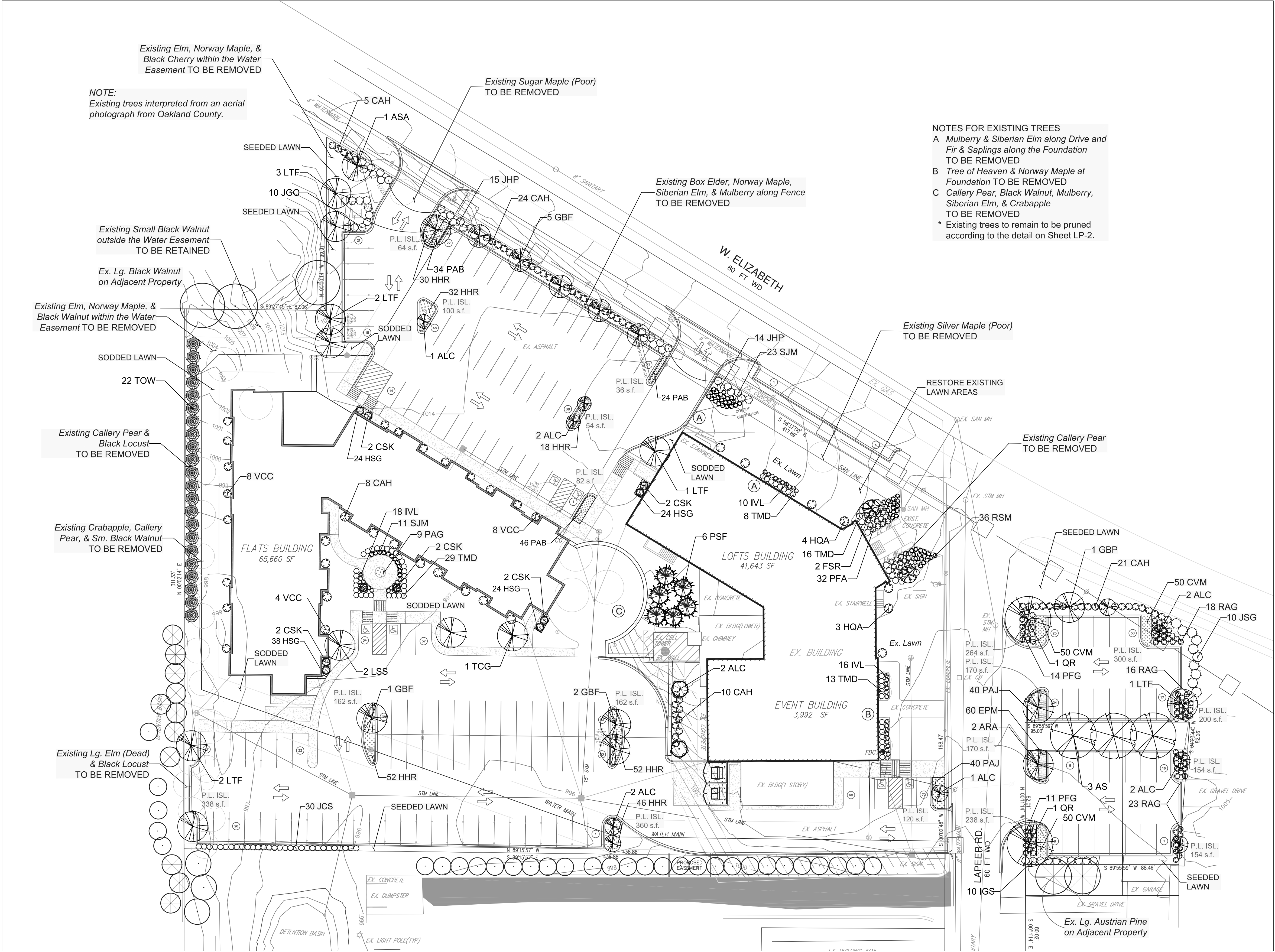
Nagy Devlin Land Design
31736 West Chicago Ave.
Livonia, Michigan 48150
(734) 634-9208

STATE OF MICHIGAN
J. BRIAN DEVLIN
NO. 1260
PROFESSIONAL LANDSCAPE ARCHITECT

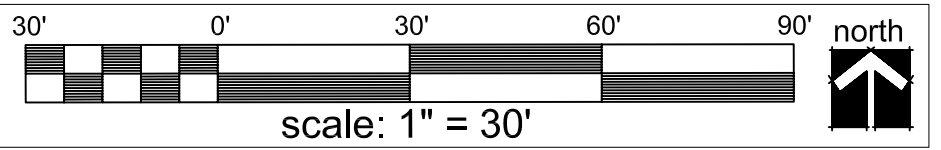
J. Brian Devlin
AUTOCAD SIGNATURE
ORIGINAL IN BLUE

LP - 1: LANDSCAPE PLANTING PLAN

* Base data provided by Tri-County Engineering Co



LANDSCAPE PLANTING PLAN



date: August 6, 2021
revised:
08-16-2021 Revise for site plan changes.
06-19-2023 Revise for site plan changes.
08-15-2023 Revise for site plan changes.

811
Know what's below.
Call before you dig.

PLANTING

1. Installation of all plant material shall be in accordance with the latest edition of the *American Association of Nurserymen Standards for Nursery Stock* and with the specifications set forth by the Village of Lake Orion, Michigan.
2. The plant materials shall conform to the type stated on the plant list. Sizes shall be the minimum stated on the plant list or larger. All measurements shall be in accordance with the latest edition of the *American Association of Nurserymen Standards for Nursery Stock*.
3. The plant material shall be nursery grown and inspected by the Owner's representative before planting. The Owner's representative reserves the right to reject any plant material at any time.
4. Plants designated "B&B" shall be balled and burlapped with firm balls of earth.
5. Dig shrub pits one foot (1') larger than the shrub rootball, tree pits three (3) times the width of the tree rootball and backfill with one (1) part topsoil and one (1) part soil from excavated pit. Plant trees and shrubs at the same grade level at which they were planted at the nursery. If wet, clay soils are evident, plant trees and shrubs slightly higher.
6. The Contractor is responsible for planting the materials at the correct grades and spacing. The plants shall be oriented to give the best appearance.
7. When the plant has been properly set, the pit shall be backfilled with the topsoil mixture, gradually filling, patting, and settling with water.
8. Trees in lawn areas to have a four foot (4') circle of mulch, four inches (4") deep, and three inches (3") away from the trunk. Shrub beds are to be mulched with shredded bark mulch to a minimum depth of three inches (3"). Perennial beds are to be mulched with shredded bark mulch to a minimum depth of three inches (3"). Only natural color, finely shredded hardwood bark mulch will be accepted.
9. Remove all twine, wire, and burlap from the top one third (1/3) of tree and shrub root balls and from tree trunks. Remove all non-biodegradable material such as plastic or nylon completely from branches and stems. All tree wrap, stakes, and guys are to be removed after one (1) winter season.
10. All plant materials shall be pruned and injuries repaired. The amount of pruning shall be limited to the removal of dead or injured limbs and to compensate for the loss of roots from transplanting. Cuts should be flush, leaving no stubs. Cuts over three quarters of an inch (3/4") shall be painted with tree paint. Shrubs along the site perimeter shall be allowed to grow together in a natural form.
11. Organic, friable topsoil shall be evenly distributed and fine graded over all areas to receive lawns at uniform depth of four inches (4") after settlement.
12. All lawn areas shall be seeded with the Grade A Kentucky Blue Grass blend as specified over the topsoil.
13. All plantings shall be completed no later than November 30 in the fall season. The date of intended installation for landscape plant materials is approximately Spring, 2022. Plantings shall thereafter be reasonably maintained, including permanence and health of plant materials to provide a screen to abutting properties and including the absence of weeds and refuse.
14. Backfill directly behind all curbs and along sidewalks and compact to the top of curbs or walk to support vehicle and pedestrian weight without settling.

MATERIAL

1. Required landscape material shall satisfy the criteria of the AmericanAssociation of Nurserymen Standards for Nursery Stock and be: a.) Northern nursery grown; b.) State Department of Agriculture inspected; c.) No. 1 grade material with a straight, unscarred trunk, and well-developed uniform crown (park grade trees will not be accepted); d.) Staked, wrapped, watered, and mulched according to the details provided; and e.) Guaranteed for one (1) year.

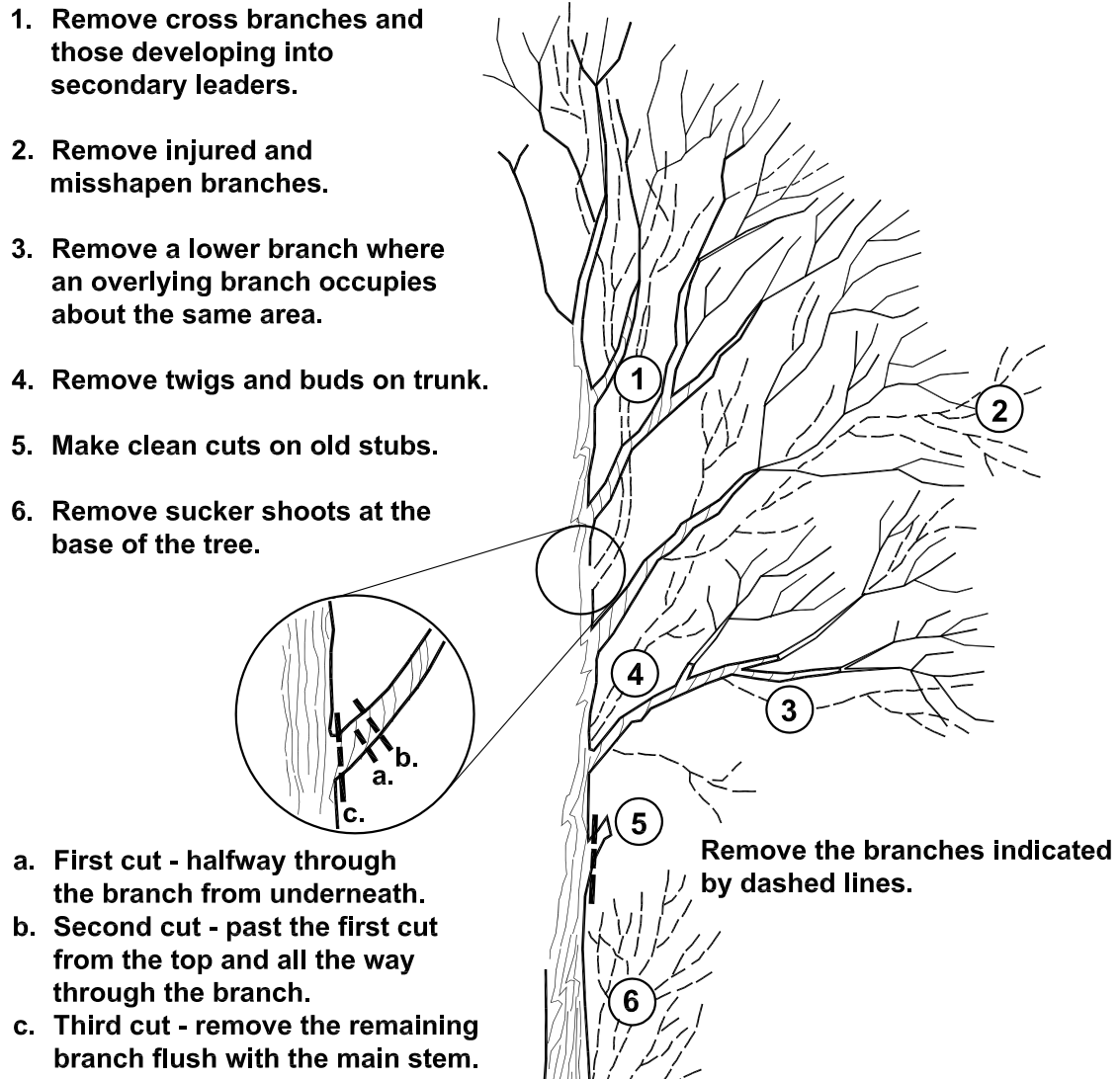
2. Topsoil shall be friable, fertile soil of clayloam character containing at least five percent (5%) but not more than twenty percent (20%) by weight of organic matter with a pH range between 6.0 and 7.0. The topsoil shall be free from clay lumps, coarse sand, plant roots, sticks, and other foreign materials.
3. The seed mixture shall consist of the following types and proportions: Kentucky Blue Grass blend "Baron/Sheri/Adelphi" @ sixty percent (60%), Chewing Fescue @ twenty-five percent (25%), Creeping Red Fescue @ ten percent (10%), and Perennial Rye Grass @ five percent (5%). Weed content shall not exceed one percent (1%). The mix shall be applied at a rate of 200 pounds per acre.
4. Sod shall be two (2) year old "Baron/Sheri/Adelphi" Kentucky Blue Grass blend grown in a sod nursery on loam soil.
5. Proposed perennials shall be full, well-rooted plants.
6. Cobblestone mulch shall consist of two inch to four inch (2" - 4") cobbles six inches (6") deep with geotextile fabric beneath.

GENERAL

1. Do not plant deciduous or evergreen trees directly over utility lines or under overhead wires. Maintain a six foot (6') distance from the centerline of utilities and twenty feet (20') from the centerline of overhead wires for planting holes. Call MISS DIG forty-eight (48) hours prior to landscape construction for field location of utility lines.
2. The Contractor agrees to guarantee all plant material for a period of one (1) year. At that time, the Owner's representative reserves the right for a final inspection. Plant material with twenty-five percent (25%) die back, as determined by the Owner's representative shall be replaced. This guarantee includes the furnishing of new plants, labor, and materials. These new plants shall also be guaranteed for a period of one (1) year.
3. The work shall consist of providing all necessary materials, labor, equipment, tools, and supervision required for the completion as indicated on the drawings.
4. Landscape areas shall be irrigated by an automatic underground irrigation system. Lawns and shrub/landscape areas shall be watered by separate zones to minimize overwatering.
5. All written dimensions override scale dimensions on the plans.
6. All substitutions or deviations from the landscape plan must be approved by the Village of Lake Orion prior to installation.
7. All bidders must inspect the site and report any discrepancies to the Owner's representative.
8. All specifications are subject to change due to existing conditions.
9. The Owner's representative reserves the right to approve all plant material.

MAINTENANCE

1. The Owner of the landscaping shall perpetually maintain such landscaping in good condition so as to present a healthy, neat, and orderly appearance, free from refuse and debris.
2. The Owner shall conduct a seasonal landscape maintenance program including regular lawn cutting (at least once per week during the growing season), pruning at appropriate times, watering, and snow removal during winter.
3. The Contractor is responsible for watering and maintenance of all seed areas until a minimum of ninety percent (90%) coverage, as determined by the Owner's representative.
4. All diseased and/or dead material shall be removed within sixty (60) days following notification and shall be replaced within the next appropriate planting season or within one (1) year, whichever comes first.
5. Any debris such as lawn clippings, fallen leaves, fallen limbs, and litter shall be removed from the site on a weekly basis at the appropriate season.
6. All planting beds shall be maintained by removing weeds, fertilizing, and replenishing mulch as needed.

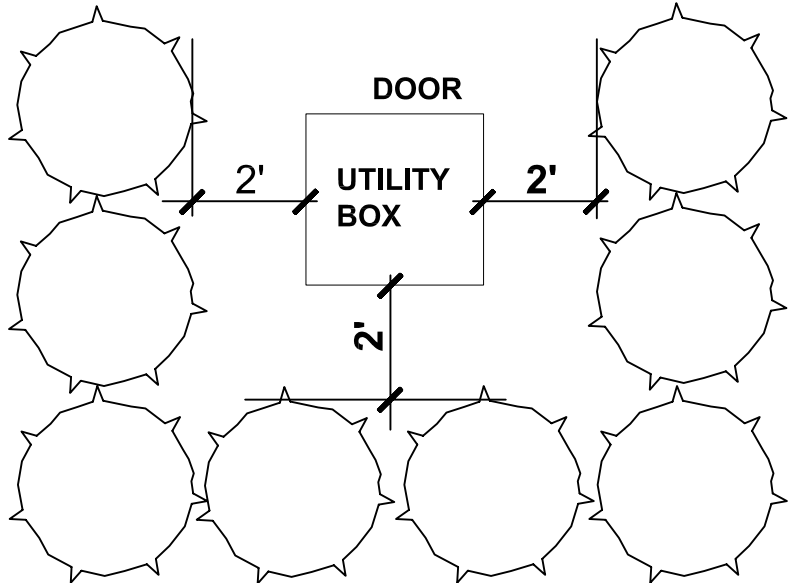


PRUNING DETAIL

not to scale

NOTES:

1. MAINTAIN A MINIMUM DISTANCE OF TWO FEET (2') AROUND THREE (3) SIDES OF THE UTILITY BOX AND MAINTAIN A CLEAR SPACE OF EIGHT FEET TO TEN FEET (8'-10') IN FRONT OF THE DOOR.
2. TRANSFORMERS MUST FACE TOWARDS THE BUILDING WHEN INSTALLED IN THE FRONT YARD.
3. NO TREES ARE ALLOWED WITHIN TEN FEET (10') OF THE UTILITY BOX.
4. SHRUBS SHOULD BE EVERGREEN OR DENSELY BRANCHED DECIDUOUS, WITH HEIGHT AT LEAST EQUAL TO THE HEIGHT OF THE TRANSFORMER / UTILITY BOX.



TRANSFORMER SCREEN DETAIL n.t.s.

GENERAL NOTES FOR ALL PLANTINGS:

- * DO NOT CUT CENTRAL LEADER.
- * REMOVE ALL TAGS, STRINGS, PLASTICS, AND ANY OTHER NON-BIODEGRADABLE MATERIALS (EXCEPT LABEL FOR PLANT NAME) FROM PLANT STEMS OR CROWN WHICH ARE UNSIGHTLY OR COULD CAUSE GIRDLING.
- * PLANTS SHALL BEAR THE SAME RELATION TO FINISH GRADE AS IT BORE TO THE PREVIOUS GRADE IN THE NURSERY. SET THE BASE OF THE PLANT SLIGHTLY HIGHER THAN EXISTING GRADE IF PLANTING IN CLAY SOILS.
- * CENTER THE ROOTBALL IN THE PLANTING HOLE. LEAVE THE BOTTOM OF THE PLANTING HOLE FIRM. USE WATER TO SETTLE THE PLANTING MIX AND REMOVE ANY AIR POCKETS AND FIRMLY SET THE TREE OR SHRUB. GENTLY TAMP IF NEEDED.

NOTE:

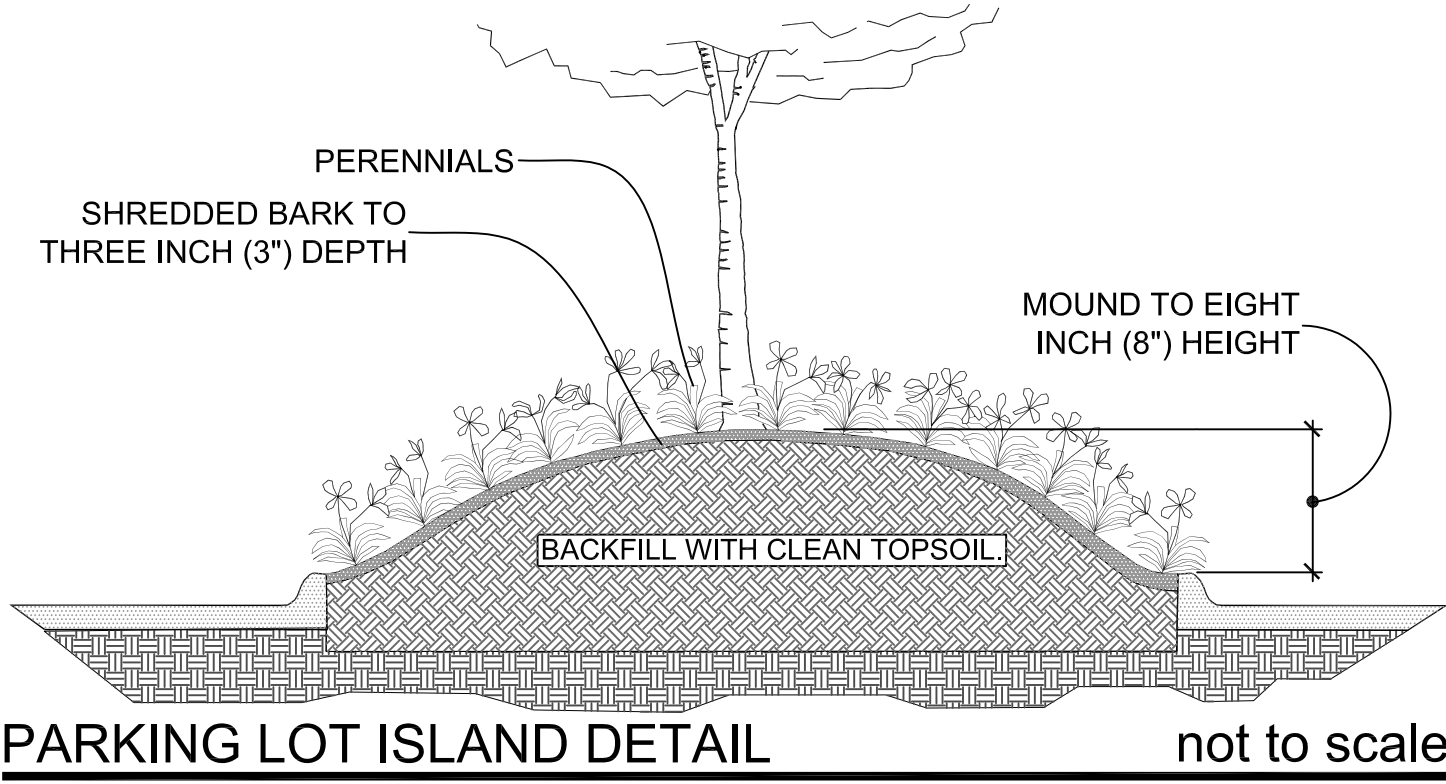
- * CONTRACTOR TO VERIFY PERCOLATION OF PLANTING PIT PRIOR TO INSTALLATION.
- * THE PLANTING MIXTURE SHALL CONSIST OF 20% TOPSOIL, 60% SAND, AND 20% COMPOST.

- 1 SHREDDED BARK MULCH AT THREE INCH (3") MINIMUM DEPTH. MULCH SHALL BE NATURAL IN COLOR.
- 2 FORM A SAUCER WITH MULCH AND SOIL AROUND SHRUB BED.
- 3 CUT AND REMOVE BURLAP AND BINDINGS FROM THE TOP ONE-THIRD (1/3) OF THE ROOTBALL.
- 4 3/16" x 4" ALUMINUM EDGING (OR APPROVED EQUIVALENT) OR SPADED EDGE.
- 5 EXCAVATE PLANTING BED AND BACKFILL WITH PREPARED PLANTING MIX.
- 6 UNDISTURBED SUBGRADE.
- 7 LAWN.
- 8 SCARIFY SUBGRADE.

PERENNIAL / GROUNDCOVER

- 1 SEE PLANT LIST FOR SPACING DISTANCE.
- 2 SHREDDED HARDWOOD BARK OF A NATURAL COLOR MULCH AT TWO INCH (2") MINIMUM DEPTH.
- 3 3/16" x 4" ALUMINUM EDGING (OR APPROVED EQUIVALENT) OR SPADED EDGE.
- 4 EXCAVATE PLANTING BED AND BACKFILL WITH PREPARED PLANTING MIX AT A TEN INCH (10") DEPTH.
- 5 UNDISTURBED SUBGRADE.
- 6 PLANTING MIX TO CONSIST OF EQUAL PARTS OF SAND, LEAF COMPOST, AND NATIVE SOIL.
- 7 LAWN.

not to scale



NOTES:

- * STAKE TREES UNDER FOUR INCH (4") CALIPER.
- * CONTRACTOR TO VERIFY PERCOLATION OF PLANTING PIT PRIOR TO INSTALLATION.
- * SET TOP OF BALL THREE INCHES (3") ABOVE FINISH GRADE.
- * SET STAKES VERTICAL & EVENLY SPACED.
- * STAKES OR GUYS TO BE SECURED ABOVE THE FIRST BRANCH.
- * DO NOT PRUNE TERMINAL LEADER. PRUNE ONLY DEAD OR BROKEN BRANCHES.
- * REMOVE ALL TAGS, STRING, PLASTICS, AND OTHER MATERIALS THAT ARE UNSIGHTLY OR COULD CAUSE DAMAGE.

- 1 STAKE TREE JUST ABOVE THE FIRST BRANCH USING TWO INCH TO THREE INCH (2"-3") WIDE BELT-LIKE MATERIAL OF FABRIC. (NO WIRE OR HOSE TO BE USED TO GUY TREES.) THREE (3) GUYS EVENLY SPACED PER TREE. REMOVE AFTER ONE (1) WINTER SEASON.
- 2 2 x 2 HARDWOOD STAKES. POSITION SIX INCHES TO EIGHT INCHES (6"-8") OUTSIDE OF ROOTBALL AND EXTEND EIGHTEEN INCHES (18") BELOW TREE PIT INTO UNDISTURBED SOIL.
- 3 APPLY TREE WRAP AND SECURE WITH A BIODEGRADABLE MATERIAL AT TOP AND BOTTOM. REMOVE AFTER ONE (1) WINTER.
- 4 SHREDDED BARK MULCH OF A NATURAL COLOR AT FOUR INCH (4") MINIMUM DEPTH. LEAVE A THREE INCH (3") CIRCLE OF BARE SOIL AT THE BASE OF THE TREE.
- 5 MOUND TO FORM TREE SAUCER.
- 6 FINISH GRADE SLOPED AWAY FROM TREE.
- 7 CUT AND REMOVE WIRE, BURLAP, AND BINDINGS FROM THE TOP ONE-THIRD (1/3) OF THE ROOTBALL.
- 8 WIDTH OF ROOTBALL ON EACH SIDE.
- 9 PLANTING MIXTURE SHALL CONSIST OF 50% TOSOL AND 50% SAND.
- 10 SCARIFY BOTTOM AND SIDES OF PLANTING PIT TO FOUR INCH (4") DEPTH.

DECIDUOUS TREE

NOTES:

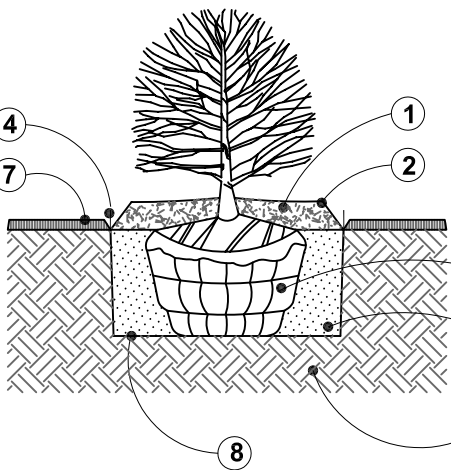
- * STAKE ALL EVERGREEN TREES UNDER TWELVE FEET (12') HIGH. GUY ALL EVERGREEN TREES TWELVE FEET (12') HIGH AND OVER.
- * CONTRACTOR TO VERIFY PERCOLATION OF PLANTING PIT PRIOR TO INSTALLATION.
- * NEVER CUT CENTRAL LEADER. PRUNE ONLY TO REMOVE DEAD OR BROKEN BRANCHES.
- * SET STAKES VERTICAL AND EVENLY SPACED.
- * REMOVE ALL TAGS, STRING, PLASTICS, AND OTHER MATERIALS THAT ARE UNSIGHTLY OR COULD CAUSE GIRDLING.

- 1 STAKE TREE AS INDICATED USING TWO INCH TO THREE INCH (2"-3") WIDE BELT-LIKE MATERIAL OF FABRIC. (NO WIRE OR HOSE TO BE USED TO GUY TREES.) THREE (3) GUYS EVENLY SPACED PER TREE. REMOVE AFTER ONE (1) WINTER SEASON.
- 2 2 x 2 HARDWOOD STAKES. POSITION SIX INCHES TO EIGHT INCHES (6"-8") OUTSIDE OF ROOTBALL AND EXTEND EIGHTEEN INCHES (18") BELOW TREE PIT INTO UNDISTURBED SOIL.
- 3 SHREDDED BARK MULCH OF A NATURAL COLOR AT FOUR INCH (4") MINIMUM DEPTH. LEAVE A THREE INCH (3") CIRCLE OF BARE SOIL AT THE BASE OF THE TREE.
- 4 MOUND TO FORM TREE SAUCER.
- 5 FINISH GRADE SLOPED AWAY FROM TREE.
- 6 CUT AND REMOVE WIRE, BURLAP, AND BINDINGS FROM THE TOP ONE-THIRD (1/3) OF THE ROOTBALL.
- 7 PLANTING MIXTURE SHALL CONSIST OF 50% TOSOL AND 50% SAND.
- 8 WIDTH OF ROOTBALL ON EACH SIDE.
- 9 SCARIFY BOTTOM AND SIDES OF PLANTING PIT TO FOUR INCH (4") DEPTH.

EVERGREEN TREE

NOTE:

- * CONTRACTOR TO VERIFY PERCOLATION OF PLANTING PIT PRIOR TO INSTALLATION.
- * THE PLANTING MIXTURE SHALL CONSIST OF 20% TOPSOIL, 60% SAND, AND 20% COMPOST.



SHRUB

NOTES:

- * See Sheet LP - 1: LANDSCAPE PLANTING PLAN for overall landscape plan, plant list, and calculations for landscape requirements.

date: August 6, 2021

revised:
08-16-2021 Revise for site plan changes.
06-19-2023 Revise for site plan changes.
08-15-2023 Revise for site plan changes.

LANDSCAPE PLAN FOR:
West Construction Services
79 Oakland Avenue
Pontiac, Michigan 48342

PROJECT LOCATION:
Flats at West Village
55 W. Elizabeth Road
Village of Lake Orion,
Michigan

LANDSCAPE PLAN BY:
Nagy Devlin Land Design
31736 West Chicago Ave.
Livonia, Michigan 48150
(734) 634-9208



AUTOCAD SIGNATURE
ORIGINAL IN BLUE

GENERAL NOTES

1. ALL CONSTRUCTION PROCEDURES AND MATERIALS SHALL CONFORM TO THE CURRENT STANDARDS AND SPECIFICATIONS OF THE WATER RESOURCES COMMISSIONER'S OFFICE AND/OR THE LOCAL MUNICIPALITY.
2. THE CONTRACTOR SHALL OBTAIN AN WATER RESOURCES COMMISSIONER'S OFFICE WATER INSPECTION PERMIT PRIOR TO THE START OF CONSTRUCTION. SEE CORRESPONDING WATER MAIN CONSTRUCTION PERMIT REQUEST LETTER FOR COST OF THE PERMIT.
3. A PRE-CONSTRUCTION MEETING SHALL BE HELD PRIOR TO THE START OF CONSTRUCTION AND SHALL BE SCHEDULED BY THE LOCAL MUNICIPAL ENGINEER. THOSE IN ATTENDANCE SHALL INCLUDE 1) LOCAL MUNICIPAL ENGINEER, 2) DESIGN ENGINEER, 3) OWNER/DEVELOPER, 4) ROAD COMMISSION FOR OAKLAND COUNTY, 5) OAKLAND COUNTY WATER RESOURCES COMMISSIONER'S OFFICE (WATER, SEWER AND STORM DIVISIONS) AND 6) ALL UTILITY COMPANIES. CONTRACTOR SHALL PROVIDE MATERIALS LISTING FOR APPROVAL BY MUNICIPAL ENGINEER AND OCWR.
4. CONTRACTOR MUST CONTACT MISS DIG (1-800-482-7171) THREE WORKING DAYS BEFORE THE START OF CONSTRUCTION FOR UNDERGROUND UTILITY LOCATIONS. ALL UTILITIES SHALL BE STAKED BEFORE CONSTRUCTION STARTS.
5. ALL NECESSARY EASEMENTS FOR WATER MAINS SHALL BE PROVIDED IN THE NAME OF THE OWNER OF THE WATER MAIN PRIOR TO CONSTRUCTION AND ACCEPTANCE OF THE WATER DISTRIBUTION SYSTEM FOR OPERATION.
6. ALL WATER MAINS SHALL BE CONSTRUCTED WITH A MINIMUM COVER OF FIVE AND ONE-HALF (5-1/2) FEET BELOW FINISHED GRADES INCLUDING OPEN DRAINAGE COURSES.
7. ALL TRENCHES UNDER OR WITHIN A 1:1 RATIO OF EXISTING OR PROPOSED PAVEMENT OR DRIVEWAYS SHALL BE BACKFILLED WITH THOROUGHLY COMPACTED CLASS II SAND TO GRADE AT NOT LESS THAN 95% OF THE MAXIMUM UNIT WEIGHT
8. WHERE TWO UTILITIES CROSS, PROVIDE CLASS II BACKFILL MATERIAL IN TWELVE (12) INCH COMPACTED LAYERS TO THE UNDERSIDE OF THE HIGHER UTILITY.
9. WHERE WATER MAINS MUST DIP TO PASS UNDER OTHER UTILITIES, THE SECTIONS WHICH ARE DEEPER THAN NORMAL SHALL BE KEPT TO A MINIMUM LENGTH AND SHALL BE CONSTRUCTED WITH ELEVEN AND ONE-QUARTER (11-1/4) DEGREE VERTICAL BENDS, PROPERLY ANCHORED. BENDS GREATER THAN 11-1/4' MUST HAVE ROD RESTRAINTS.
10. ALL PRECAST CONCRETE GATE WELL SECTIONS SHALL BE MANUFACTURED TO CONFORM WITH A.S.T.M. C478, STANDARD SPECIFICATIONS FOR PRECAST REINFORCED CONCRETE MANHOLE SECTIONS, EXCEPT WALL THICKNESS SHALL BE AS SHOWN ON THESE DETAILS. ALL JOINTS FOR PRECAST CONCRETE GATE WELL SECTIONS SHALL BE "MODIFIED GROOVE TONGUE" WITH GASKET MANUFACTURED TO CONFORM WITH A.S.T.M. C 443, STANDARD SPECIFICATION FOR JOINTS FOR CIRCULAR CONCRETE SEWER AND CULVERT PIPE USING RUBBER GASKETS.
11. CONTRACTOR SHALL INSTALL VALVES, TAPPING SLEEVES AND GATE WELL STRUCTURES IN STRICT COMPLIANCE WITH MEASUREMENTS PROVIDED ON SHEET 2 (i.e. 2'-0" BETWEEN GATE WELL WALL & CENTERLINE OF OPERATING NUT) TO ALLOW PROPER OPERATION OF VALVE THROUGH GATEWELL OPENING. FAILURE TO DO SO WILL REQUIRE CONTRACTOR TO CORRECT AT HIS EXPENSE.
12. ALL CROSS-CONNECTION CONTROL DEVICES SHALL BE INSTALLED AS REQUIRED BY THE LOCAL PLUMBING INSPECTOR AND IN ACCORDANCE WITH THE STANDARDS OF THE WATER RESOURCES COMMISSIONER'S OFFICE OPERATION AND MAINTENANCE DIVISION AND THE MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES AND ENERGY, DIVISION OF DRINKING WATER AND ENVIRONMENTAL HEALTH DIVISION
13. ALL WATER SERVICE CONNECTIONS TWO (2) INCHES AND SMALLER SHALL BE MADE BY THE WATER RESOURCES COMMISSIONER'S OFFICE, OPERATIONS AND MAINTENANCE DIVISION AFTER WATER MAIN ACCEPTANCE AND APPLICABLE TAP PERMITS ARE OBTAINED.
14. ALL FITTINGS AND BENDS SHOULD BE BLOCKED IN ACCORDANCE WITH THRUST BLOCK DETAILS, UNLESS ALTERNATE THRUST RESTRAINT SYSTEM, AS INDICATED IN PLANS AND SPECIFICATIONS, IS APPROVED BY WATER RESOURCES COMMISSIONER'S OFFICE AND THE LOCAL MUNICIPALITY.
15. ALL STEEL AND IRON MATERIAL AND PRODUCTS FOR PERMANENT INCORPORATION INTO THE WORK SHELL MEET BUY AMERICA REQUIREMENT, FEDERAL CODE OF REGULATIONS SECTION 635.410

WATER MAIN MATERIALS NOTES

1. WATER SUPPLY SYSTEM PIPING (3-INCH & LARGER) SHALL BE DUCTILE IRON OR HIGH DENSITY POLYETHYLENE (HDPE) UNLESS OTHERWISE APPROVED BY THE LOCAL COMMUNITY.
2. DUCTILE IRON PIPE SHALL BE CLASS 54 FOR SIZES THREE (3) INCH THROUGH EIGHTEEN (18) INCH, CLASS 55 FOR TWENTY (20) INCH, AND CLASS 56 FOR TWENTY-FOUR (24) INCH AND LARGER. (ABBREVIATED "D.I." IN DETAILS AND ON THIS SHEET).
3. PIPES OF SIZES LARGER THAN TWENTY-FOUR (24) INCHES IN NOMINAL DIAMETER SHALL MEET ALL THE REQUIREMENTS OF THE CURRENT AWWA C100 FOR DUCTILE IRON WATER PIPE.
4. THE DUCTILE IRON PIPE TO BE FURNISHED AND DELIVERED UNDER THIS SPECIFICATION SHALL MEET ALL THE REQUIREMENTS OF THE CURRENT AWWA C151 (ANSI A21.5), EXCEPT AS OTHERWISE SPECIFIED HEREIN. PIPE SHALL BE DOUBLE CEMENT-LINED AND SEAL COATED WITH AN APPROVED BITUMINOUS SEAL COAT IN ACCORDANCE WITH AWWA C104 (ANSI A21.4).
5. REFER TO SHEET 5 FOR HDPE MATERIAL REQUIREMENTS.
6. MECHANICAL AND SLIP-ON JOINTS FOR DUCTILE IRON WATER MAIN SHALL BE IN ACCORDANCE WITH AWWA C111 (ANSI A21.11).
7. FLANGE JOINTS FOR DUCTILE IRON WATER MAIN SHALL BE IN ACCORDANCE WITH AWWA C110 (ANSI A21.10).
8. FITTINGS FOR DUCTILE IRON PIPE SHALL BE DUCTILE IRON OR CAST IRON AND SHALL MEET REQUIREMENTS OF AWWA C110 (ANSI A21.10) OR AWWA C153 (ANSI A21.53). DUCTILE IRON FITTINGS SHALL BE RATED FOR 350 PSI, PIPE SIZES TWENTY-FOUR (24) INCH DIAMETER AND LESS AND 250 PSI FOR PIPE SIZES OVER TWENTY-FOUR (24) INCH DIAMETER. DUCTILE IRON FLANGE FITTINGS SHALL BE RATED FOR 250 PSI FOR ALL PIPE DIAMETERS.
9. INSTALL BRASS WEDGES AT ALL PUSH ON JOINTS IN DUCTILE IRON PIPE INSTALLATIONS. TWO (2) WEDGES PER JOINT FOR PIPES 12 INCH IN DIAMETER AND LESS, FOUR WEDGES PER JOINT FOR PIPES GREATER THAN 12 INCHES IN DIAMETER.
10. ALL WATER MAINS SHALL BE DESIGNED FOR 150 PSI MINIMUM WORKING PRESSURE.
11. ALL BURIED BOLTS, NUTS, AND WASHERS SHALL BE AWWA C111 LOW ALLOY STEEL COATED WITH A MINIMUM OF TWO (2) COATS OF FLUOROPOLYMER EPOXY COATING AND HEAT CURED (COR-BLUE OR APPROVED EQUAL) AND POLY-WRAPPED WHEN SPECIFIED.
12. ALL BURIED BOLTS, NUTS, AND WASHERS FOR ALL FLANGED CONNECTIONS SHALL BE STAINLESS STEEL (ASTM A320, GRADE B8M) AND HAVE A NEVER SEIZE TYPE COMPOUND APPLIED TO THE THREADS PRIOR TO INSTALLATION.
13. CORPORATION STOPS USED FOR INSERTION INTO MAINS SHALL BE MUELLER TYPE H-15000, FORD METER BOX FB-1000-Q-Q-NL OR FORD METER BOX FB1000-4-Q-NL. ALL STOPS SHALL HAVE BRONZE CAST BODIES, KEYS, STEM WASHERS AND NUTS. INLET THREADS SHALL CONFORM TO THE LATEST VERSION OF AWWA C800.
14. TEMPORARY CONNECTIONS, WHICH MAY BE MADE FOR CHLORINATING AND FLUSHING PURPOSES, SHALL INCLUDE A TESTABLE REDUCE PRESSURE ZONE (RPZ) VALVE WITH CURRENT CERTIFICATION.

VALVE AND SLEEVE NOTES

1. GATE VALVES, SIZES THREE (3) INCH THROUGH SIXTEEN (16) INCH AND TAPPING VALVES SHALL BE LOCAL MUNICIPAL STANDARD AS DETAILED WITH NON-RIISING STEM.
2. ALL IN LINE GATE VALVES THREE (3) INCH AND LARGER SHALL BE IN WELLS AS DETAILED. SPECIFICATIONS SHALL INCLUDE THE DIRECTION OF OPERATION OF ALL VALVES.
3. ALL GATE WELL COVERS SHALL BE LOCAL MUNICIPAL STANDARD AS DETAILED.
4. ALL GATE VALVES WITH OPERATING NUTS AT A DISTANCE GREATER THAN FIVE (5) FEET BELOW GROUND SURFACE SHALL BE PROVIDED WITH A STAINLESS STEEL EXTENSION STEM. THE LENGTH OF THE EXTENSION STEM SHALL REACH WITHIN FIVE (5) FEET FROM THE GROUND SURFACE. WHEN AN EXTENSION STEM IS USED, IT SHALL BE HELD IN PLACE BY A STAINLESS STEEL EXTENSION STEM GUIDE SUITABLY FASTENED TO THE WALL OF THE GATE WELL. THE EXTENSION STEM SHALL BE MECHANICALLY ATTACHED TO THE OPERATING NUT. DETAILS OF THE EXTENSION SYSTEM AND THE METHOD OF INSTALLATION SHALL BE APPROVED BY THE ENGINEER PRIOR TO INSTALLATION.
5. TAPPING VALVES SHALL BE AWWA C515 FL X MJ AS MANUFACTURED BY EJ WITH RESILIENT SEATED GATE VALVES AS APPROVED BY LOCAL MUNICIPALITY.
6. TAPPING SLEEVES SHALL BE ALL STAINLESS STEEL (BODY, FLANGE AND HARDWARE), MANUFACTURED BY ROMAC INDUSTRIES SST; JCM 432; SMITH-BLAIR 663/665 OR APPROVED EQUAL BY THE WATER RESOURCES COMMISSIONER'S OFFICE.

HYDRANT REQUIREMENTS

1. ALL HYDRANTS SHALL BE CONSTRUCTED WITH A SIX (6) INCH COMPANION GATE VALVE IN A THREE (3) PIECE, ADJUSTABLE DUCTILE IRON VALVE BOX, WHICH SHALL INCLUDE A FIVE AND ONE-QUARTER (5-1/4) INCH SCREW SHAFT. VALVE BOXES SHALL BE SERIES 6860 AS MANUFACTURED BY TYLER PIPE, EJ VALVE BOX NO. 8560 OR APPROVED EQUAL.
2. ALL HYDRANTS SHALL BE EJ 5BR250 TRAFFIC MODEL, OR APPROVED EQUAL WITH A MINIMUM OF 6'-0" DEPTH OF BURY UNLESS OTHERWISE INDICATED. SELF-DRAINING HYDRANTS SHALL NOT BE USED. ALL HYDRANTS SHALL BE LOCAL MUNICIPAL STANDARD AS DETAILED. HYDRANTS SHALL HAVE BREAKAWAY FLANGE.
3. ALL HYDRANTS SHALL BE PAINTED RED ABOVE GROUND AND BLACK BELOW GROUND WITH A FINISH COAT OF GLAMORTEX 501 ENAMEL, COLOR 314 VERMILLION OR APPROVED EQUAL. HYDRANT CAP SHALL BE PAINTED SAME COLOR AS THE HYDRANT. FOR PONTIAC: YELLOW RUST-OLEUM #7543 SAFETY YELLOW.

ACCEPTANCE OF NEW WATER MAINS

1. PRIOR TO WATER MAIN ACCEPTANCE THE FOLLOWING CONDITIONS MUST BE MET:
 - 1.1. PRESSURE TESTING AND BACTERIA TESTING MUST BE COMPLETED IN ACCORDANCE WITH THE WATER RESOURCES COMMISSIONER'S OFFICE REQUIREMENTS
 - 1.2. ALL EASEMENT AND RIGHT-OF-WAY ACQUISITION MUST BE ACCEPTED BY THE WATER RESOURCES COMMISSIONER'S OFFICE, RIGHT-OF-WAY DIVISION
 - 1.3. THE LOCAL MUNICIPALITY MUST BE PROVIDED WITH THE BILL OF SALE
 - 1.4. ALL "RECORD DRAWINGS" MUST BE ACCEPTED AND APPROVED BY THE WATER RESOURCES COMMISSIONER'S OFFICE, OPERATIONS AND MAINTENANCE DIVISION. THE WATER RESOURCES COMMISSIONER'S OFFICE AND LOCAL ENGINEER MUST WITNESS THE CONNECTION OF THE WATER MAIN TO THE EXISTING WATER MAIN, AFTER WHICH RESIDENTIAL AND COMMERCIAL TAPS WILL BE ALLOWED.
2. THE CONTRACTOR SHALL NOTIFY THE WATER RESOURCES COMMISSIONER'S OFFICE, OPERATIONS AND MAINTENANCE DIVISION THROUGH THE LOCAL ENGINEER FOR NEW CONSTRUCTION TAP, PRESSURE TESTING, BACTERIOLOGICAL SAMPLING, CONNECTIONS TO EXISTING WATER MAIN AND FINAL FIELD REVIEW. A SEVENTY-TWO (72) HOUR ADVANCE NOTICE IS REQUIRED.
3. THE CONTRACTOR SHALL DISINFECT AND PRESSURE TEST ALL NEW WATER MAIN CONSTRUCTION PURSUANT TO THE CURRENT STANDARDS SPECIFIED BY THE WATER RESOURCES COMMISSIONER'S OFFICE.
4. HYDROSTATIC TESTING FOR DUCTILE IRON WATER MAIN SHALL BE COMPLETED IN ACCORDANCE WITH ANSI/AWWA C600, SEC 5.2. THE SPECIFIED TEST PRESSURE IS 150 PSI OR 1.5 TIMES THE MAXIMUM ALLOWABLE OPERATING PRESSURE (MAOP) OF THE TEST SECTION, WHICHEVER IS GREATER. THE TEST METHOD IS GENERALLY SUMMARIZED AS FOLLOWS:
 - 4.1. SLOWLY FILL PIPELINE WITH WATER, VENTING ENTRAPPED AIR AS NECESSARY.
 - 4.2. REPAIR ANY VISIBLE LEAKS THAT OCCUR DURING FILLING OR AT ANY POINT DURING THE TEST.
 - 4.3. GRADUALLY APPLY PRESSURE UP TO THE SPECIFIED WORKING PRESSURE USING A SUITABLE PUMP CONNECTED TO THE PIPELINE, BLEEDING TRAPPED AIR, AND ADDING WATER AS NECESSARY UNTIL A STABLE PRESSURE IS HELD.
 - 4.4. HYDROSTATIC TEST BEGINS AFTER THE PIPELINE IS STABILIZED AT THE WORKING PRESSURE BY INCREASING THE PRESSURE UP TO THE SPECIFIED TEST PRESSURE AND HOLD IT WITHIN PLUS/MINUS 5 PSI FOR THE DURATION OF THE TEST, OR A MINIMUM OF TWO HOURS.
 - 4.5. CAREFULLY RECORD THE AMOUNT OF MAKEUP WATER ADDED DURING THE TEST. THE HYDROSTATIC TEST PASSES IF THE AMOUNT OF MAKEUP WATER DOES NOT EXCEED THE TESTING ALLOWANCE.
 - 4.6. IF THE TESTING ALLOWANCE IS EXCEEDED, LOCATE AND REPAIR ANY LEAKS AND REPEAT TEST.
5. REFER TO SHEET 5 FOR HYDROSTATIC TESTING REQUIREMENTS FOR HDPE PIPE.
6. PRESSURE TESTING AGAINST VALVES PHYSICALLY CONNECTED TO AN EXISTING WATER SUPPLY SYSTEM IS STRICTLY PROHIBITED.
7. WHERE CONTRACTOR SUPPLIED GAUGES ARE REQUIRED, MINIMUM SIZE SHALL BE 3/4" DIAMETER OR LARGER GRADUATED IN ONE (1) OR TWO (2) POUND INCREMENTS FROM 1 TO 160 P.S.I. OR HIGHER.
8. PRESSURE TESTING AND BACTERIA TESTING MUST BE SUCCESSFULLY COMPLETED PRIOR TO CONNECTING TO THE EXISTING WATER SUPPLY SYSTEM.

WATER RESOURCES COMMISSIONER
WATER SYSTEM STANDARDS –
GATE VALVES

COMMUNITY	DIRECTION TO OPEN	VALVE TYPE	
		STD. GATE VALVE	TAPPING VALVE
BINGHAM FARMS	RIGHT	C515	C515
BLOOMFIELD HILLS	RIGHT	C515	C515
COMMERCE TOWNSHIP	LEFT	C515	C515
FARMINGTON HILLS	RIGHT	C515	C515
HIGHLAND TOWNSHIP	LEFT	C515	C515
KEEGO HARBOR	RIGHT	C515	C515
OAKLAND TOWNSHIP	LEFT	C515	C515
ORCHARD LAKE VILLAGE	LEFT	C515	C515
OXFORD TOWNSHIP	LEFT	C515	C515
PLEASANT RIDGE	RIGHT	C515	C515
PONTIAC	LEFT	C515	C515
ROYAL OAK TOWNSHIP	RIGHT	C515	C515
SPRINGFIELD TOWNSHIP	LEFT	C515	C515
SYLVAN LAKE	RIGHT	C515	C515
WALLED LAKE	LEFT	C515	C515

1.) C515 RESILIENT SEATED GATE VALVE – MANUFACTURED BY U.S. PIPE, MUELLER, EAST JORDAN IRON WORKS, AMERICAN FLOW CONTROL OR APPROVED EQUAL

FIRE HYDRANT NOZZLE SIZE AND
THREAD SPECIFICATIONS

	CVT	PUMPER NOZZLE	HOSE NOZZLE	OPERATING NUT	DEPTH OF BURY	STYLE	MODEL #
BINGHAM FARMS		(1) – 3-3/4"-DFD	(2) – 2-1/2"-DFD	1-1/8"	5'-6"	5BR250	54826D
BLOOMFIELD HILLS		(1) – 3-3/4"-DFD	(2) – 2-1/2"-DFD	1-1/8"	6'-0"	5BR250	55825D
COMMERCE TWP/ WOLVERINE LAKE		(1) – 5"-STORZ	(2) – 2-1/2"-NST	1-1/2"	5'-6"	5BR250	54913D
FARMINGTON HILLS		(1) – 3-3/4"-DFD	(2) – 2-1/2"-NST	1-1/8"	5'-6"	5BR250	54329D
HIGHLAND TWP		(1) – 5"-STORZ	(2) – 2-1/2"-NST	1-1/2"	5'-6"	5BR250	54913D
KEEGO HARBOR		(1) – 3-3/4"-DFD	(2) – 2-1/2"-DFD	1-1/8"	5'-6"	5BR250	54826D
OAKLAND TWP		(1) – 4"-STORZ	(2) – 2-1/2"-DFD	1-1/2"	5'-6"	5BR250	54831D
ORCHARD LAKE		(1) – 3-3/4"-DFD	(2) – 2-1/2"-DFD	1-1/8"	6'-0"	5BR250	55825D
OXFORD TWP		(1) – 5"-STORZ (1) – 4-1/2"-NST		1-1/2"	6'-0"	5BR250	55601D
PLEASANT RIDGE		(1) – 3-3/4"-DFD (1) – 5"-STORZ		1-1/8"	5'-6"	5BR250	54949D
PONTIAC		(1) – 3-3/4"-DFD	(2) – 2-1/2"-DFD	1-1/2"	6'-0"	5BR250	55822D
ROYAL OAK TWP		(1) – 3-3/4"-DFD	(2) – 2-1/2"-NST	1-1/8"	5'-6"	5BR250	54329D
SPRINGFIELD TWP		(1) – 5"-STORZ	(2) – 2-1/2"-NST	1-1/2"	5'-6"	5BR250	54913D
SYLVAN LAKE		(1) – 3-3/4"-DFD	(2) – 2-1/2"-NST	1-1/2"	6'-0"	5BR250	55827D
WALLED LAKE		(1) – 4-1/2"-NST	(2) – 2-1/2"-NST	1-1/8"	5'-6"	5BR250	54534D

1. D.F.D. – DETROIT FIRE DEPARTMENT THREAD
2. N.S.T. – NATIONAL STANDARD THREAD
3. STORZ NOZZLES SHALL BE COMPATIBLE WITH STORZ COUPLED LARGE DIAMETER FIRE HOSE. NOZZLES SHOULD BE MADE OF "LEAD FREE" BRASS OR ALUMINUM, AS APPROVED BY LOCAL CITY, VILLAGE OR TOWNSHIP. THE NOZZLE SHALL BE AN INTEGRAL PART OF THE HYDRANT, RESISTANT TO TAMPER AND REMOVAL. ENGAGEMENT LUGS SHALL BE ON THE NOZZLE AND CAP TO PREVENT FAILURE UNDER HIGH PRESSURE. NOZZLE AND CAP SHALL MEET AWWA C502 SPECIFICATIONS. NOZZLE SHALL BE COMPATIBLE WITH HOSE LOCK TO PREVENT HOSE FROM DISCONNECTING WHILE IN USE.

WATER RESOURCES COMMISSIONER'S OFFICE
WATER SYSTEMS OPERATIONS AND MAINTENANCE DIVISION
RECORD DRAWING SPECIFICATIONS

IN AREAS WHERE WATER SYSTEMS ARE OPERATED AND MAINTAINED BY THE WATER RESOURCES COMMISSIONER'S OFFICE, OPERATIONS AND MAINTENANCE DIVISION, FINAL ACCEPTANCE OF THE WATER SYSTEM MUST BE RENDERED BY THE WATER RESOURCES COMMISSIONER'S OFFICE, OPERATIONS AND MAINTENANCE DIVISION, BEFORE THE SYSTEM CAN BE USED FOR THE SERVICE INTENDED.

ONE ITEM REQUIRED FOR FINAL ACCEPTANCE SHALL BE THE SUBMISSION OF RECORD DRAWINGS TO THE WATER RESOURCES COMMISSIONER, OPERATIONS AND MAINTENANCE DIVISION, BY THE DESIGN ENGINEER. RECORD DRAWINGS SHALL BE DEFINED AS AND CONTAIN THE FOLLOWING INFORMATION:

1. THE DESIGN ENGINEER SHALL FURNISH "RECORD DRAWINGS" WATER MAIN PLANS UPON JOB COMPLETION. "RECORD DRAWINGS" SHALL BE FORWARDED TO THE WATER RESOURCES COMMISSIONER BY THE LOCAL MUNICIPAL ENGINEER AFTER THEIR REVIEW AND APPROVAL.
2. THE COVER SHEET SHALL BE SIGNED AND SEALED BY THE PROJECT DESIGN ENGINEER AND INCLUDE THE FOLLOWING CERTIFICATION STATEMENT:

I HEREBY CERTIFY THAT OUR FIRM HAS PREPARED THESE RECORD DRAWINGS OF THE IMPROVEMENTS AS CONSTRUCTED, AND THAT TO THE BEST OF MY KNOWLEDGE THOSE IMPROVEMENTS NOTED AS "RECORD DRAWINGS" WERE CONSTRUCTED IN SUBSTANTIAL CONFORMANCE WITH THE APPROVED CONSTRUCTION PLANS; AND ALSO THAT THE WATER MAIN AND STRUCTURES, AS CONSTRUCTED, LIE WITHIN THE EASEMENT DESCRIPTIONS REQUIRED BY THE WATER RESOURCES COMMISSIONER'S OFFICE.

(COMPANY NAME)


(ENGINEER'S SIGNATURE)

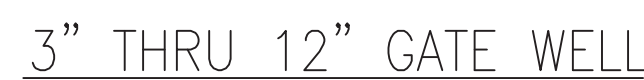
PROFESSIONAL ENGINEER NO. _____

ENGINEER SEAL

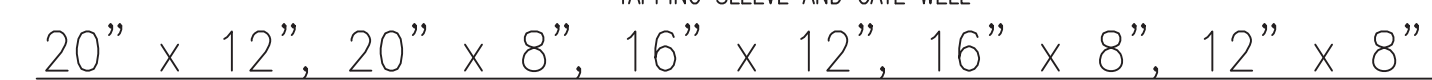
3. THE MINIMUM SCALE SHALL BE ONE (1) INCH EQUALS FIFTY (50) FEET.
4. THE SIZE, LENGTH, CLASS AND MANUFACTURER OF PIPE INSTALLED SHALL BE INDICATED.
5. THE SIZE, BRAND AND MODEL NUMBERS OF ALL VALVES AND HYDRANTS INSTALLED SHALL BE INDICATED.
6. A TOTAL RECORD DRAWING QUANTITY LIST SHALL BE INCLUDED, AS WELL AS A RECORD DRAWING QUANTITY LIST ON EACH INDIVIDUAL SHEET.
7. THE LOCATIONS SHALL BE SHOWN ON THE PLANS WITH AN ACCURACY OF ONE (1) FOOT.
8. THE OFFSET OF THE WATER MAIN FROM PROPERTY LINES SHALL BE INDICATED.
9. ALL GATE VALVE WELLS, HYDRANTS AND ALL WATER SYSTEM APPURTENANCES SHALL BE LOCATED FROM THE NEAREST PROPERTY CORNER.
10. ALL UNDERGROUND APPURTENANCES, SUCH AS GATE VALVE WELLS, METER PITS, PRESSURE REDUCING VALVE PITS, ETC. SHALL BE LOCATED FROM THE NEAREST HYDRANT THAT IS CONNECTED TO THE SAME WATER MAIN AS THE APPURTENANCE.
11. THE LOCATION, SIZE, BRAND AND MODEL NUMBER OF EVERY RESTRAINED JOINT SHALL BE NOTED.
12. THE ACCURATE LOCATION OF ALL UTILITY CROSSINGS WHERE THE RECOMMENDED SEPARATION, VERTICALLY OR HORIZONTALLY, IS LESS THAN THE TEN STATE STANDARDS SHALL BE NOTED.
13. WATER MAINS 12" AND LARGER IN DIAMETER SHALL BE DRAWN IN PROFILE VIEW IN ADDITION TO PLAN VIEW ON THE CONSTRUCTION PLANS.

WATER MAIN
STANDARD DETAILS

REVISION BLOCK			
Data Source / Source Date: N/A			
Rev. No.	Rev. By:	Rev. Date:	Description:
1	CS	01/05/17	UPDATE "DIRECTION TO OPEN" COMMERCE TOWNSHIP FROM RIGHT TO LEFT
2	KB	02/14/18	MARKUPS PER G. APPEL
3	JMC	08/01/20	GENERAL UPDATE
4	KB	03/20/23	ADD PRC AND SLC INFO TO TABLES
ORIG. DATE: 01/01/01			
SCALE: NONE			
DESIGNED BY: WRC			
DRAWN BY: WRC Mapping			
		ONE PUBLIC WORKS DRIVE, BLDG 95 WEST WATERFORD, MICHIGAN 48326-1907	
SHEET NO.:		Packet Pg. 123	



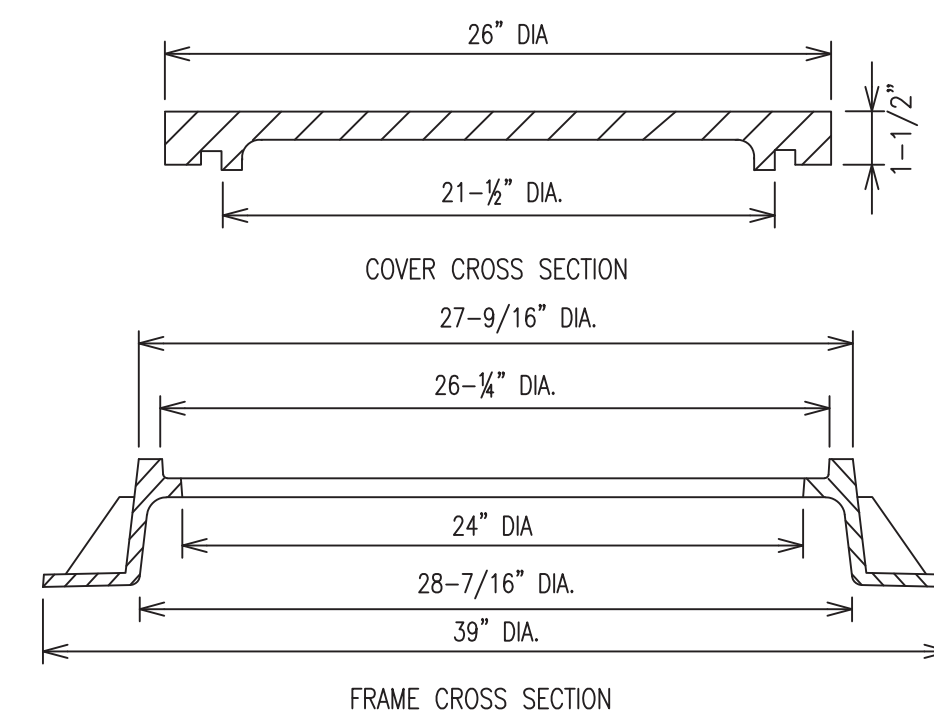
RUBBER O'RINGS SHALL
NOT BE USED IN PAVEMENT




TAPPING SLEEVE, VALVE & WELL

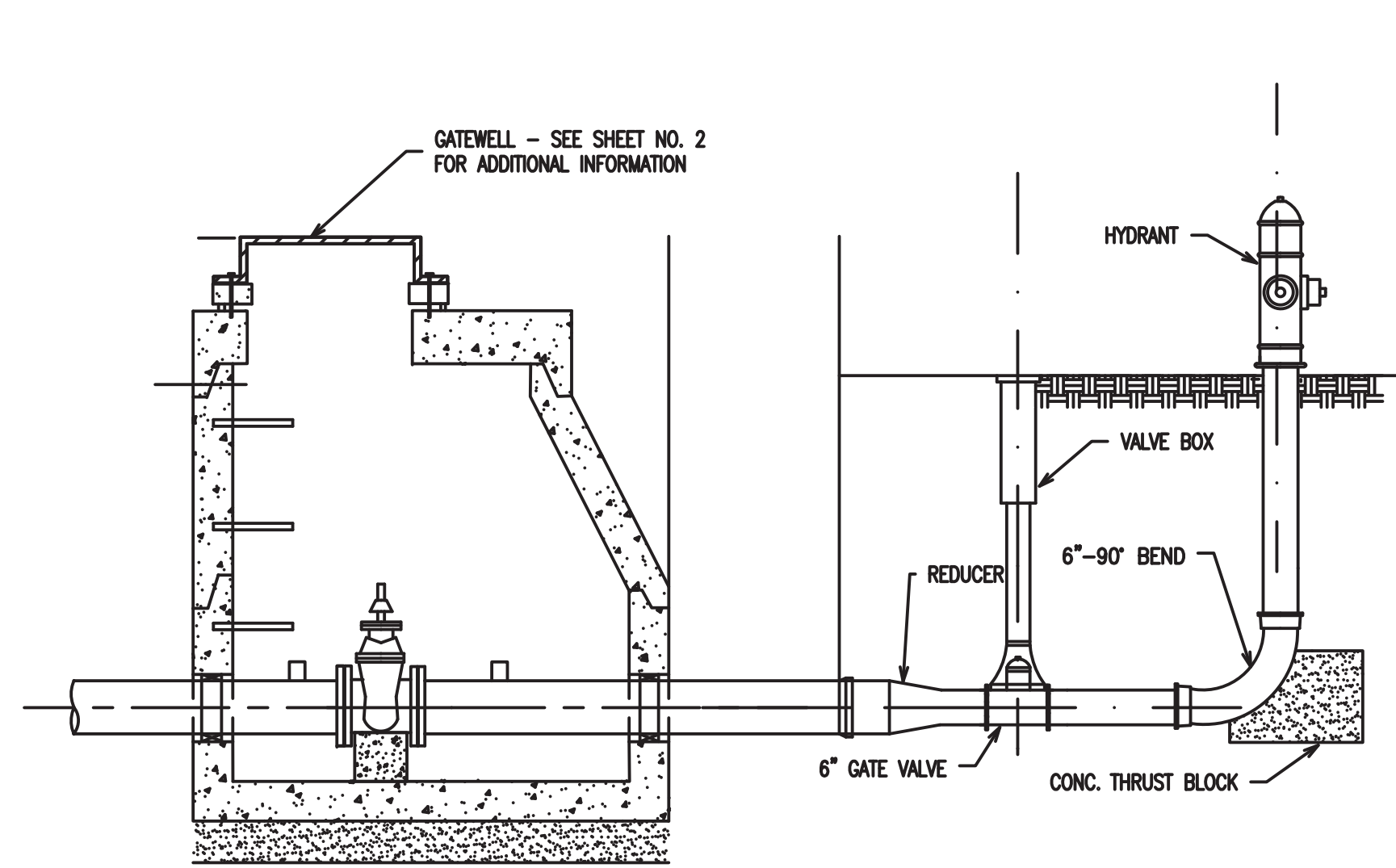
NOTES:

1. REFER TO NOTE 7 OF "VALVE AND SLEEVE NOTES" ON SHEET 1.
2. FOR PIPE SMALLER THAN 16" USE 1" CORPORATION STOP, FOR 16" PIPE OR LARGER USE 2" CORPORATION STOP WITH BRONZE SADDLE.
3. WRC DOES NOT RECOMMEND SIZE ON SIZE TAPPING.

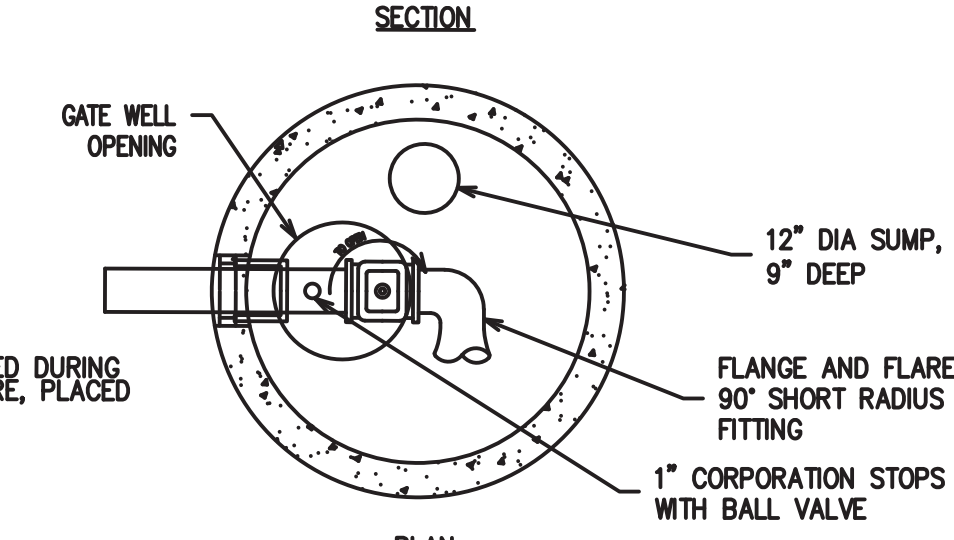
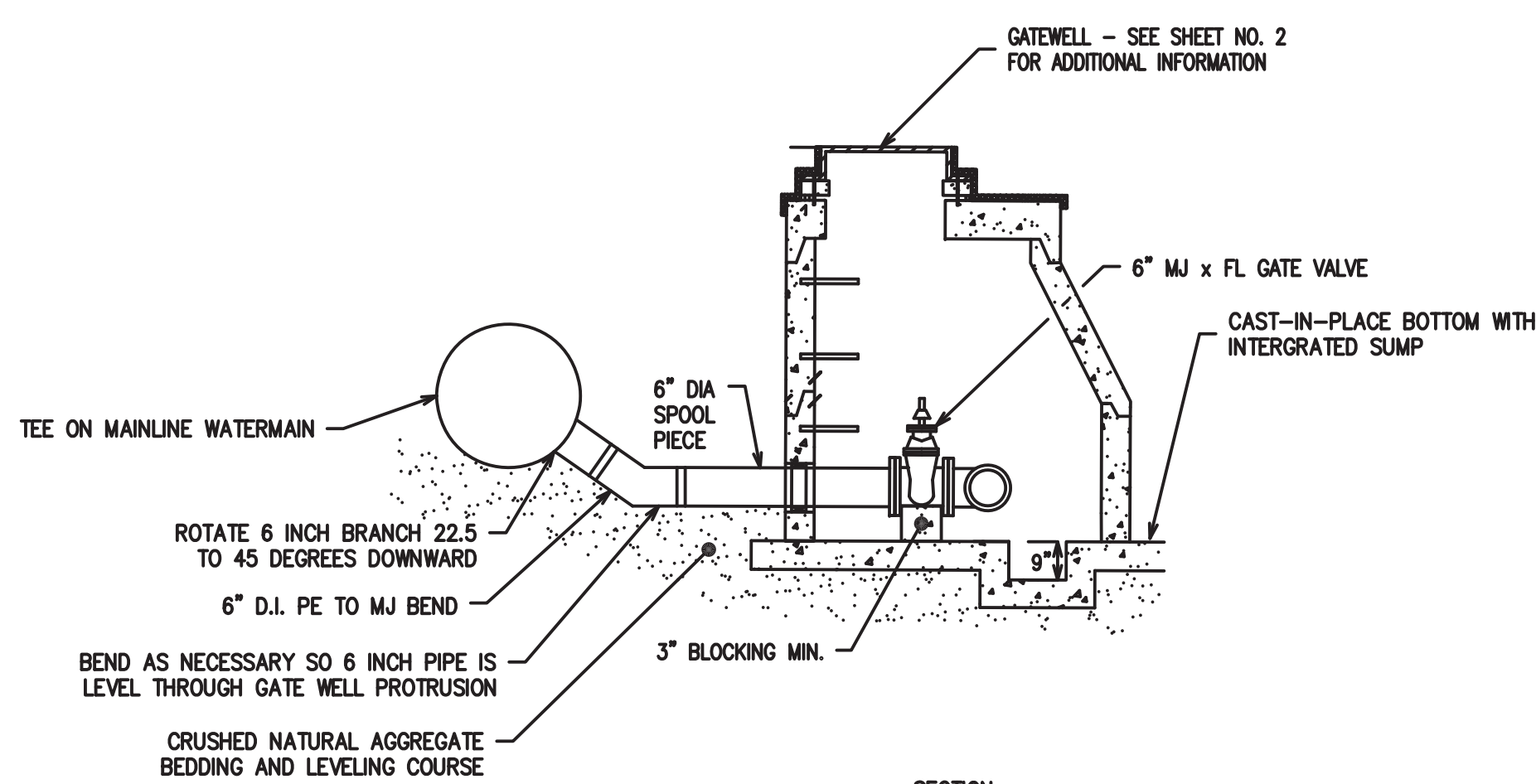


FRAME

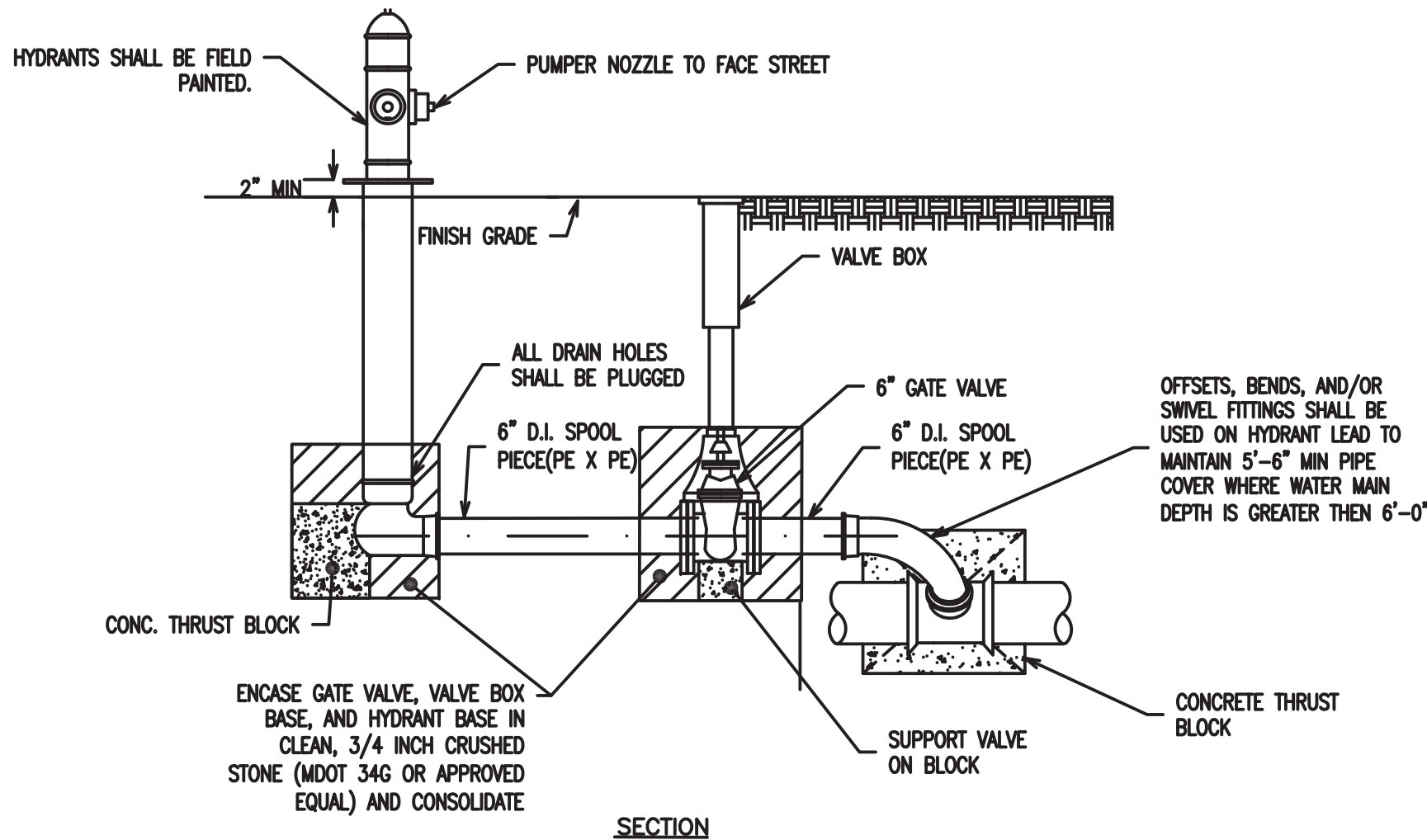
<h1 style="text-align: center;">WATER MAIN STANDARD DETAILS</h1>			
REVISION BLOCK Date Source / Source Date: N/A			
Rev. No.	Rev. By:	Rev. Date:	Description:
1	DS	03/25/15	FINAL CHANGES TO GATE VALVE STANDARDS, HYDRANT SPECIFICATIONS AND PIPE CLASS UPDATES
2	DS	01/03/17	UPDATE "DIRECTION TO OPEN" COMMERCE TOWNSHIP FROM LEFT TO RIGHT
3	DS	02/16/15	MANHOLES PER 608.0, APPEND
4	HRC	08/31/20	GENERAL UPDATE
ORIG. DATE: 01/01/01			ONE PUBLIC WORKS DRIVE, BLDG 95 WEST WATERFORD, MICHIGAN 48326-1907
SCALE: NONE			
DESIGNED BY: WRC			
DRAWN BY: WRC Mapping			 WATER RESOURCES COMMISSIONER <i>Jim Nash</i>
			SHEET NO.: 2 of 2



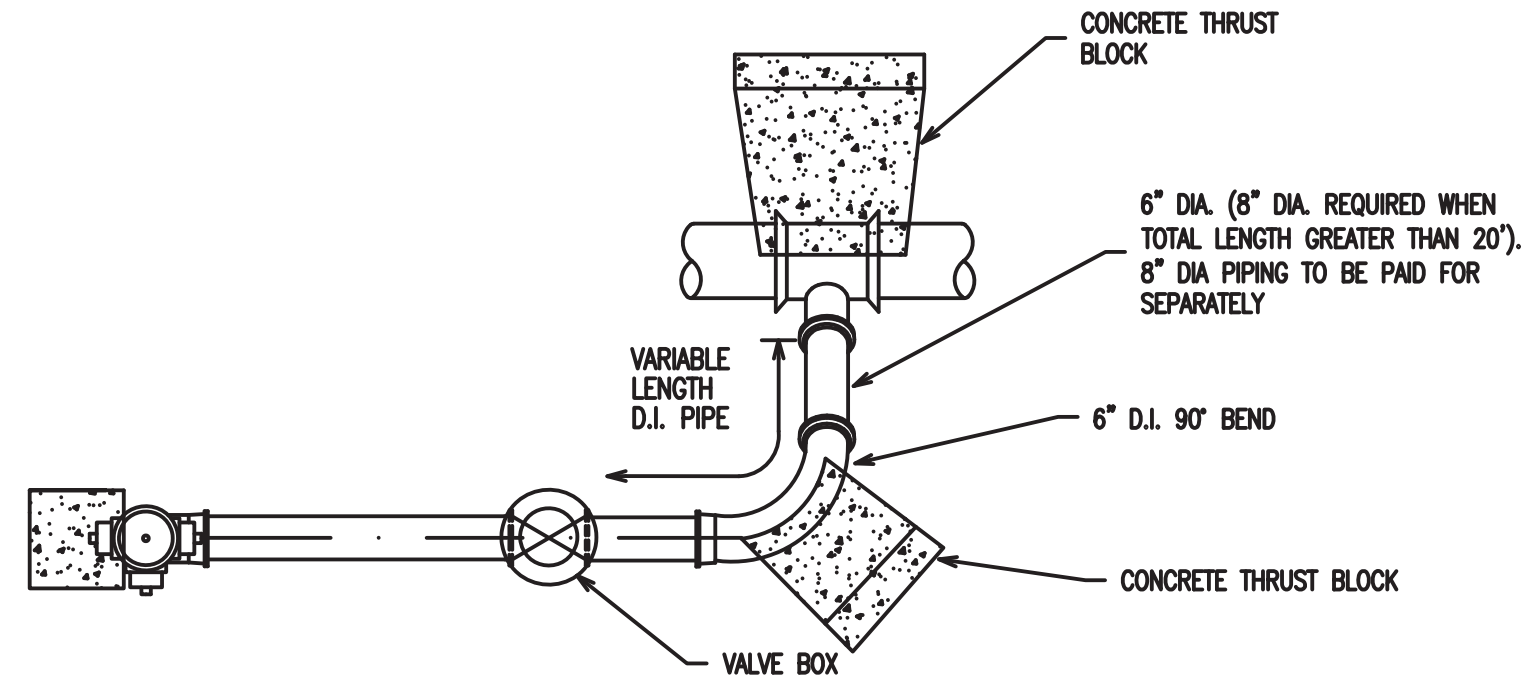
DEAD END BLOWOFF CONNECTION



BLOW-OFF VALVE AND WELL



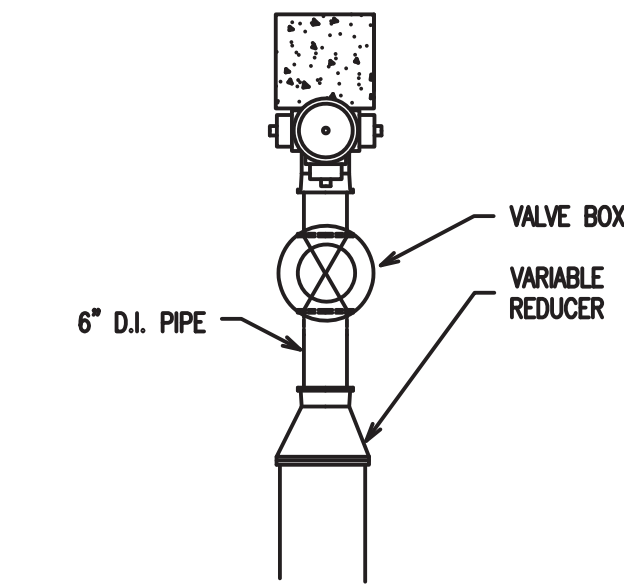
SECTION



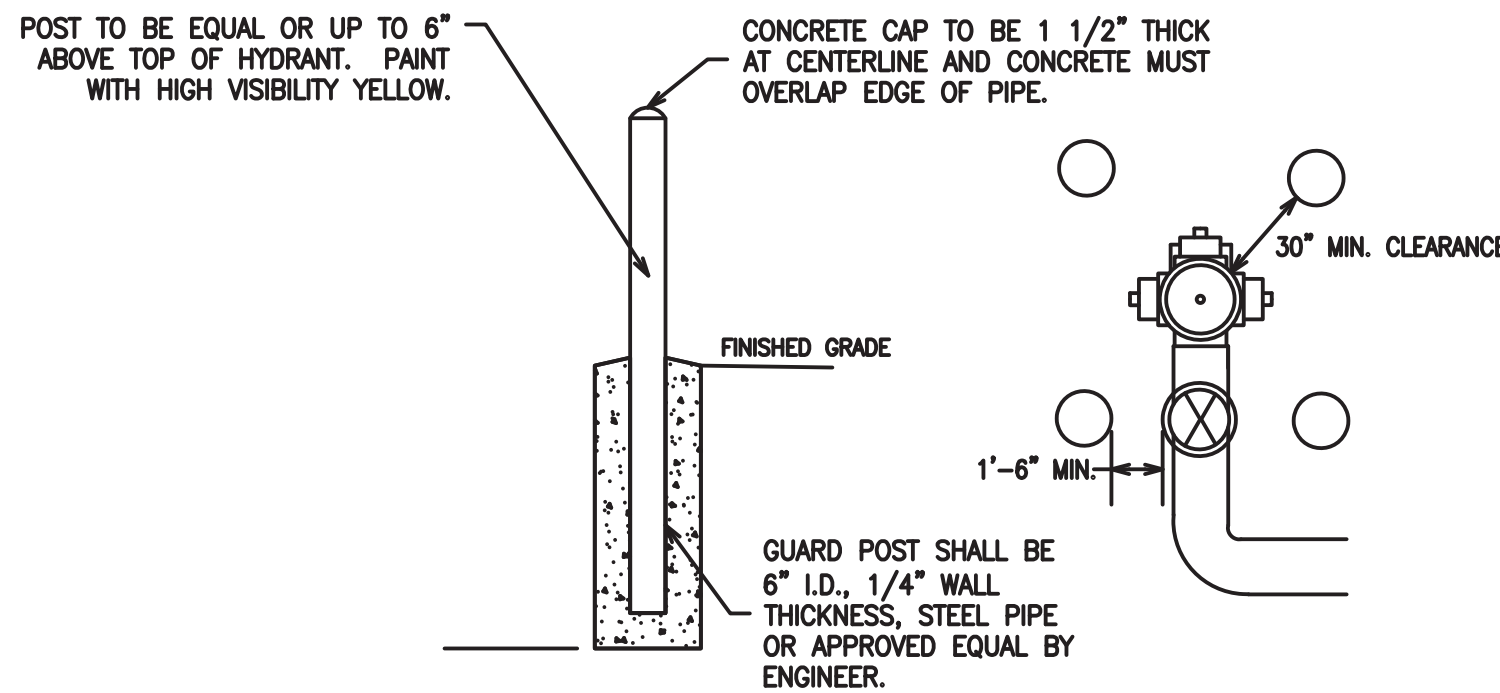
PLAN

6" HYDRANT SIDE OUTLET

- NOTES:
1. HYDRANT EXTENSIONS BETWEEN THE STANDPIPE LOWER SECTION & STANDPIPE UPPER ARE LIMITED TO 18 INCHES
 2. ALL HYDRANTS COMPANION VALVES, BENDS, AND TEES TO BE FULLY RESTRAINED BY MECHANICAL JOINT RESTRAINT SYSTEM FITTINGS (MEGA-LUG OR APPROVED EQUAL).
 3. THRUST BLOCKS ARE REQUIRED AT ALL TEES, BENDS AND ENDS.
 4. ALL HARDWARE (BOLTS, NUTS, WASHERS, ETC.) FOR HYDRANT ASSEMBLIES SHALL BE COR-BLUE OR APPROVED EQUAL.



PLAN 6" HYDRANT WATER MAIN END



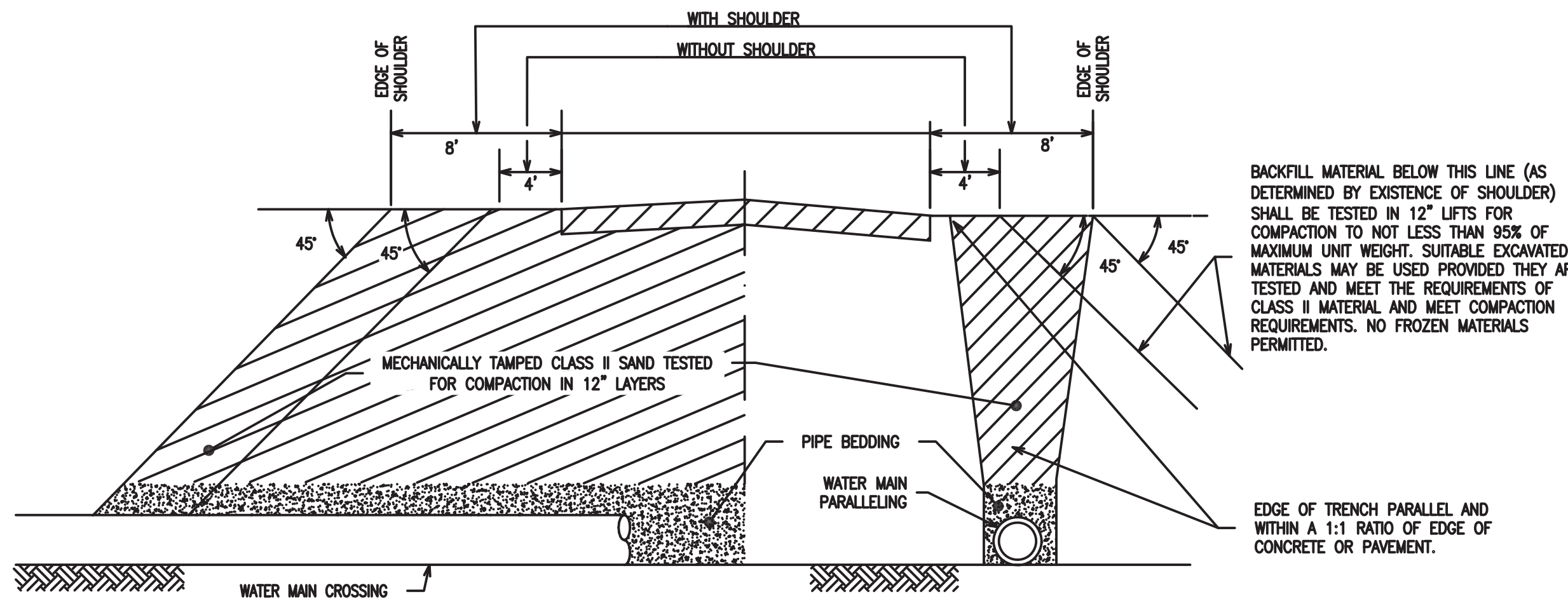
GUARD POST

- NOTES:
1. GUARD POST SHALL NOT INTERFERE WITH HYDRANT OPERATION
 2. TO BE INSTALLED IN ALL PAVED AREAS PARKING LOTS, PARKS, PLAZAS, ETC. (NOT RIGHT-OF-WAYS) SPACE WHERE VEHICLE EQUIPMENT DAMAGE TO HYDRANT IS POSSIBLE.

FOR 90° BENDS OR SMALLER					FOR PLUGS				FOR TEES				
D	A	B	C	E MIN.	D	A	B	C MIN.	D	A	B	C	E MIN.
20"	8"	6.5"	3.5"	2.5"	20"	7"	5"	2.5"	20"	6.5"	4.5"	3.5"	3"
16"	6"	4"	2.5"	2"	16"	4'-10"	4'-10"	2"	16"	4'-8"	4'-8"	2.5"	2.75"
12"	4"	3"	2"	1.75"	12"	4'-4"	3"	1'-9"	12"	4"	3"	2.5"	2.5"
10"	3"	3"	2"	1.75"	10"	3"	2"	1'-6"	10"	3"	2"	2"	2.25"
8"	3"	2"	2"	1.5"	8"	2'-10"	2'-6"	1'-6"	8"	2'-6"	2"	2"	2.25"
6"	2"	1.5"	2"	1.25"	6"	1'-6"	1'-6"	3"	6"	2"	2"	2"	2.25"

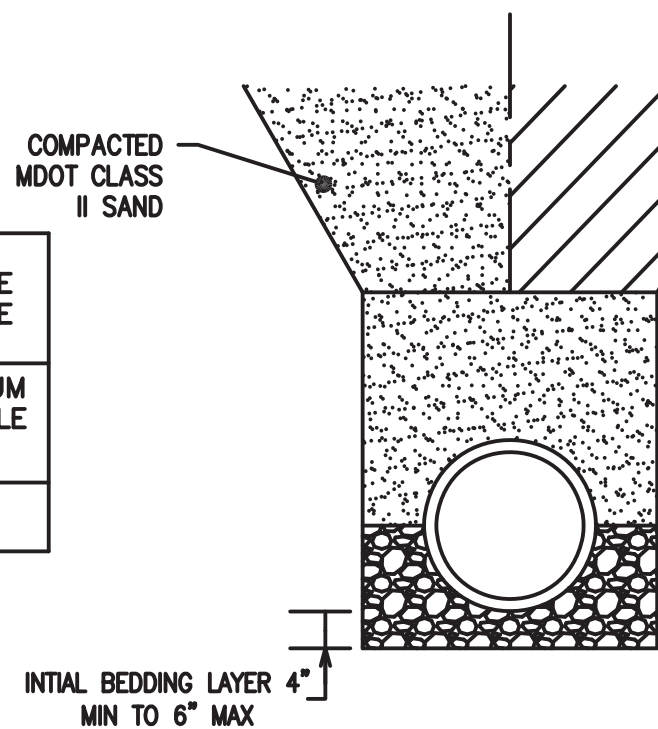
THRUST BLOCK DETAILS

- NOTE:
1. 3000 PSI CONCRETE TO BE USED. THRUST BLOCK TO ABUT & REST AGAINST UNDISTURBED SOIL OR EARTH COMPACTED TO 95% MODIFIED PROCTER.



MINIMUM BACKFILL UNDER OR NEAR PAVEMENT

MAXIMUM PARTICLE SIZE VS. PIPE SIZE	
NOMINAL PIPE SIZE (IN)	MAXIMUM PARTICLE (IN)
6 +	1 1/2



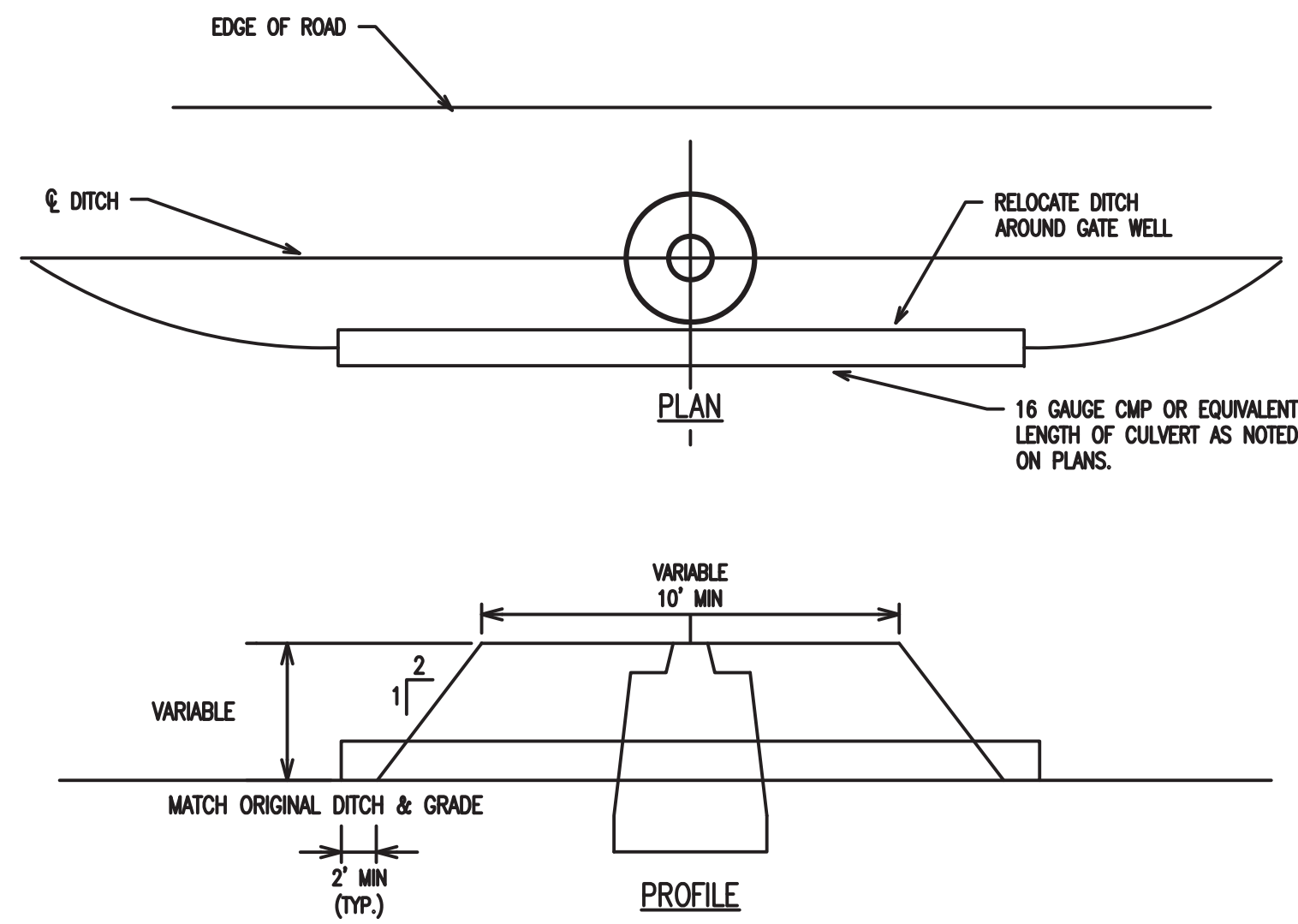
MINIMUM TRENCH WIDTH TABLE (IN.)	
NOMINAL PIPE SIZE (IN)	TRENCH WIDTH, W
6 +	D ₀ + 24

DUCTILE IRON PIPE TRENCH DETAIL

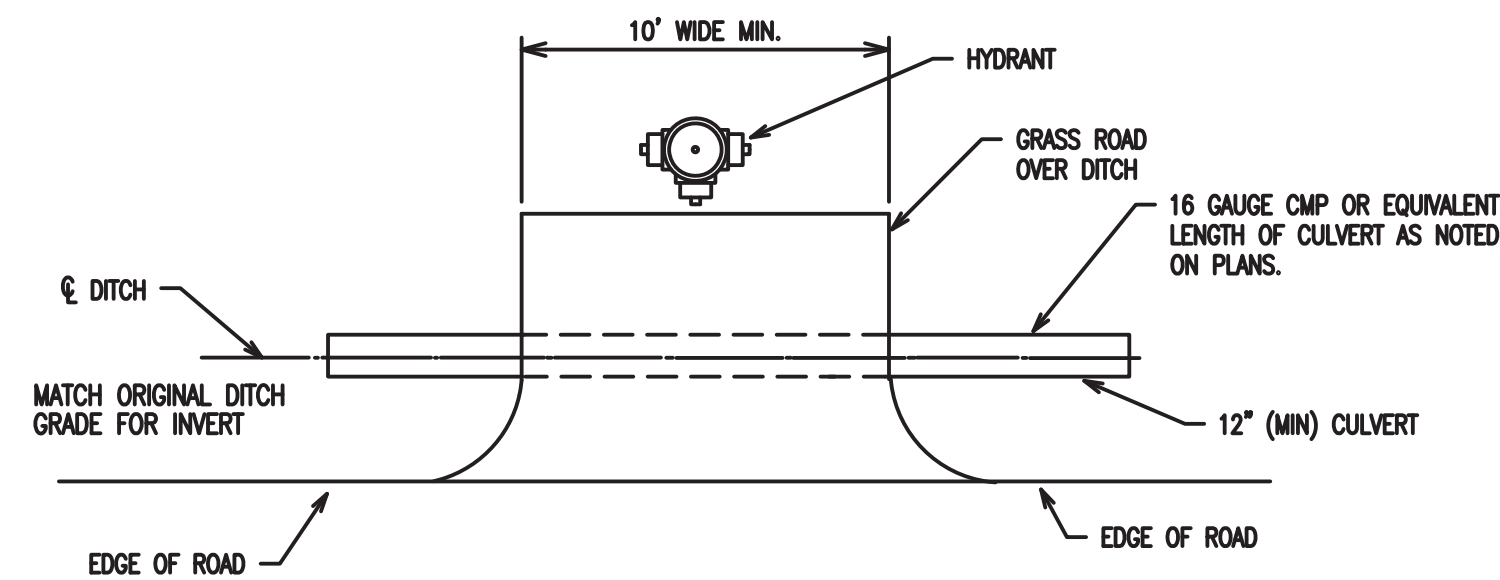
- NOTES:
1. DUCTILE IRON PIPE IS CONSIDERED A FLEXIBLE PIPE THAT WHEN INSTALLED UNDERGROUND IS DESIGNED TO DEFLECT UNDER LOAD.
 2. DO NOT COMPACT INNER BEDDING OF INITIAL BEDDING LAYER.
 3. CAREFULLY EXCAVATE BELL OR COUPLING HOLES FROM THE INITIAL BEDDING LAYER.
 4. SHOVEL SLICE BEDDING MATERIAL IN THE HAUNCH AREA ALONG THE BOTTOM CIRCUMFERENCE OF THE PIPE TO CONSOLIDATE BEDDING AND UNIFORMLY SUPPORT THE PIPE BARREL.
 5. COMPACT INITIAL BACKFILL MATERIALS IN LIFTS NOT EXCEEDING 6 INCHES BY HAND TAMPING AROUND AND DIRECTLY ABOVE PIPE TO MINIMIZE VOIDS.
 6. DO NOT USE MECHANICAL COMPACTION EQUIPMENT DURING INITIAL BACKFILL OPERATIONS UNTIL MATERIAL HAS BEEN BROUGHT TO 12 INCHES ABOVE THE TOP OF PIPE BARREL.
 7. COMPACT SAND BACKFILL AND STANDARD TRENCHES OUTSIDE OF PIPE ZONE TO NOT LESS THAN 95% OF THE MAXIMUM UNIT WEIGHT IN LIFTS NOT EXCEEDING 12 INCHES.
 8. FOR MINIMUM TRENCH WIDTHS, REFER TO TABLE 2, MAXIMUM TRENCH WIDTH = D₀ + 2D₀ UNLESS MINIMUM TRENCH WIDTH IS GREATER.
 9. IF THE PIPE IS LOCATED BENEATH THE GROUND WATER TABLE, THE PIPE ZONE SHALL BE WRAPPED IN A GEOTEXTILE SEPARATOR TO MINIMIZE MIGRATION OF SOIL INTO THE PIPE ZONE.

WATER MAIN STANDARD DETAILS

REVISION BLOCK			
Rev. No.	Rev. By	Rev. Date	Description
1	DL	11/02/14	PROPOSED CHANGE TO DELETE REFERENCE TO BOTTLE SLEEVE MANUFACTURER
2	DL	10/29/14	FINAL CHANGE TO DELETE REFERENCE TO BOTTLE SLEEVE MANUFACTURER
3	WRC	02/14/18	MARKUPS PER G. APPEL
4	WRC	01/01/20	GENERAL UPDATE
ORIG. DATE: 01/01/01			
SCALE: NONE			
DESIGNED BY: WRC			
DRAWN BY: WRC Mapping			
ONE PUBLIC WORKS DRIVE, BLDG 95 WEST WATERFORD, MICHIGAN 48326-1907		SHEET NO.: 3 of 7	



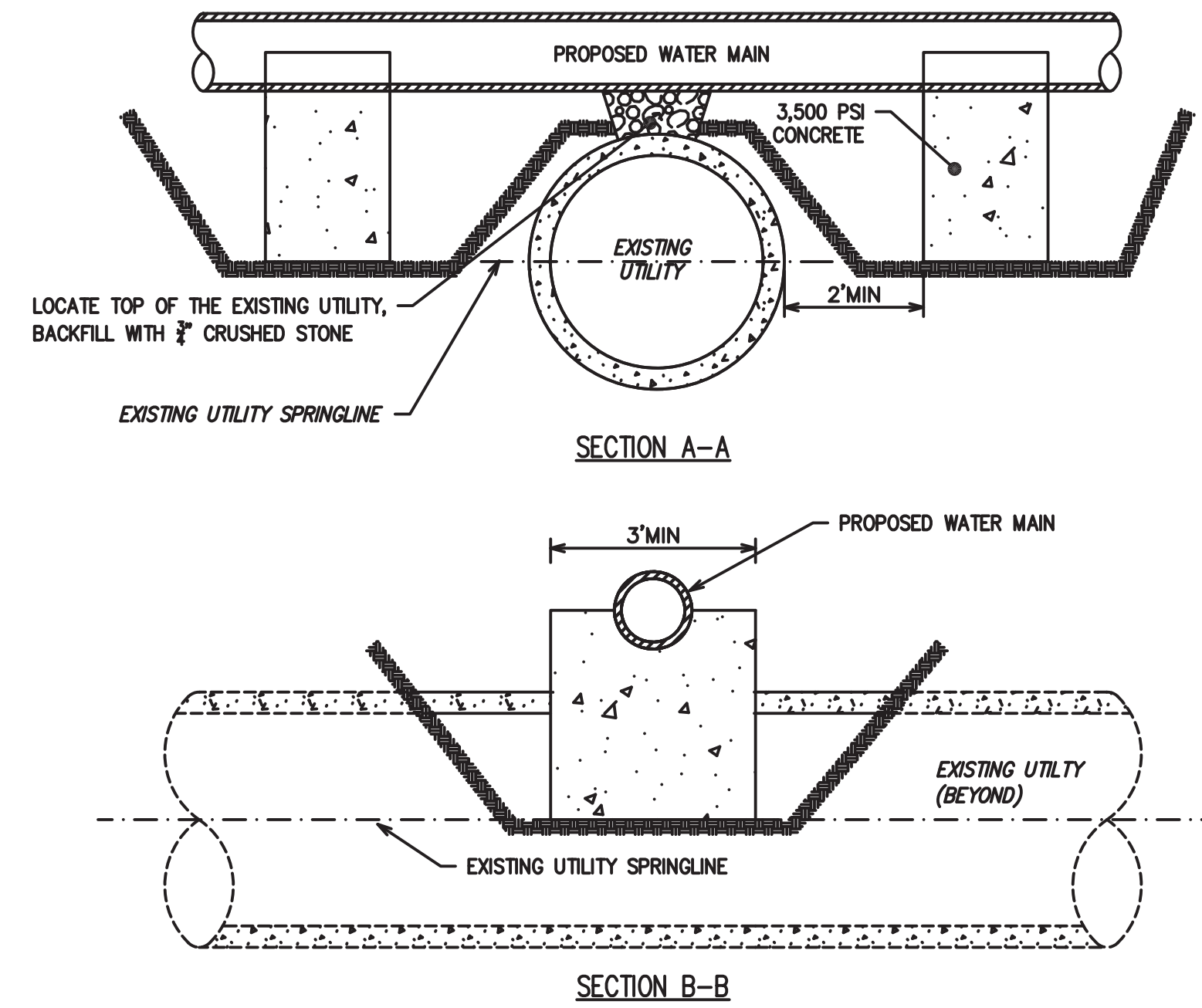
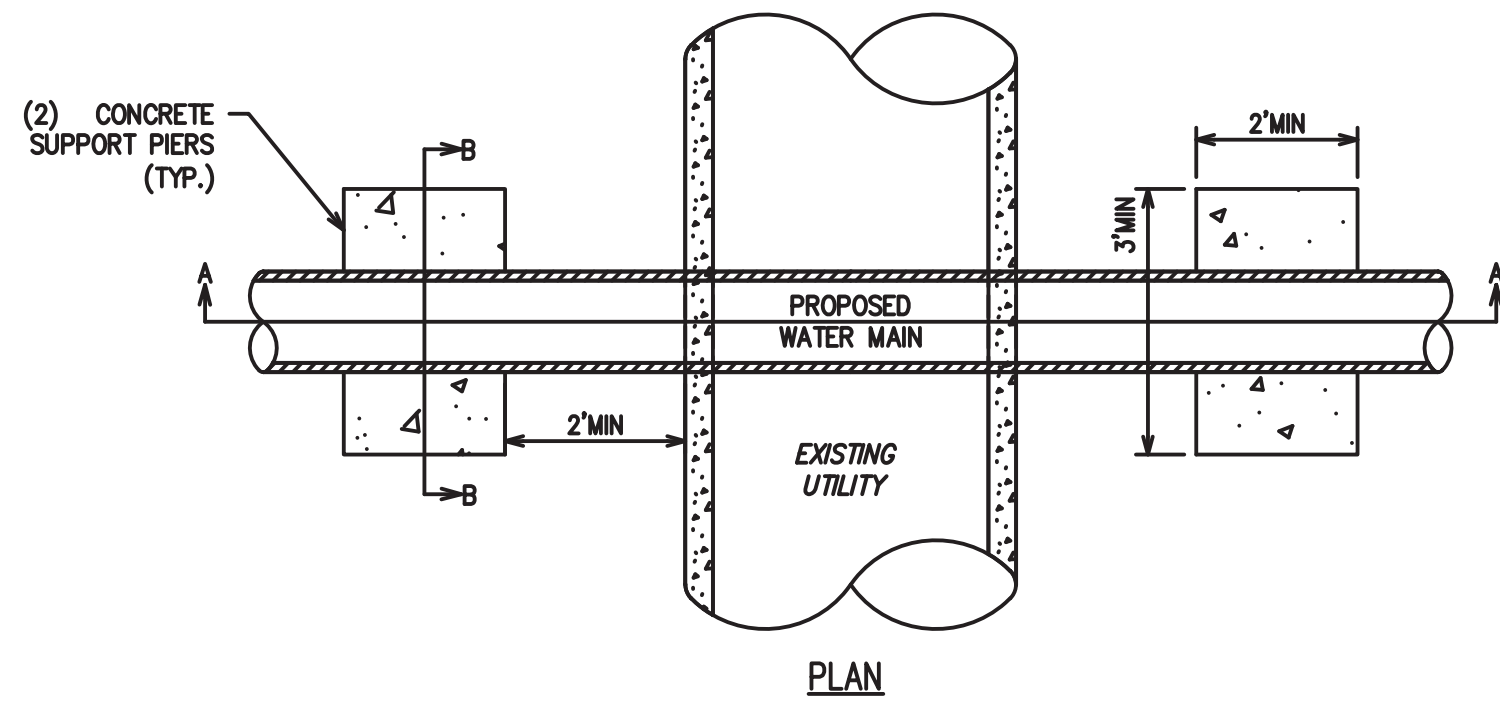
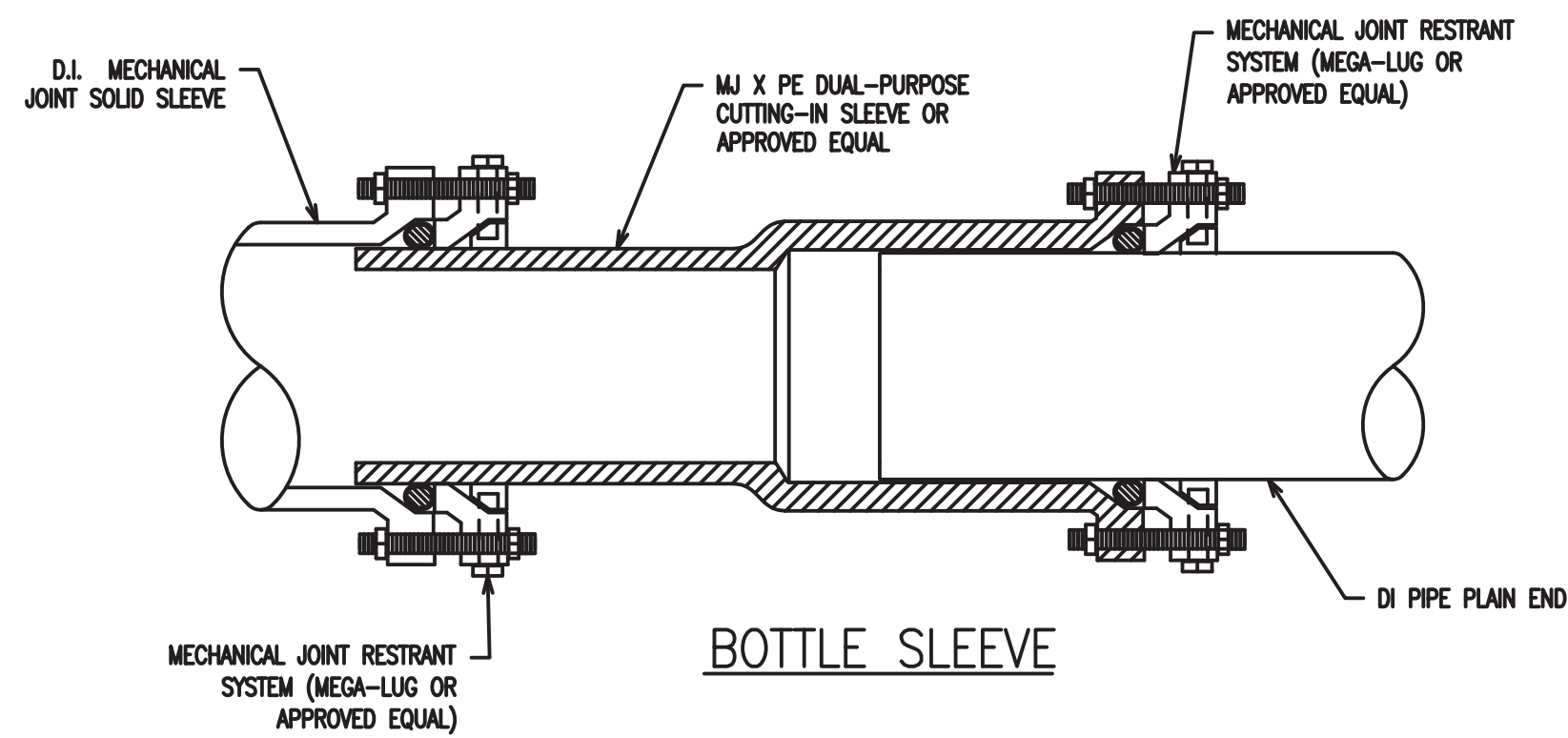
DITCH ENCLOSURE AT GATE WELL



DITCH ENCLOSURE AT HYDRANT

NOTES:

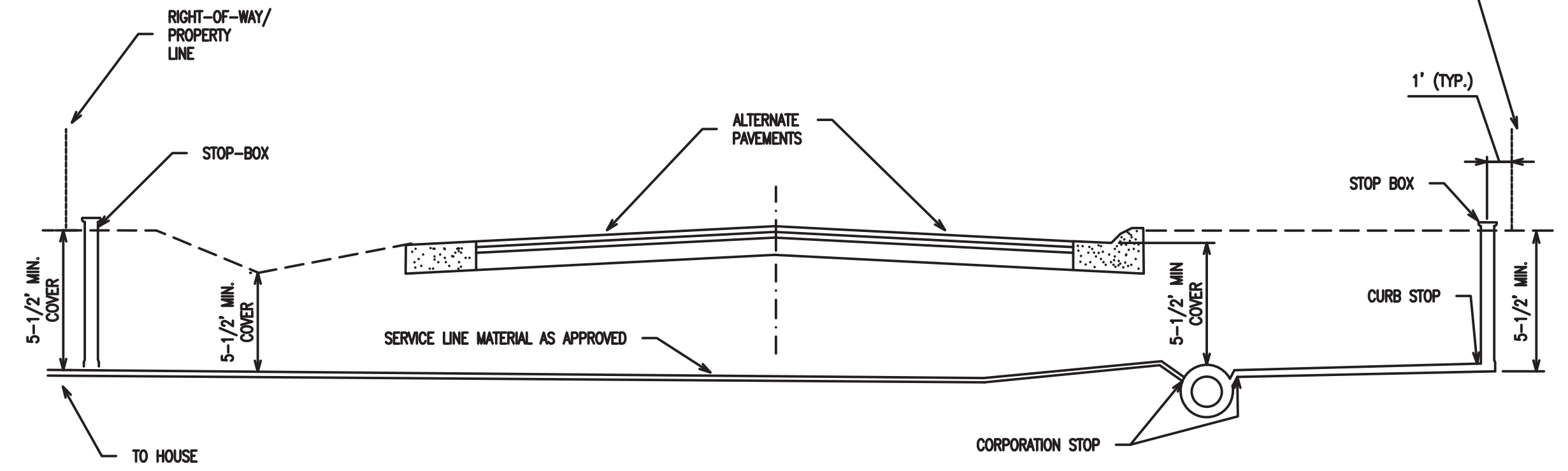
- 1) REQUIRED FOR DITCHES GREATER THAN 18 INCHES IN DEPTH.
- 2) CULVERT SHALL BE SIZED BASED ON THE EXISTING CARRY CAPACITY OF THE DITCH OR AS REQUIRED BY THE PERMITTING AUTHORITY FOR THE LOCAL ROAD AGENCY. STAMPED ENGINEERING CALCULATIONS ARE REQUIRED FOR ALL CULVERT INSTALLATION.
- 3) MINIMUM DEPTH OF COVER FOR CULVERT PIPE IS 12 INCHES UNLESS OTHERWISE AUTHORIZED BY CULVERT MANUFACTURER.
- 4) END SECTIONS ON CULVERTS GREATER THAN 12 INCHES IN DIAMETER.



WATER MAIN CROSSING BRIDGE

NOTES:

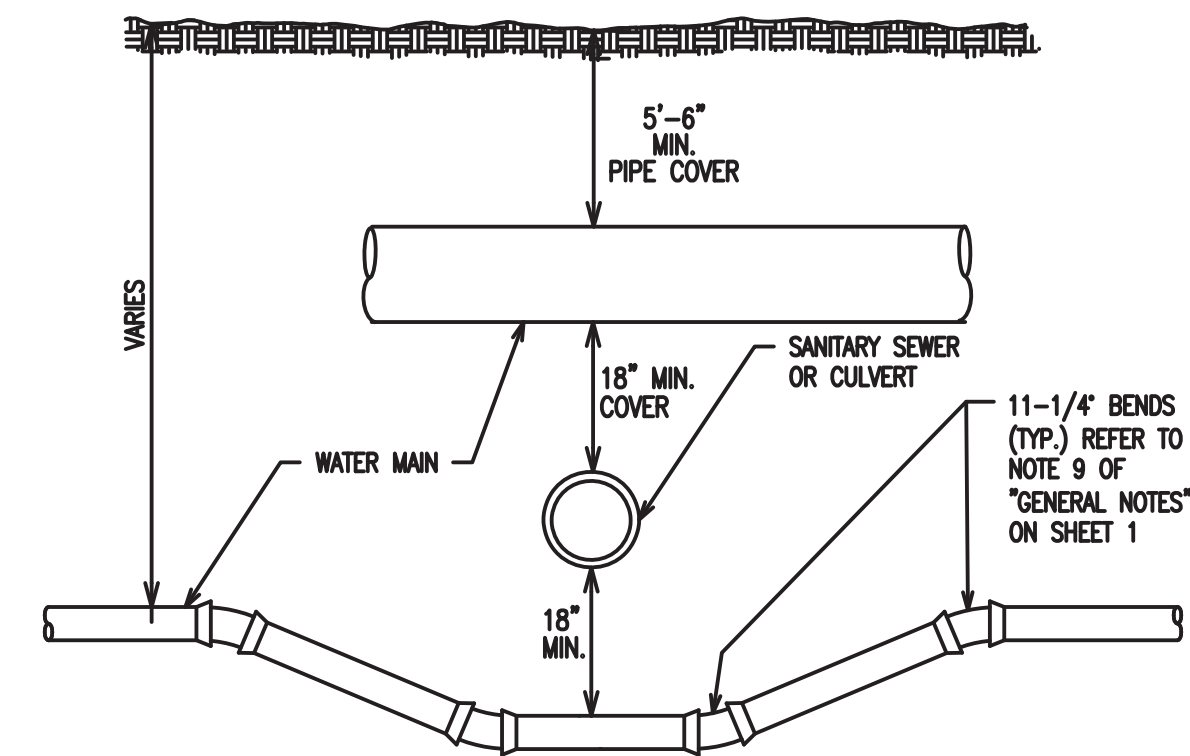
1. CROSSING BRIDGE IS REQUIRED WHEN 18 INCHES OF CLEARANCE OR GREATER ABOVE (WITHIN A 1:1 INFLUENCE OF THE SPRING LINE) AN EXISTING UTILITY CANNOT BE MAINTAINED.
2. WATER MAIN PIPE SPANNING THE EXISTING UTILITY MUST BE CENTERED BETWEEN JOINTS OVER THE EXISTING UTILITY.
3. ALL WORK NECESSARY TO INSTALL THE WATER MAIN CROSSING BRIDGE AS SHOWN SHALL BE CONSIDERED INCLUDED IN THE COST OF THE PROJECT UNLESS OTHERWISE NOTED.
4. CROSSING FOR PROPOSED WATER MAIN 16-INCH AND LARGER SHALL BE DESIGNED BY A LICENSED PROFESSIONAL ENGINEER.



TYPICAL PUBLIC ROAD WATER SERVICE CONNECTION

NOTES:

1. WATER SERVICE CURB STOP TO BE PLACED ONE (1) FOOT OFF THE PROPERTY LINE.
2. LATERAL LOCATION SHALL BE AS REQUESTED BY THE ABUTTING PROPERTY OWNER.
3. SERVICE TAP LOCATION TO BE AT CLOCK POSITION 10:30 OR 1:30 UNLESS OTHERWISE INDICATED.



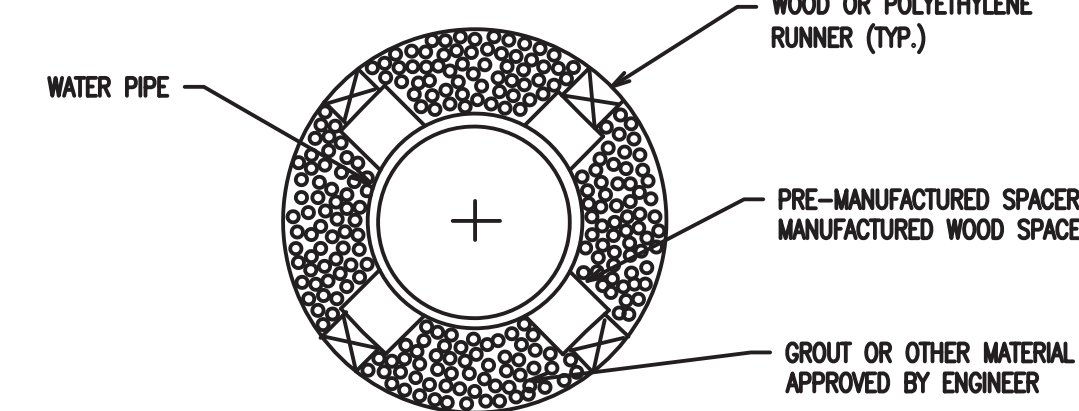
SEWER OR CULVERT CROSSING

UNLESS OTHERWISE SPECIFIED, MINIMUM CASING PIPE SHALL BE ASTM A-139 GRADE B, WALL THICKNESS AS FOLLOWS:

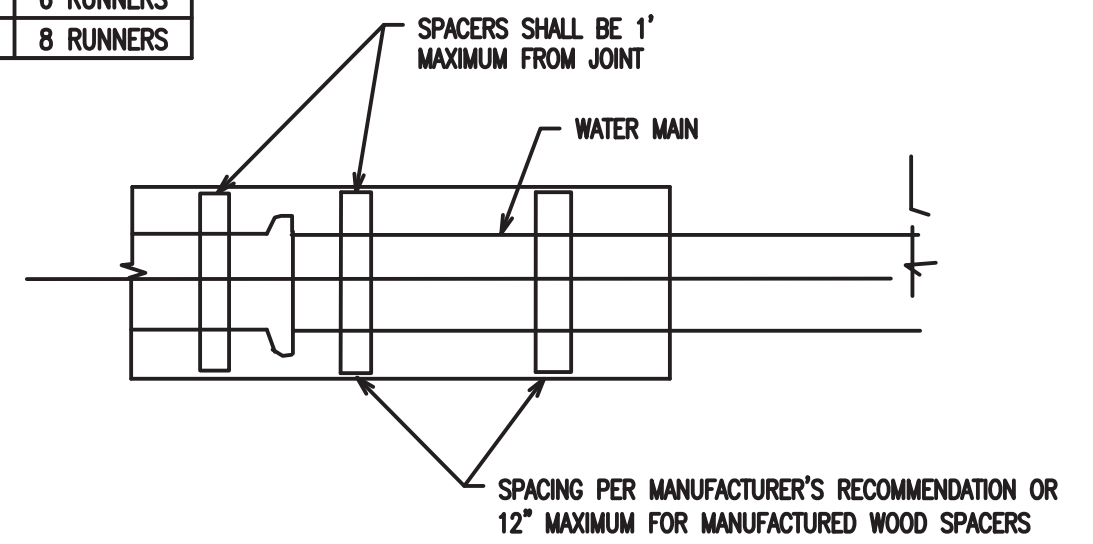
NOMINAL SIZE	MINIMUM WALL THICKNESS
8" - 42"	0.375
48" - 60"	0.500

REQUIRED QUANTITY OF RUNNERS IN ACCORDANCE WITH SIZE

TO 14" DIA.	4 RUNNERS
16" TO 36" DIA.	6 RUNNERS
38" TO 48" DIA.	8 RUNNERS




SUPPORT FOR WATER MAIN
CONSTRUCTED IN CASING PIPE

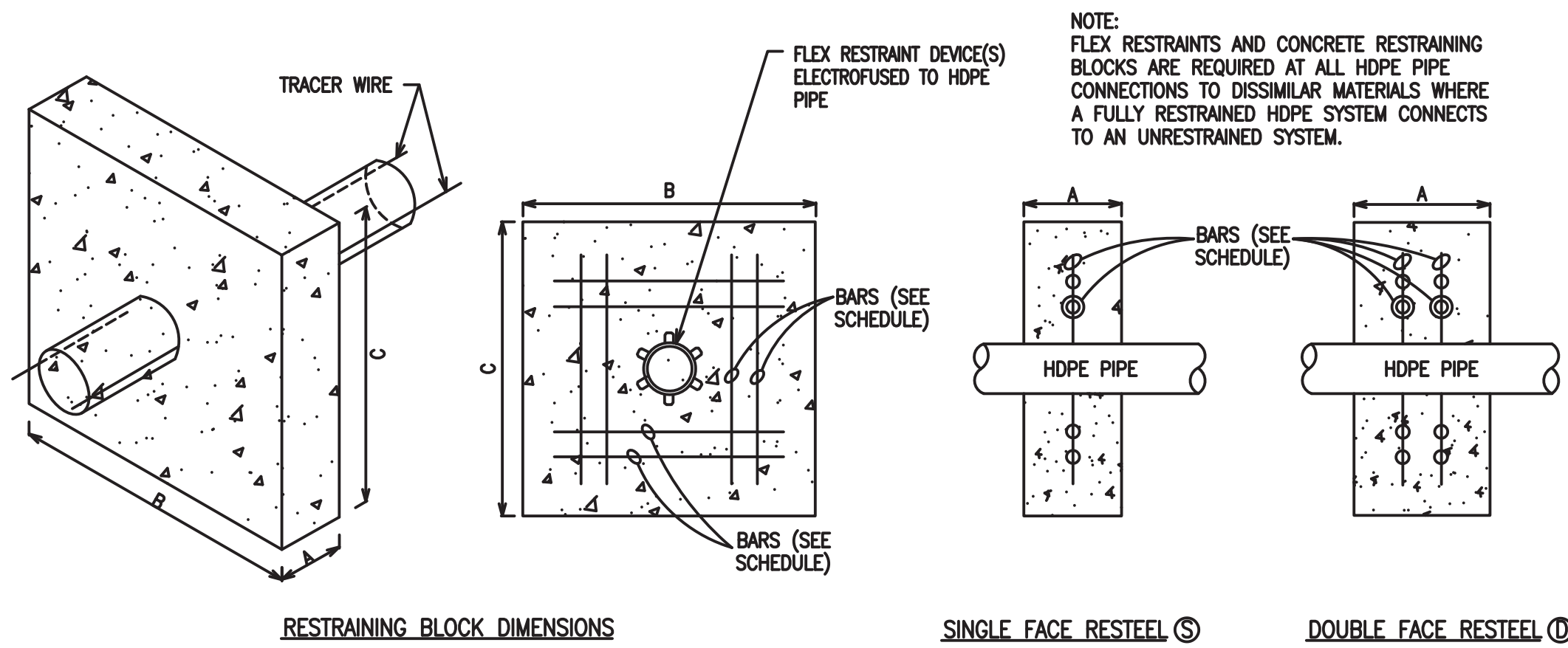


WATER MAIN IN CASING SECTION

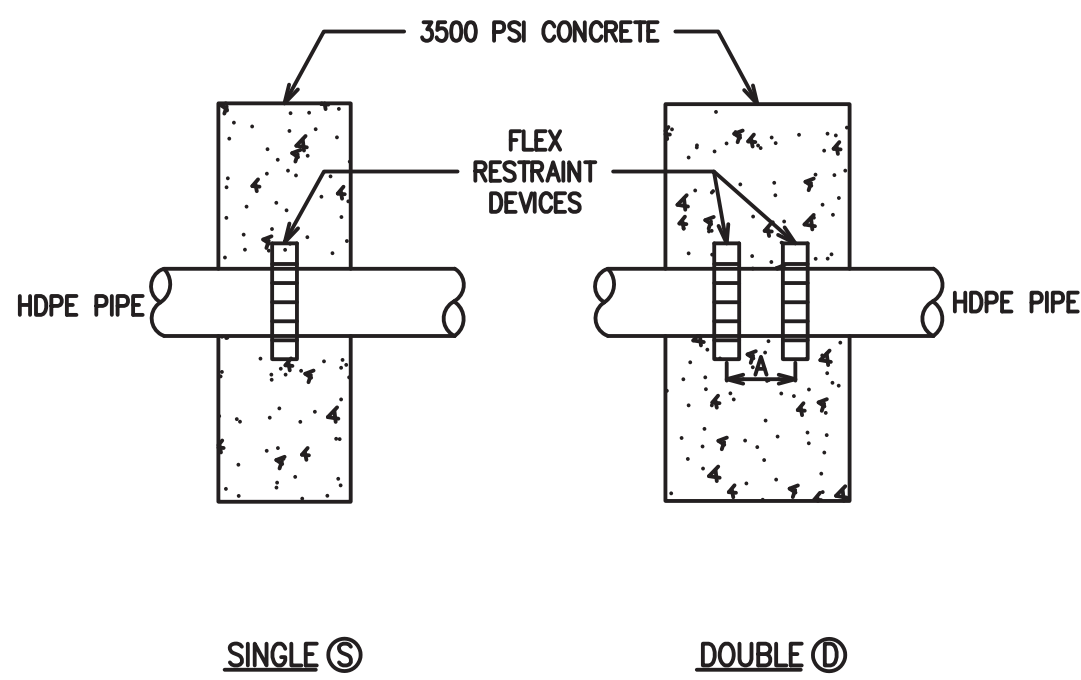
WATER MAIN IN CASING DETAILS

WATER MAIN
SPECIAL DETAILS

REVISION BLOCK			
Rev.	Rev.	Rev.	Description
No.	By	Date	
1	WRC	03/18/18	MARKUPS PER G. APPEL
2	WRC	08/31/20	GENERAL UPDATE
3			
4			
ORIG. DATE:		01/01/01	
SCALE:		NONE	
DESIGNED BY:		OCDC	
DRAWN BY:		OCDC Mapping	
			
		ONE PUBLIC WORKS DRIVE, BLDG 95 WEST WATERFORD, MICHIGAN 48328-1907	
		SHEET NO.: 4 OF 7	



RESTRAINING BLOCK RESTEEL

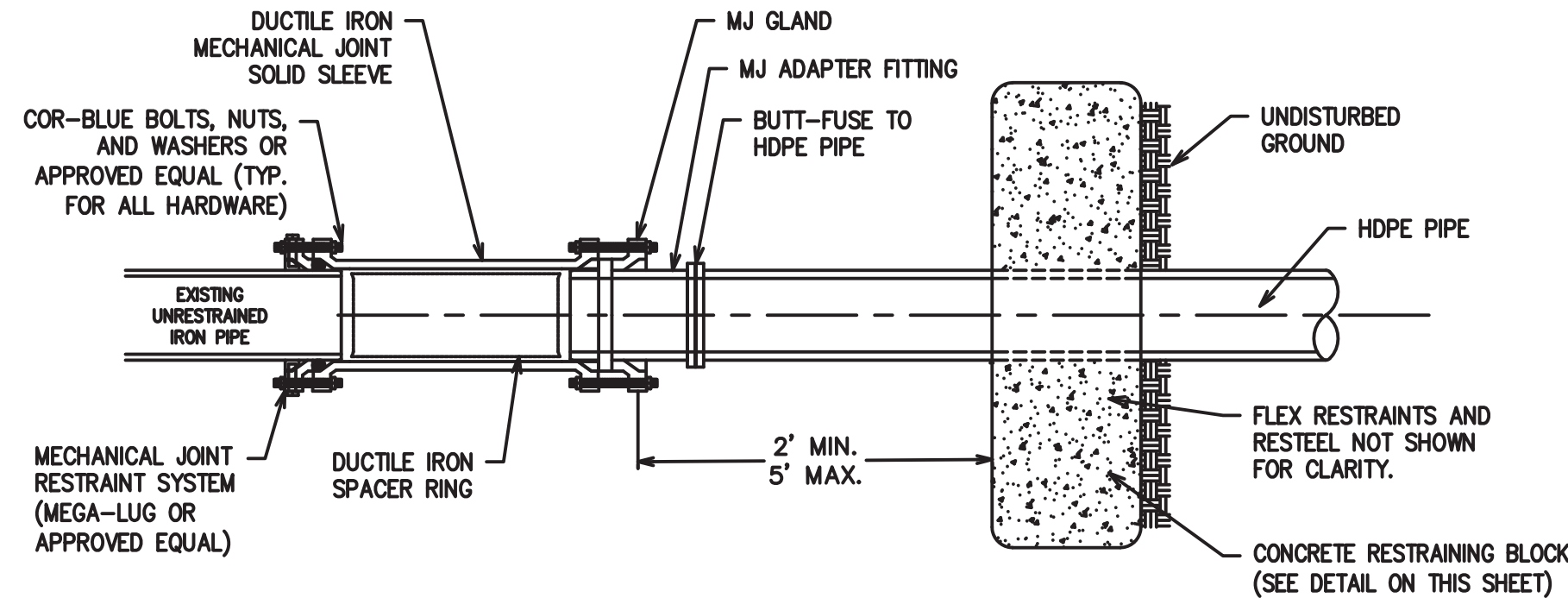


RESTRAINING BLOCK RESTRAINTS

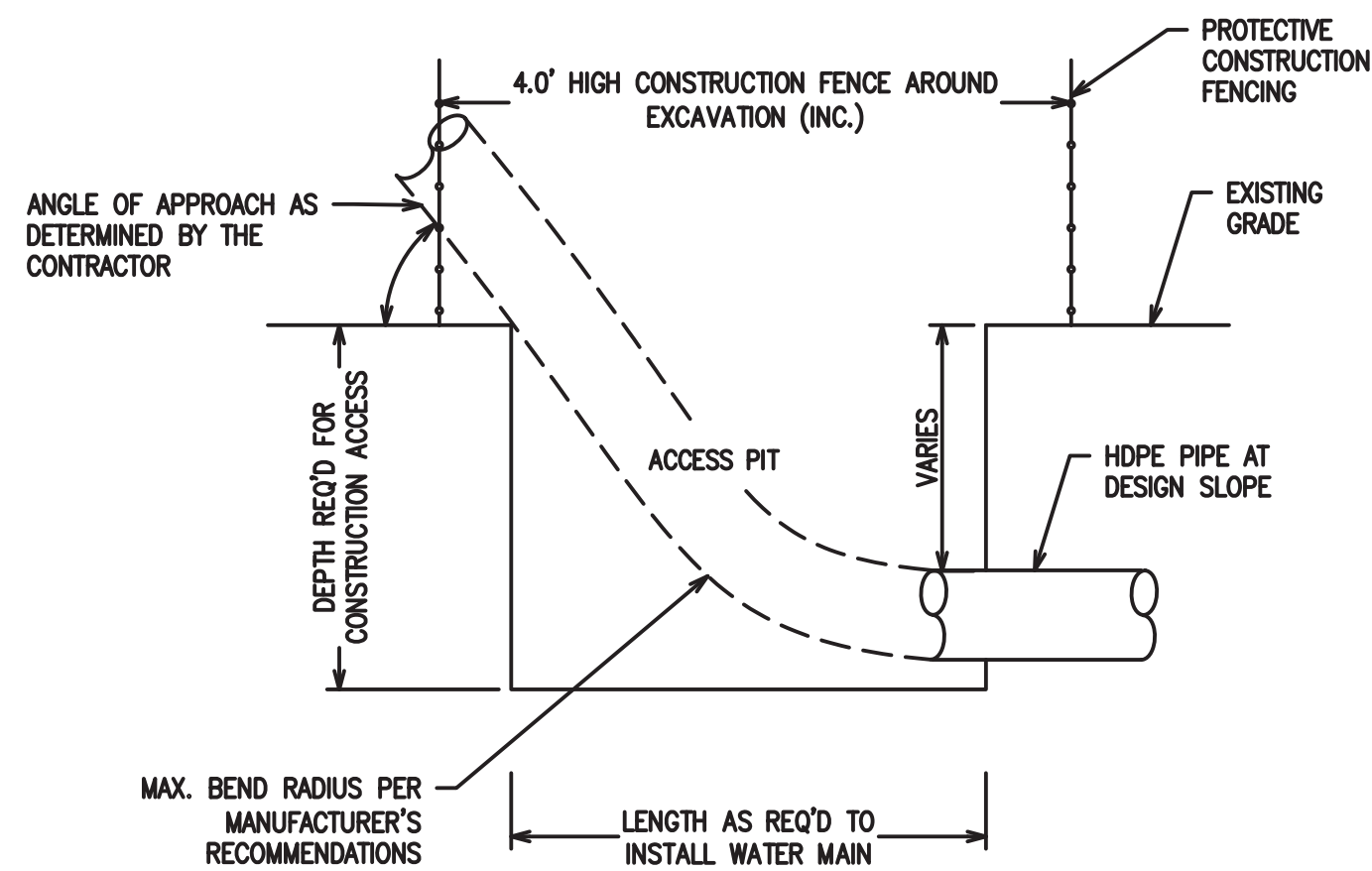
HDPE SDR11 DIPS RESTRAINING BLOCK SCHEDULE

HDPE SDR11 DIPS SIZE	A	B	C	EFFECTIVE AREA	# RESTRAINTS	REINFORCING
4"	1 FT	2 FT	2 FT	3.5 S.F.	1	4 #6 (S)
6"	1 FT	2.75 FT	2.75 FT	7.5 S.F.	2	4 #6 (S)
8"	1 FT	3.75 FT	3.75 FT	12.5 S.F.	2	4 #6 (S)
10"	1 FT	4.5 FT	4.5 FT	19 S.F.	3	8 #4 (S)
12"	1.5 FT	5.25 FT	5.25 FT	27 S.F.	4	8 #6 (S)
14"	1.5 FT	6 FT	6 FT	36 S.F.	6	8 #6 (S)
16"	2 FT	7 FT	7 FT	46.5 S.F.	7	16 #6 (D)
18"	2 FT	7.75 FT	7.75 FT	58 S.F.	9	16 #6 (D)
20"	2 FT	8.5 FT	8.5 FT	71.5 S.F.	11	16 #6 (D)
24"	2 FT	10.25 FT	10.25 FT	102 S.F.	15 (D)	16 #6 (D)
30"	2.5 FT	12.75 FT	12.75 FT	157 S.F.	23 (D)	16 #6 (D)
36"	2.5 FT	15 FT	15 FT	224 S.F.	31 (D)	16 #6 (D)

- RESTRAINING BLOCKS SHALL HAVE A MINIMUM OF 3.0' OF COVER.
- RESTRAINING BLOCK DIMENSIONS "B" AND "C" MAY BE CHANGED DUE TO DEPTH OF COVER LIMITATIONS PROVIDED THE EFFECTIVE AREA IS MAINTAINED.
- THE EFFECTIVE AREA OF ALL THE RESTRAINING BLOCKS ARE BASED ON A RECURRING SURGE PRESSURE OF 250 PSI AND 1,000 PSF BEARING SOIL. SHOULD SOILS THAT ABOUT THE RESTRAINING BLOCK BE LESS THAN 1,000 PSF, PROVIDE STAMPED ENGINEERING CALCULATIONS TO DETERMINE THE APPROPRIATE EFFECTIVE AREA FOR THE RESTRAINING BLOCK.
- THE NUMBER OF FLEX RESTRAINTS INDICATED IS BASED ON PROVIDING 7,000 LBS OF SHEAR FORCE EACH. SHOULD THE FLEX RESTRAINTS INTENDED FOR USE PROVIDE LESS THAN 7,000 LBS OF SHEAR FORCE EACH, INCLUDE STAMPED ENGINEERING CALCULATIONS FOR THE NUMBER OF RESTRAINTS REQUIRED.



HDPE TO DUCTILE IRON TRANSITION



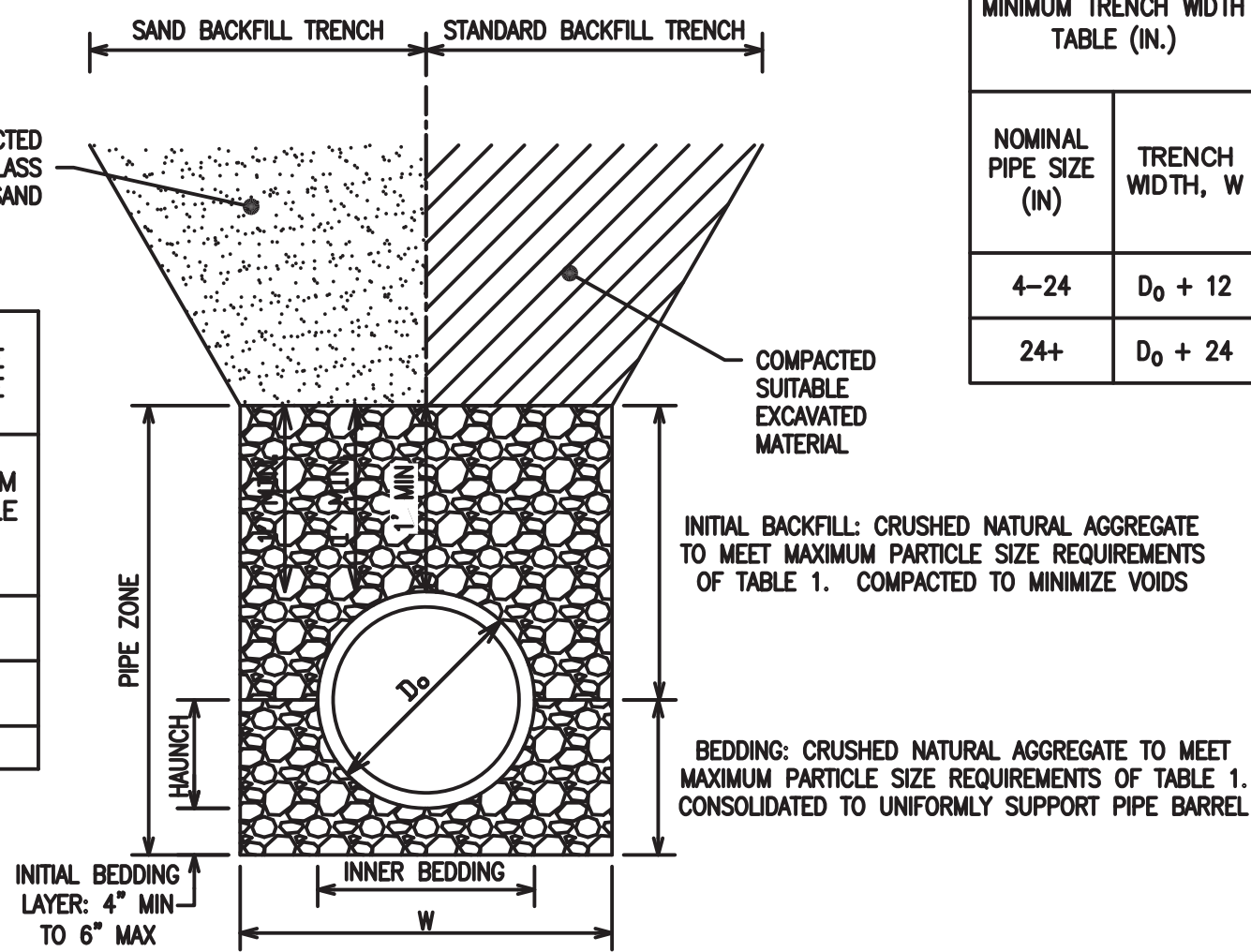
ACCESS PIT DETAIL

ACCESS PIT NOTES:

- ACCESS PIT WIDTH SHALL BE KEPT TO THE MINIMUM NECESSARY TO ALLOW CONSTRUCTION ACCESS.
- ACCESS PITS WITHIN PAVED AREAS SHALL INCLUDE BARRIER WALLS (TEMP. WATER FILLED OR CONCRETE) IN ADDITION TO THE CONSTRUCTION FENCING.
- BRACE AND/OR SUPPORT EXCAVATION AS NECESSARY TO CONTAIN EXCAVATION TO PLANNED DIMENSIONS.
- PROVIDE ANY NECESSARY DEWATERING TO MAINTAIN A DRY WORKING SPACE (INC.).
- BACKFILL ACCESS PIT WITH COMPACTED CLASS II SAND BACKFILL OR SUITABLE EXCAVATED MATERIAL IN ACCORDANCE WITH THE DETAIL ON SHEET 3 AND THE PROJECT SPECIFICATIONS.

TABLE 1

MAXIMUM PARTICLE SIZE VS. PIPE SIZE	
NOMINAL PIPE SIZE (IN)	MAXIMUM PARTICLE SIZE (IN)
6 TO 8	¾
10 TO 15	1
16+	1½



PLASTIC PIPE TRENCH DETAIL

NOTES:

- FLEXIBLE PIPES ARE CONSIDERED PIPES THAT WHEN INSTALLED UNDERGROUND ARE DESIGNED TO DEFLECT UNDER LOAD AND INCLUDE: POLYVINYL CHLORIDE (PVC), AND HIGH DENSITY POLYETHYLENE (HDPE) PIPES.
- DO NOT COMPACT INNER BEDDING OF INITIAL BEDDING LAYER.
- CAREFULLY EXCAVATE BELL OR COUPLING HOLES FROM THE INITIAL BEDDING LAYER.
- SHOVEL SLICE BEDDING MATERIAL IN THE HAUNCH AREA ALONG THE BOTTOM CIRCUMFERENCE OF THE PIPE TO CONSOLIDATE BEDDING AND UNIFORMLY SUPPORT THE PIPE BARREL.
- COMPACT INITIAL BACKFILL MATERIALS IN LIFTS NOT EXCEEDING 6 INCHES BY HAND TAMPING AROUND AND DIRECTLY ABOVE PIPE TO MINIMIZE VOIDS.
- DO NOT USE MECHANICAL COMPACTION EQUIPMENT DURING INITIAL BACKFILL OPERATIONS UNTIL MATERIAL HAS BEEN BROUGHT TO 12 INCHES ABOVE THE TOP OF PIPE BARREL.
- COMPACT SAND BACKFILL AND STANDARD BACKFILL TRENCHES OUTSIDE OF PIPE ZONE TO NOT LESS THAN 95% OF THE MAXIMUM UNIT WEIGHT IN LIFTS NOT EXCEEDING 12 INCHES.
- FOR MINIMUM TRENCH WIDTHS, REFER TO TABLE 2. MAXIMUM TRENCH WIDTH SHOULD NOT EXCEED THE MINIMUM TRENCH WIDTH BY MORE THAN 18 INCHES.
- IF THE PIPE IS LOCATED BENEATH THE GROUND WATER TABLE, THE PIPE ZONE SHALL BE WRAPPED IN A GEOTEXTILE SEPARATOR TO MINIMIZE MIGRATION OF SOIL INTO THE PIPE ZONE.

HDPE WATERMAIN NOTES

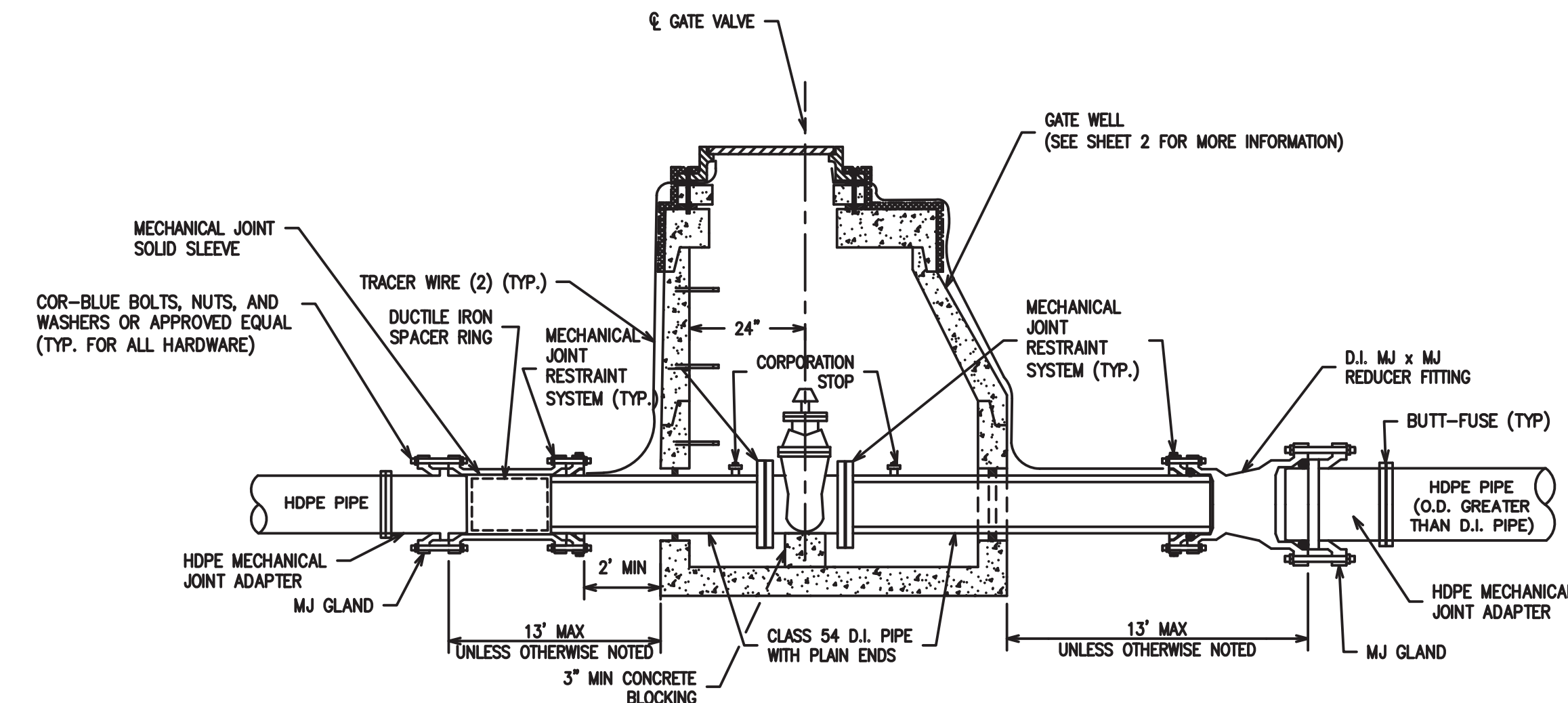
- HDPE WATERMAIN SHALL BE D.I.P.S. SDR 11 MANUFACTURED FROM A PE 4710 RESIN. HDPE PIPE SHALL BE MARKED WITH A PERMANENTLY CO-EXTRUDED BLUE STRIPE.
- HDPE FITTINGS SHALL BE MANUFACTURED FROM A PE 4710 RESIN AND SHALL HAVE A PRESSURE RATING GREATER THAN OR EQUAL TO THE PRODUCT PIPE.
- ALL FITTINGS TO COME FROM SAME MANUFACTURER UNLESS OTHERWISE APPROVED BY ENGINEER
- HDPE WATER SERVICES SHALL BE SDR 9. HDPE WATER SERVICE SHALL NOT BE USED UNLESS IT IS CONFIRMED THAT THE BUILDING OR PREMISES THAT IS TO BE SERVICED HAS AN UPDATED ELECTRICAL SYSTEM THAT IS NOT GROUNDED TO THE INTERNAL PLUMBING.
- ALL HDPE PIPING SHALL BE INSTALLED WITH TWO (2) TRACER/LOCATOR WIRES INSULATED WITH HIGH MOLECULAR WEIGHT POLYETHYLENE (HMWPE) SPECIFICALLY FOR USE IN DIRECT BURIAL APPLICATIONS.
- TRACER WIRES SHALL BE ATTACHED TO THE WATERMAIN PIPE AT FIVE FOOT INTERVALS OR AS APPROVED BY THE ENGINEER. ATTACHMENT TO PIPE SHALL BE MADE WITH PLASTIC CABLE TIES OR EQUIVALENT. THE USE OF TAPE IS NOT APPROVED. TRACER WIRES SHALL BE CHECKED FOR CONTINUITY PRIOR TO PLACING THE WATERMAIN INTO SERVICE.
- HDPE JOINING SHALL BE COMPLETED USING BUTT FUSION.
 - FUSION TECHNICIAN MUST BE CERTIFIED IN ACCORDANCE WITH ASTM F3190 FOR THE USE OF HEAT FUSION EQUIPMENT AND THE STANDARD PRACTICE FOR HEAT FUSION JOINING OF HDPE PIPE AND FITTING IN ACCORDANCE WITH ASTM F2620.
- THE USE OF ELECTRO FUSION IS ALLOWABLE ONLY UPON APPROVAL BY THE LOCAL MUNICIPALITY.
 - FUSION TECHNICIANS MUST BE CERTIFIED IN ELECTRO FUSION JOINING BY THE PRODUCT MANUFACTURER.
 - FUSION TECHNICIANS ARE REQUIRED TO FOLLOW GENERIC ELECTROFUSION PROCEDURE FOR FIELD JOINING OF POLYETHYLENE PIPE AS PUBLISHED BY THE PLASTIC PIPE INSTITUTE MUNICIPAL ADVISORY BOARD AND ASTM F1055.
 - ELECTROFUSION EQUIPMENT SHALL BE CALIBRATED AND CERTIFIED PER THE PIPE MANUFACTURER'S REQUIREMENTS.
- HDPE PIPE TRANSITIONS TO DUCTILE IRON PIPE SHALL BE PERFORMED USING BUTT FUSED MECHANICAL JOINT ADAPTERS.
- THE USE OF MECHANICAL JOINT RESTRAINT SYSTEMS ON HDPE PIPE IS PROHIBITED UNLESS APPROVED BY THE LOCAL MUNICIPALITY.
- HYDROSTATIC TESTING FOR HDPE PIPE SHALL BE COMPLETED IN ACCORDANCE WITH AWWA STANDARDS AND ASTM F2164. TESTING SHALL BE PERFORMED AFTER THE INITIAL EXPANSION PHASE AND AFTER THE SYSTEM HAS STABILIZED. THE SPECIFIC TARGET TEST PRESSURE IS 150 PSI OR 1.5 TIMES THE MAXIMUM ALLOWABLE OPERATING PRESSURE (MAOP) OF THE TEST SECTION, WHICH EACH IS GREATER. THE TEST METHOD IS GENERALLY SUMMARIZED AS FOLLOWS:
 - ZERO LEAKAGE ALLOWED.
 - THE AMBIENT AIR TEMPERATURE AND SURFACE TEMPERATURE OF THE PIPE MUST BE CONSIDERED AND ADJUSTMENT TO TEST PRESSURE MAY BE APPROPRIATE.
 - SLOWLY FILL THE TEST SECTION WITH WATER AND CAREFULLY AND COMPLETELY EXHAUST ALL OF THE AIR FROM THE TEST SECTION.
 - ALLOW TIME FOR TEST FLUID AND PIPE TEMPERATURE TO EQUALIZE.
 - ALLOW FOR INITIAL EXPANSION AS FULL TEST PRESSURE IS APPLIED. THE INITIAL EXPANSION PHASE IS FOUR HOURS.
 - REDUCE PRESSURE BY 10 PSI. OBSERVE TARGET TEST PRESSURE FOR ONE HOUR, AND IF THE PRESSURE REMAINS WITHIN 5% OF THE TARGET TEST PRESSURE, THEN A PASSING TEST IS INDICATED.
- IF LEAKS ARE DETECTED, DEPRESSURIZE MAIN AND REPAIR AS NEEDED. ALLOW THE TEST SECTION TO REMAIN DEPRESSURIZED FOR 8 HOURS BEFORE RETESTING.
- TESTING PER ASTM F2164 WILL BE REQUIRED WHEN GREATER THAN 25% OF THE TEST SECTION IS HDPE PIPE.

HDPE WATER MAIN STANDARD DETAILS

REVISION BLOCK		Date: 01/10/10	
Rev.	Rev.	Rev.	Rev.
1	2010/10/10	2010/10/10	2010/10/10
2	2010/10/10	2010/10/10	2010/10/10
3	2010/10/10	2010/10/10	2010/10/10
4	2010/10/10	2010/10/10	2010/10/10
ORIG. DATE: 01/10/10		SCALE: NONE	
DESIGNED BY: OCDC		WATER RESOURCES COMMISSIONER	
DRAWN BY: OCDC Mapping		SHEET NO.:	

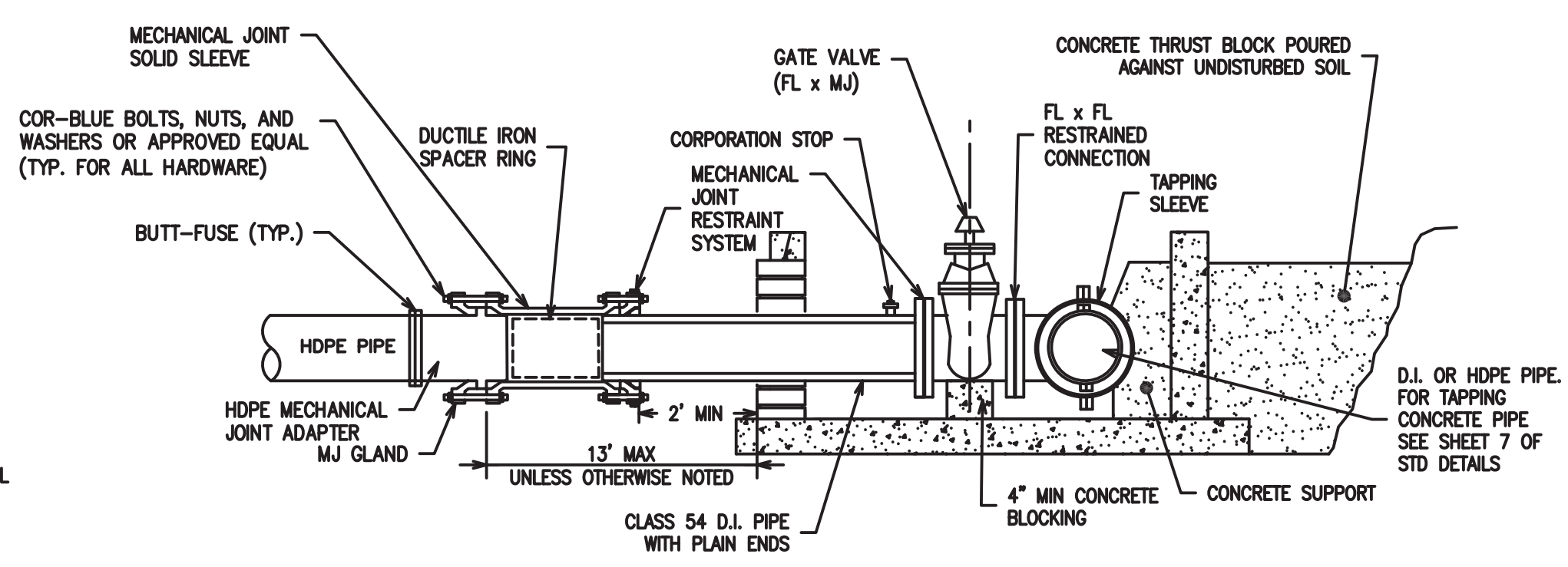


ONE PUBLIC WORKS DRIVE, BLDG 95 WES
WATERFORD, MICHIGAN
48328-1907



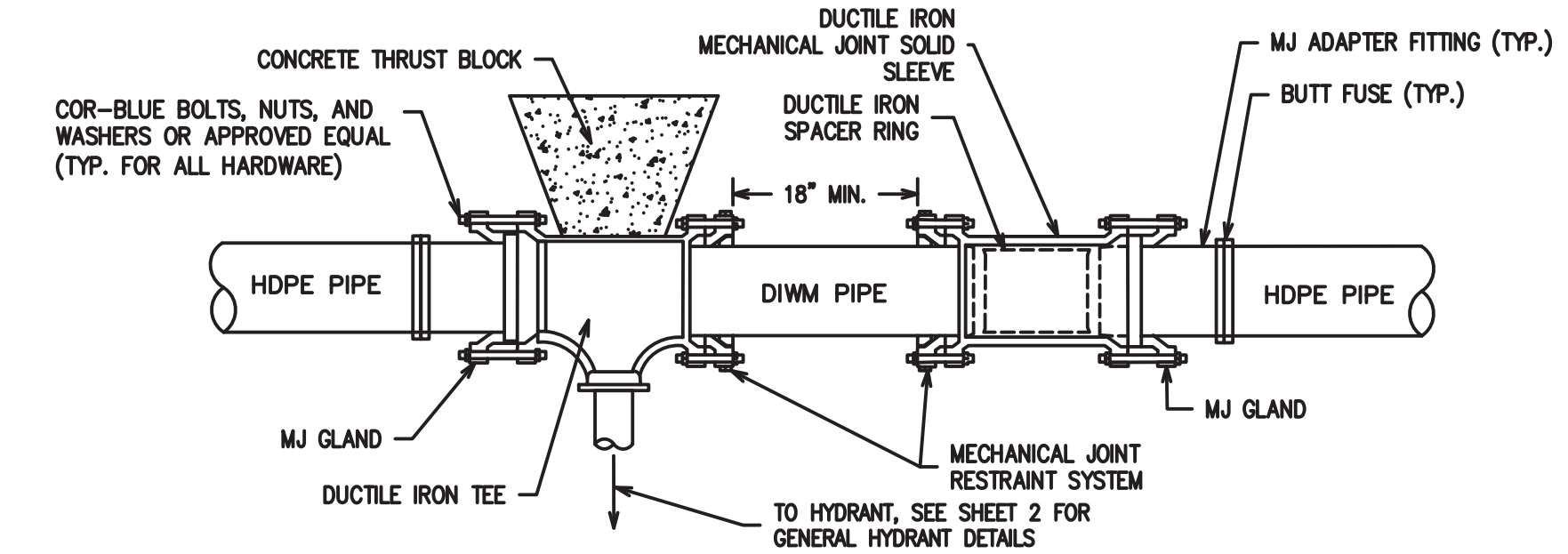
TYPICAL HDPE CONNECTION TO GATE VALVE

- NOTES:
- WHERE GATE VALVE IS IN LINE WITH THE HDPE WATER MAIN, INSTALL D.I. PIPE THROUGH GATE WELL MAKING CONNECTION TO HDPE PIPE OUTSIDE OF GATE WELL AS SHOWN.
 - TRACER WIRES SHALL BE INSTALLED ALONG THE OUTSIDE OF THE GATE WELL AND BENEATH THE FRAME AND COVER.

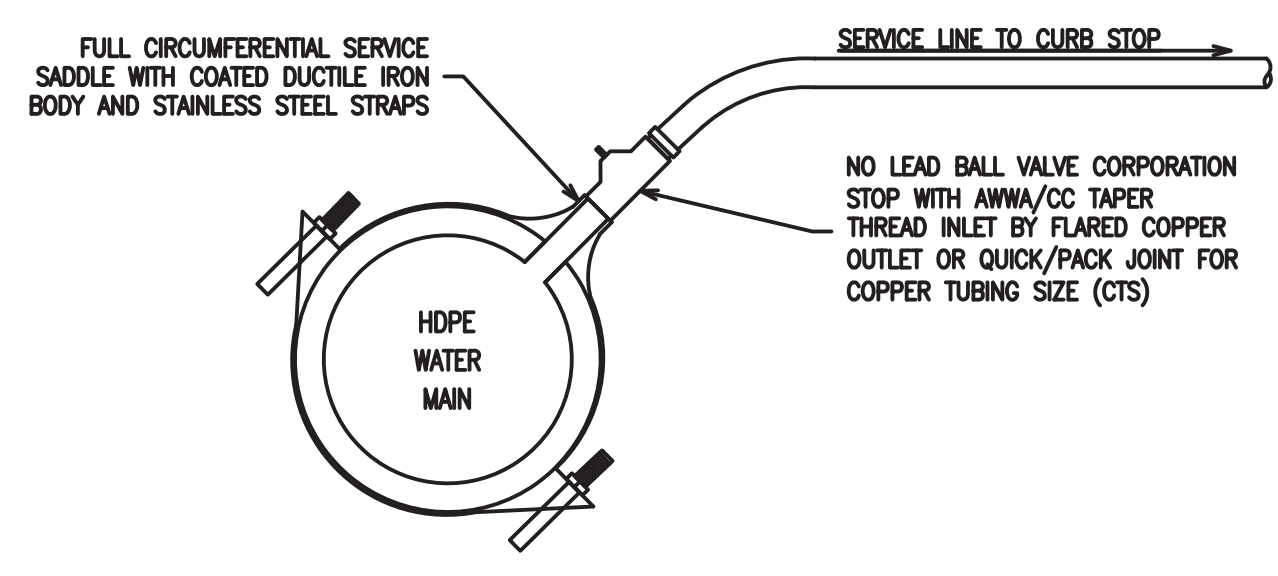


HDPE TAPPING SLEEVE, VALVE & WELL

- NOTES:
- SEE SHEET 2 OF THE WATER MAIN STANDARD DETAIL SHEETS FOR GENERAL TAPPING SLEEVE VALVE AND WELL DETAILS.
 - TAPPING SLEEVES FOR HDPE PIPE REQUIRE AN OUTLET SEAL GASKET AND SPRING WASHERS IN ADDITION TO THE REQUIREMENTS DETAILED IN SHEET 2 (JCM 452, ROMAC S5TH OR APPROVE EQUAL).

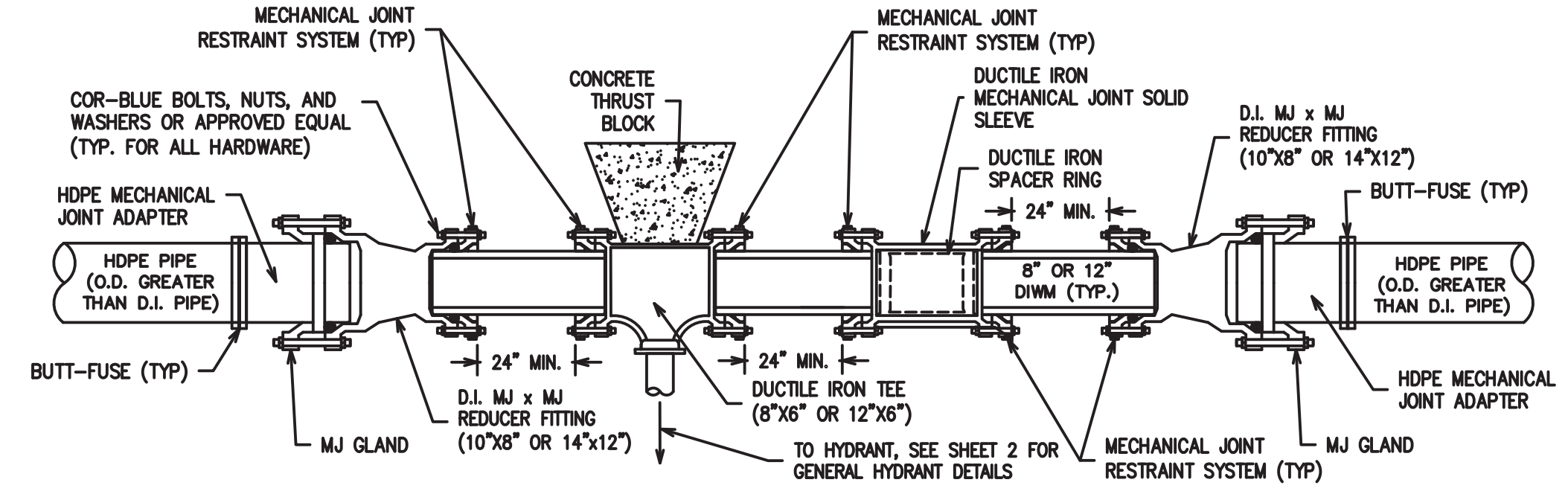


CUT-IN HYDRANT TEE DETAIL



SERVICE LINE CONNECTION TO HDPE PIPE

- NOTES:
- FLARED HDPE SERVICE LINES ARE PROHIBITED.




CUT-IN HYDRANT TEE DETAIL WITH 14" OR 10" HDPE

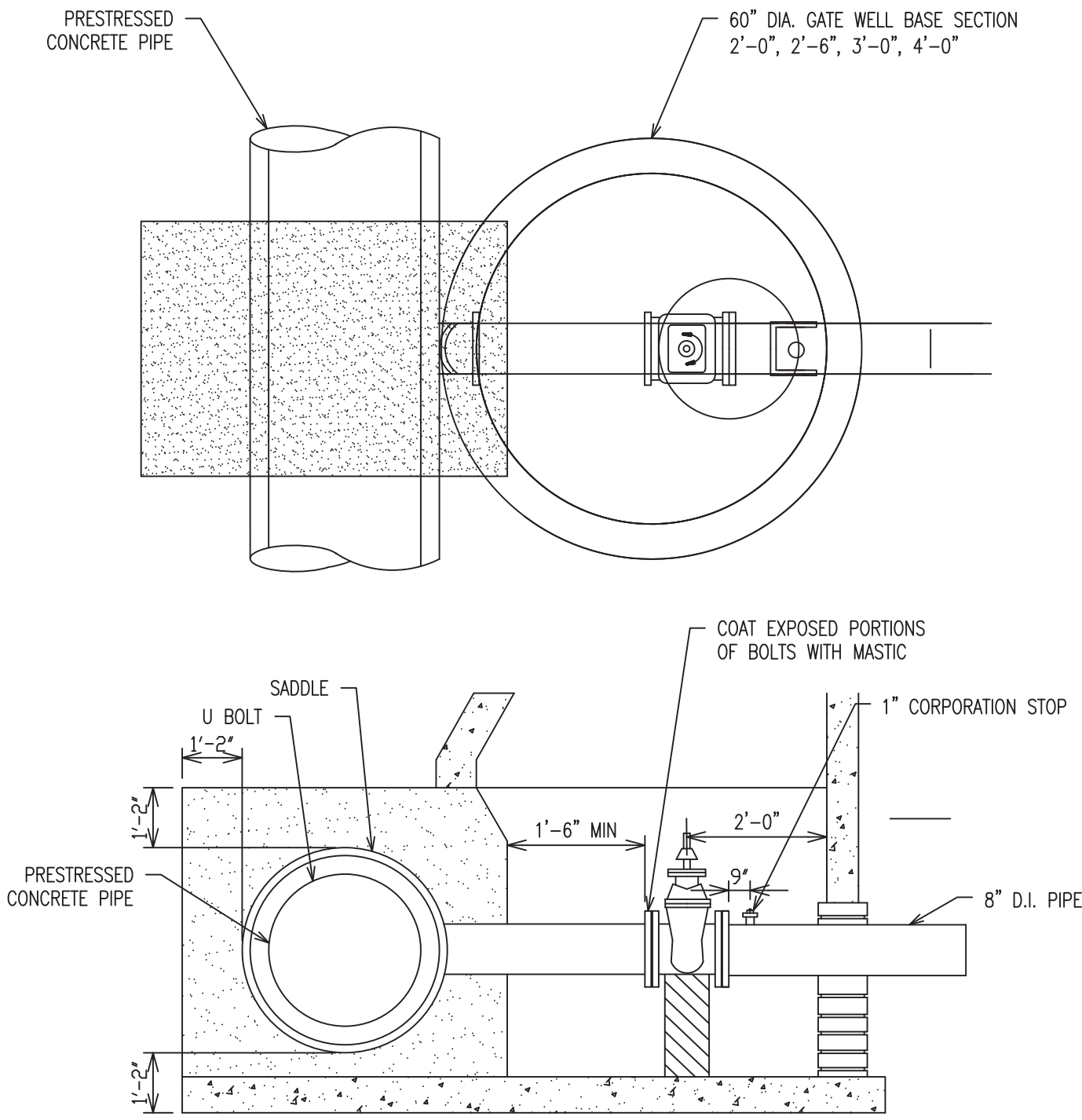
WATER MAIN

HIGH DENSITY POLYETHYLENE PIPE (HDPE) DETAILS

REVISION BLOCK			
Rev.	Rev.	Rev.	Description
No.	By	Date	
1	WRC	03/18/18	MARKUPS PER G. APPEL
2	WRC	08/31/20	GENERAL UPDATE
3			
4			

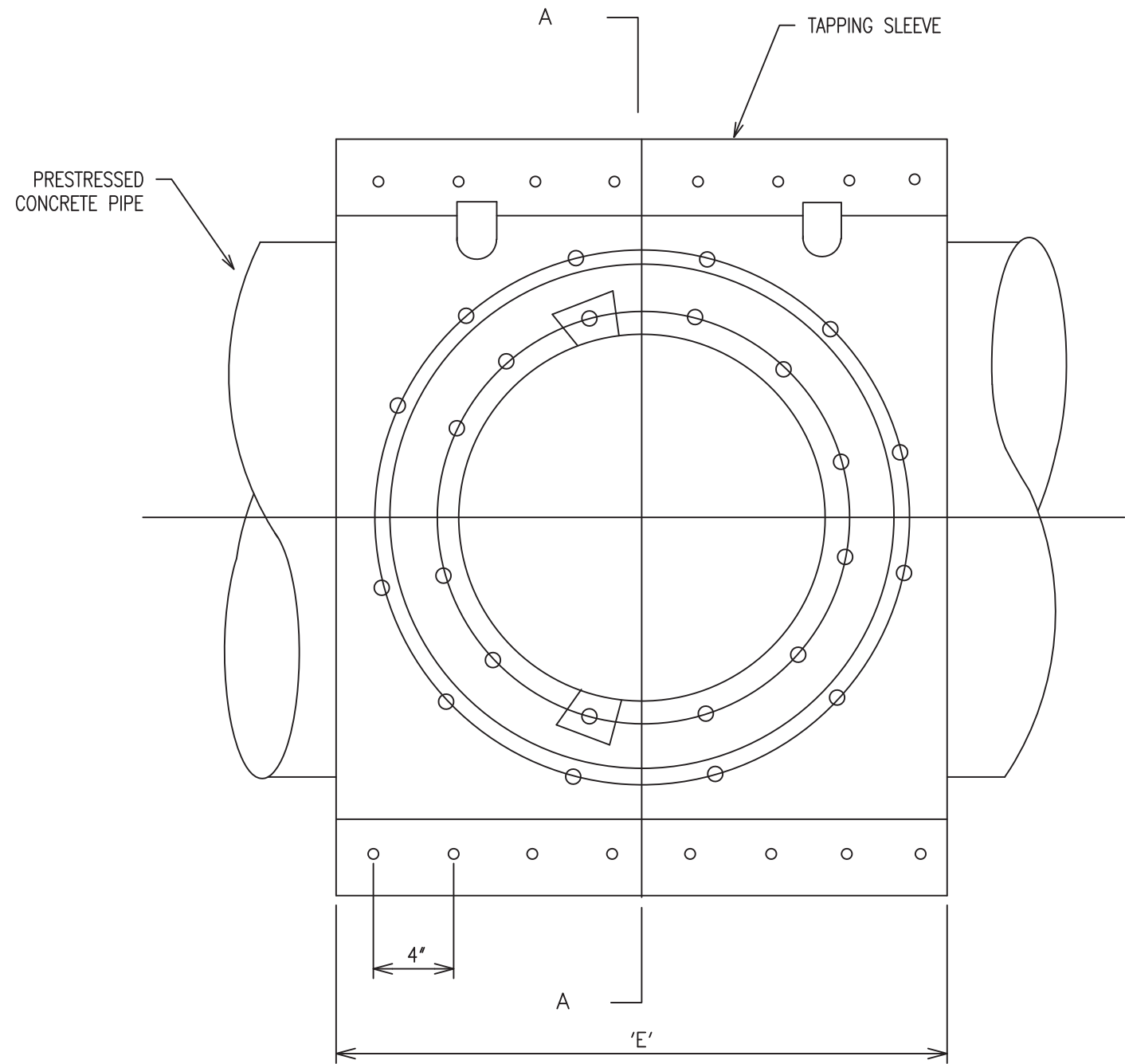
ORIG. DATE:	01/01/01		ONE PUBLIC WORKS DRIVE, BLDG 95 WEST WATERFORD, MICHIGAN 48328-1807
SCALE:	NONE		
DESIGNED BY:	OCDC		
DRAWN BY:	OCDC Mapping		

SHEET NO.: 6 of 7	
-------------------	--

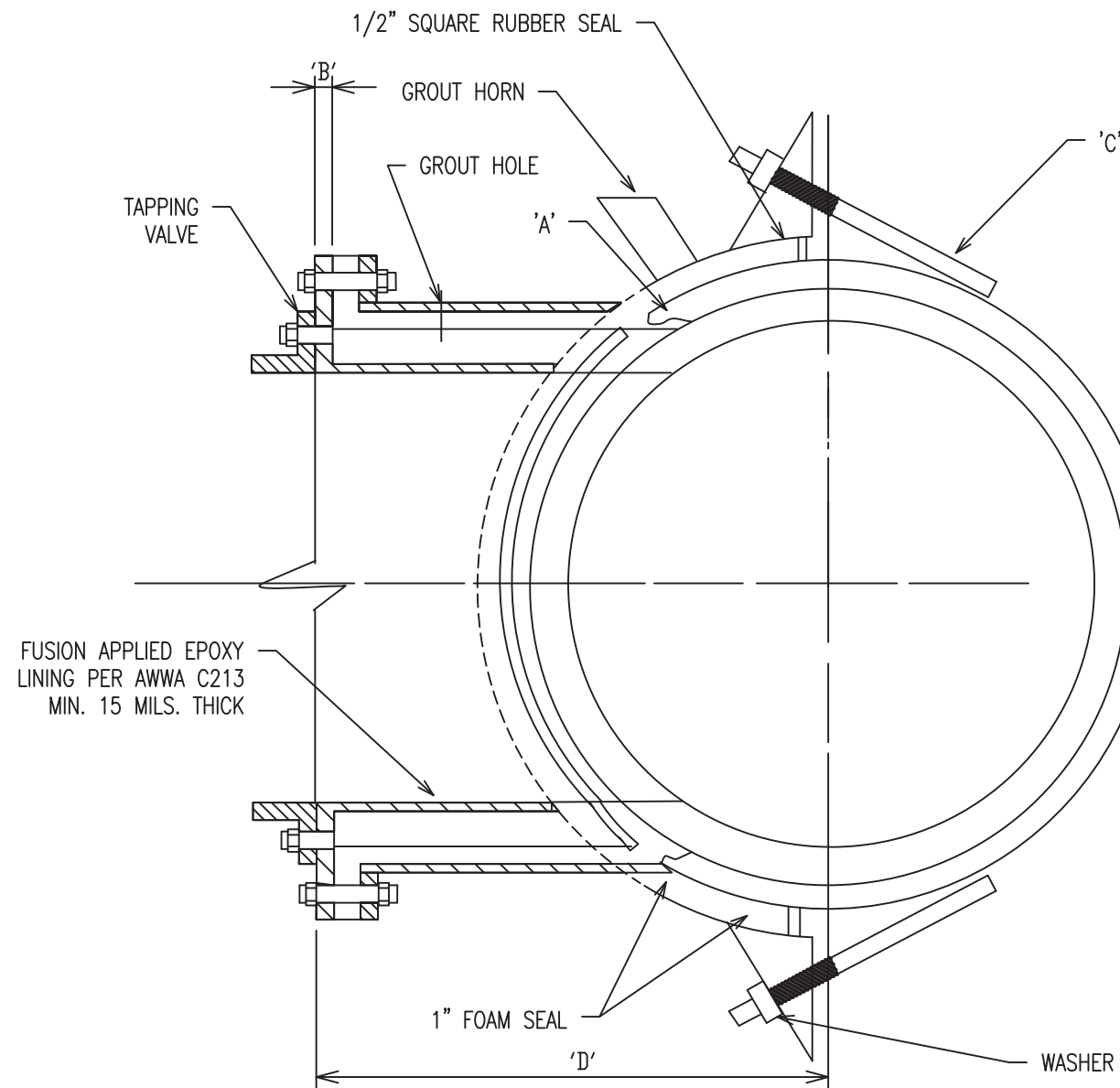


20"x 8" CONCRETE PRESURE TAP VALVE
& WELL ASSEMBLY W/ CONCRETE ENCASEMENT

- NOTES:
- 1) THESE DIMENSIONS ARE FOR REFERENCE ONLY.
 - 2) ENTIRE SADDLE, INCLUDING STRAPS, TO BE ENCASED IN PORTLAND CEMENT MORTAR OR CONCRETE TO PROVIDE AT LEAST ONE (1) INCH OF THICKNESS OVER EXTERNAL STEEL SURFACES PRIOR TO BACKFILLING.
 - 3) TAP SADDLES ARE DESIGNED FOR 150 PSI OPERATING PRESSURE.
 - 4) FLANGE DRILLED AND TAPPED IN ACCORDANCE WITH AWWA C207 CLASS D, CENTERING RING CONFORMS TO MSS- SP 60.
 - 5) GROUT SHALL SET A MINIMUM OF TWENTY-FOUR (24) HOURS PRIOR TO PRESSURE TESTING.



PLAN VIEW



SECTION A-A

PIPE SIZE X TAP SIZE	A	B	C	D	E
16" X 4"	1/4"	7/8"	6	14-1/16 "	24"
16" X 6"	1/4"	1-1/8"	6	14-5/16 "	24"
16" X 8"	1/4"	1-1/8"	6	14-5/16 "	24"
16" X 10"	1/4"	1-3/8"	7	14-9/16 "	28"
16" X 12"	1/4"	1-3/8"	8	14-9/16 "	32"
18" X 4"	1/4"	7/8"	6	15-3/8 "	24"
18" X 6"	1/4"	1-1/8"	6	15-5/8 "	24"
18" X 8"	1/4"	1-1/8"	6	15-5/8 "	24"
18" X 10"	1/4"	1-3/8"	7	15-7/8 "	28"
18" X 12"	1/4"	1-3/8"	8	15-7/8 "	32"
20" X 4"	1/4"	7/8"	6	16-1/2 "	24"
20" X 6"	1/4"	1-1/8"	6	16-1/2 "	24"
20" X 8"	1/4"	1-1/8"	6	16-1/2 "	24"
20" X 10"	1/4"	1-3/8"	7	17"	28"
20" X 12"	1/4"	1-3/8"	8	17"	32"
24" X 4"	1/4"	7/8"	6	18-3/4"	24"
24" X 6"	1/4"	1-1/8"	6	19"	24"
24" X 8"	1/4"	1-1/8"	6	19"	24"
24" X 10"	1/4"	1-3/8"	7	19-1/4"	28"
24" X 12"	1/4"	1-3/8"	8	19-1/4"	32"
30" X 4"	1/4"	7/8"	6	22-1/8"	24"
30" X 6"	1/4"	1-1/8"	6	22-3/8"	24"
30" X 8"	1/4"	1-1/8"	6	22-3/8"	24"
30" X 10"	1/4"	1-3/8"	7	22-5/8"	28"
30" X 12"	1/4"	1-3/8"	8	22-5/8"	32"
36" X 4"	1/4"	7/8"	6	25-1/2 "	24"
36" X 6"	1/4"	1-1/8"	6	25-3/4 "	24"
36" X 8"	1/4"	1-1/8"	7	25-3/4 "	28"
36" X 10"	1/4"	1-3/8"	8	26"	32"
36" X 12"	1/4"	1-3/8"	9	26"	36"
42" X 4"	1/4"	7/8"	6	28-7/8"	24"
42" X 6"	1/4"	1-1/8"	7	29-1/8"	28"
42" X 8"	1/4"	1-1/8"	8	29-1/8"	32"
42" X 10"	3/8"	1-3/8"	9	29-3/8"	36"
42" X 12"	3/8"	1-3/8"	10	29-3/8"	40"
48" X 4"	3/8"	7/8"	7	32-1/4"	28"
48" X 6"	3/8"	1-1/8"	7	32-1/2"	28"
48" X 8"	3/8"	1-1/8"	7	32-1/2"	28"
48" X 10"	3/8"	1-3/8"	7	32-3/4"	28"
48" X 12"	3/8"	1-3/8"	9	32-3/4"	36"

CONCRETE TAPPING SLEEVE DETAILS

WATER MAIN

CONCRETE WATER MAIN DETAILS

REVISION BLOCK

Rev.	By	Date	Description
1	WRC	03/18/18	MARKUPS PER G. APPEL
2	WRC	08/31/20	GENERAL UPDATE
3			
4			

ORIG. DATE:

01/01/01

SCALE:

NONE

DESIGNED BY:

OCDC

DRAWN BY:

OCDC Mapping

WRC

WATER RESOURCES COMMISSIONER

Jim Nash

ONE PUBLIC WORKS DRIVE, BLDG 95 WEST

WATERFORD, MICHIGAN

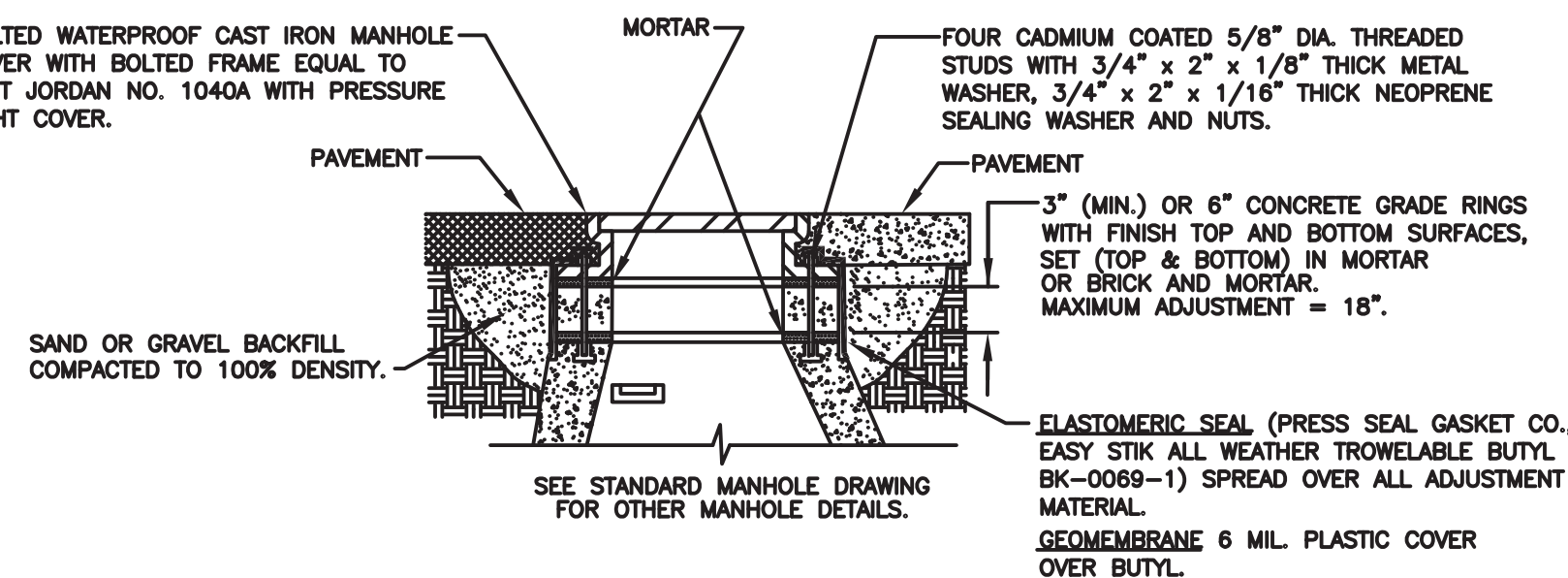
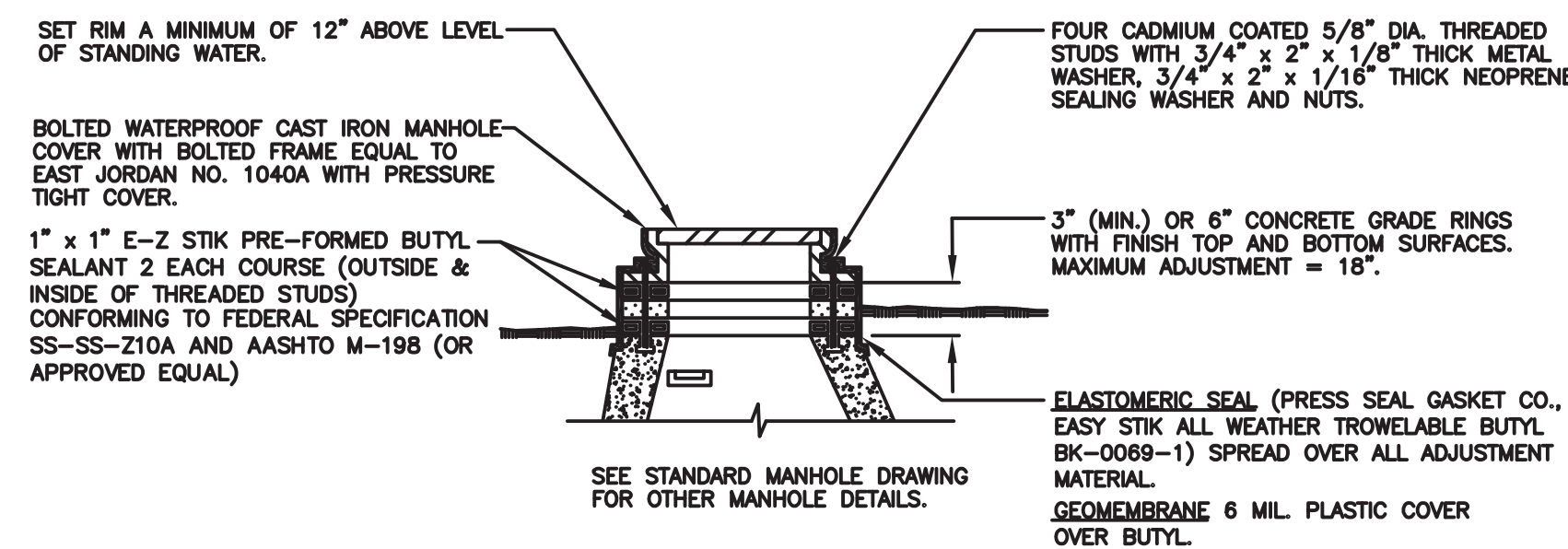
48328-1807

SHEET NO.:

7 OF 7

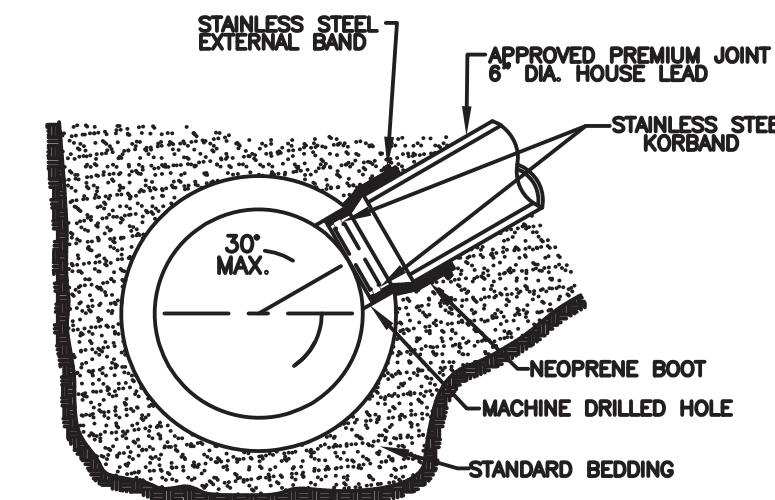
Packet Pg. 129

MANHOLE LOCATION	SET RIM ELEVATION
DITCH	12" ABOVE FINISH GRADE
FLOOD PLAIN	12" ABOVE STANDING WATER
GRAVEL ROAD / SHOULDER	6" BELOW FINISH GRADE
PAVEMENT / GREENBELT	FLUSH WITH FINISH GRADE

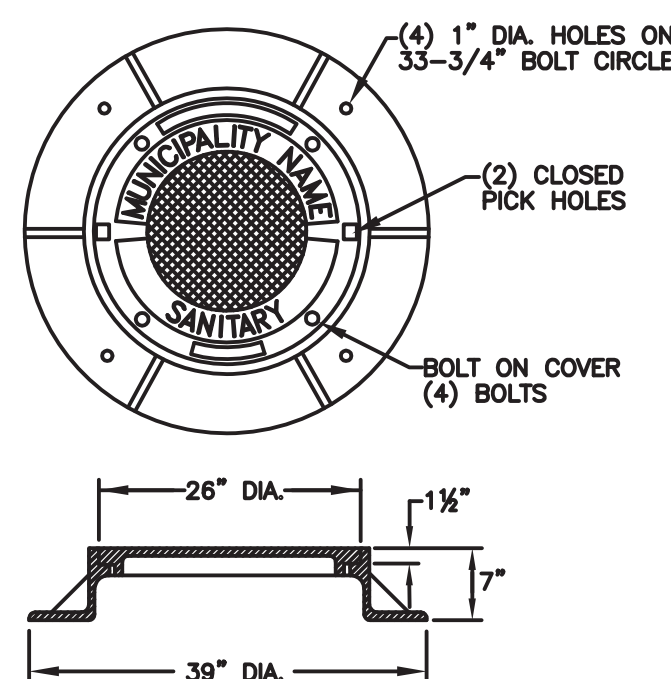


- WATER RESOURCES COMMISSIONER
GRAVITY BUILDING LEAD REQUIREMENTS AND DETAILS

1. ALL BUILDING LEAD WORK MUST BE PERFORMED UNDER WATER RESOURCES COMMISSIONER (WRC) AND/OR LOCAL UNIT OF GOVERNMENT INSPECTION.
2. FOR ALL WRC-OPERATED SYSTEMS, CALL 248-858-1110 24-HOURS IN ADVANCE OR WORK TO SCHEDULE INSPECTION.
3. NO SANITARY SEWER MAY BE USED AS A CLEANOUT OF DEWATERING OUTLET.
4. WHERE AN EXISTING BUILDING LEAD IS BEING EXTENDED, DISSIMILAR TYPES AND SIZES OF PIPE SHALL BE JOINED USING AN WRC APPROVED ADAPTER.
5. APPROVED BUILDING LEAD PIPE FOR GRAVITY SEWER LEADS:
 - A. ABS PLASTIC, ASTM D2731, SDR 23.5.
 - B. PVC PLASTIC, ASTM D3034, SDR 23.5 OR ASTM D2865, SCHEDULE 40.
 - C. DUCTILE IRON PIPE, AMERICAN WATER WORKS ASSOCIATION (AWWA) C-104/A21.4, CLASS 54, JOINTS SHALL BE SUPER BELT TIE, TYTON, TY-SEAL, MULTI-TIE, DUAL-TIE, OR VERI-TIE.
 - D. ANY DEVIATIONS FROM SPECIFIED ABOVE REQUIRE APPROVAL BY WRC.
6. ALLOWABLE TYPES OF SEWER PIPE ADAPTERS:
 - A. FERROU ADAPTER/REDUCER DONUTS.
 - B. FERROU FLEXIBLE COUPLING.
 - C. MISSION CLAY BAND-SEAL COUPLING.
 - D. SMITH-BLAIR STAINLESS STEEL REPAIR CLAMP.
 - E. HURON-CLINTON O-RING ADAPTER.
 - F. HAMILTON-KENT GEAR GRIP ADAPTER.
 - G. PLANT FABRICATED JOINT CONVERSION PIPE.

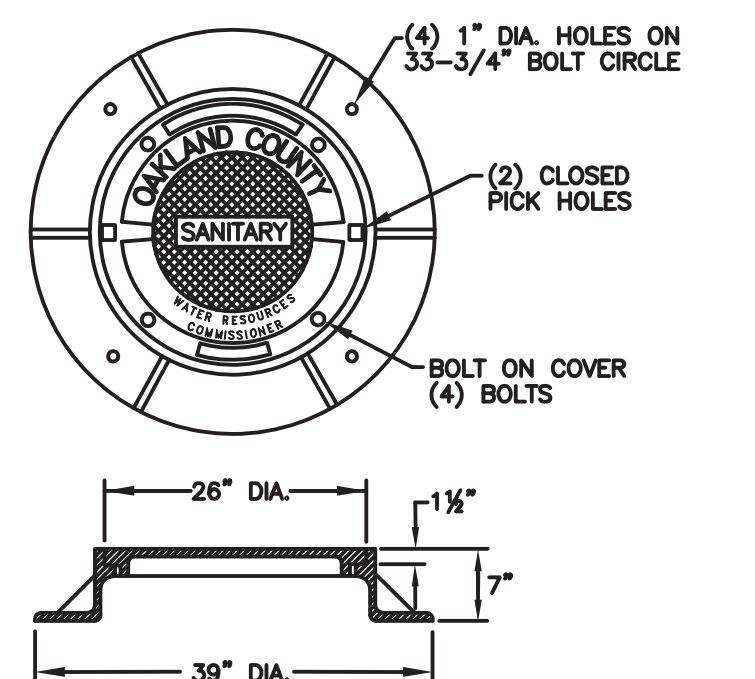


KOR-N-TEE TAP FOR CONCRETE PIPE



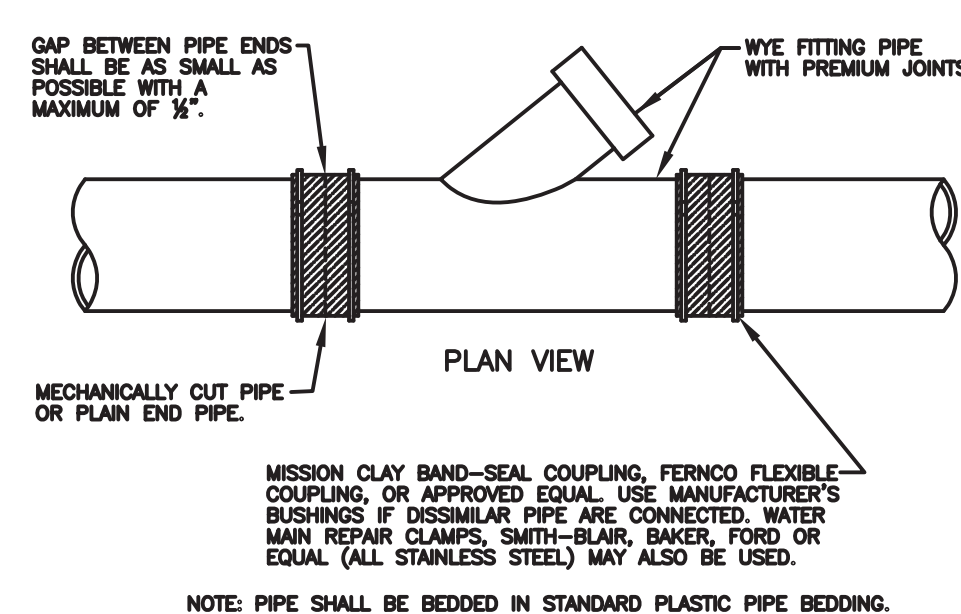
EAST JORDAN IRON WORKS
HEAVY DUTY MATERIAL ASTM A48 CL.35
COVER WT., 150 LBS., CATALOG NO. 1040A
PATTERN NO. 1040A, PRODUCT NO. 1040XX OAKCOSTD
2" RAISED LETTERS, 1" RAISED LETTERS
ALL RECESSED FLUSH.

LOCAL MUNICIPALITIES MANHOLE COVER

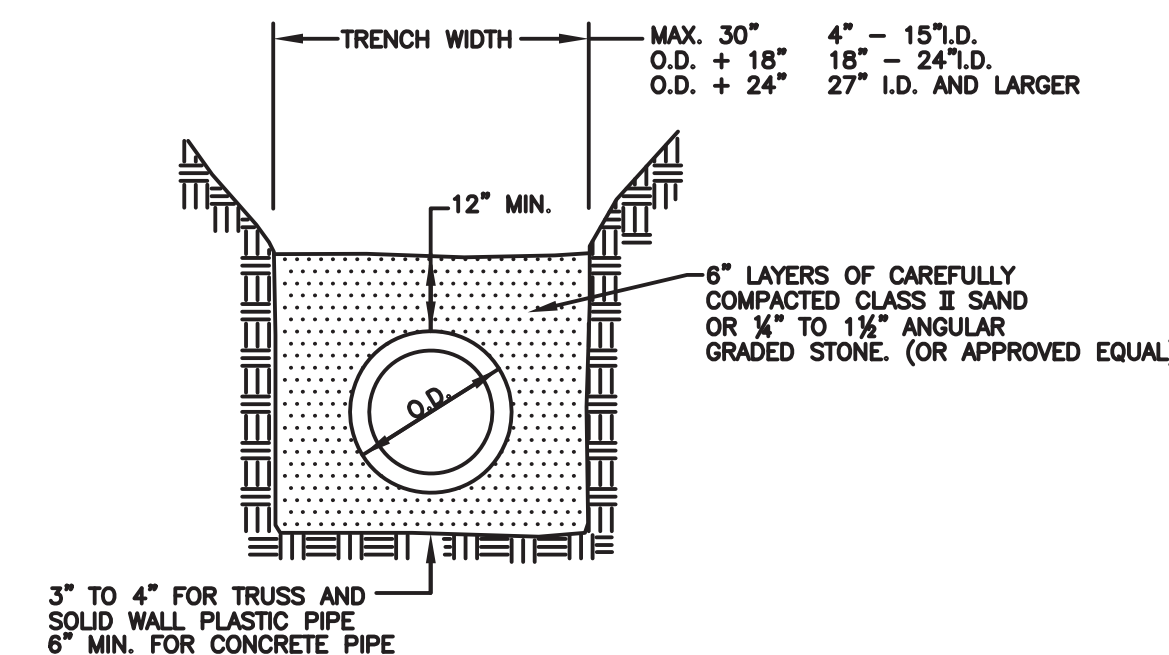


EAST JORDAN IRON WORKS
HEAVY DUTY MATERIAL ASTM A48 CL.35
COVER WT., 150 LBS., CATALOG NO. 1040APT
PATTERN NO. 1040A, PRODUCT NO. NCR09-1280 C
2" RAISED LETTERS, 1" RAISED LETTERS, 3/4" RAISED LETTERS
ALL RECESSED FLUSH.

W.R.C. LETTERED MANHOLE COVER

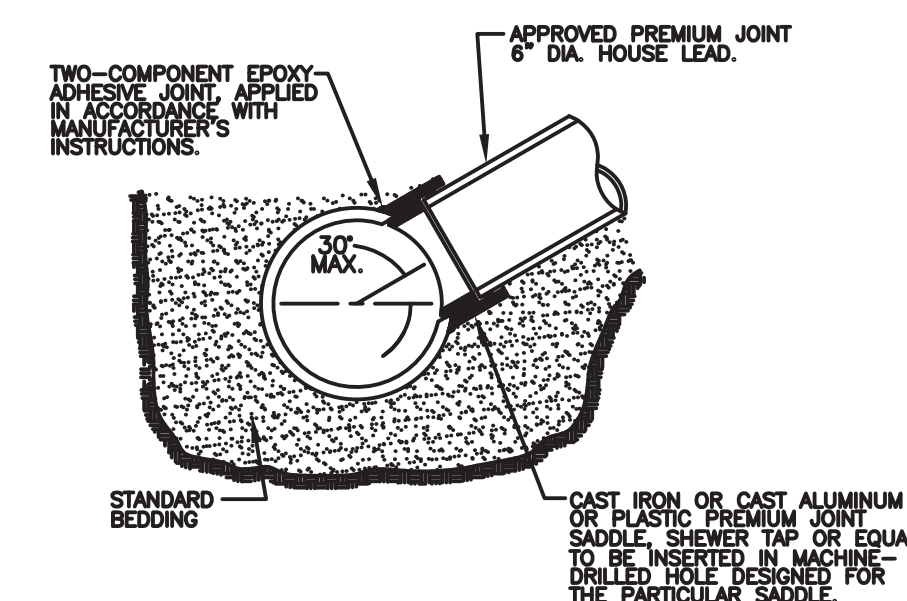


WYE PIPE INSERTION WITH FLEXIBLE COUPLINGS (RIGID PIPE)



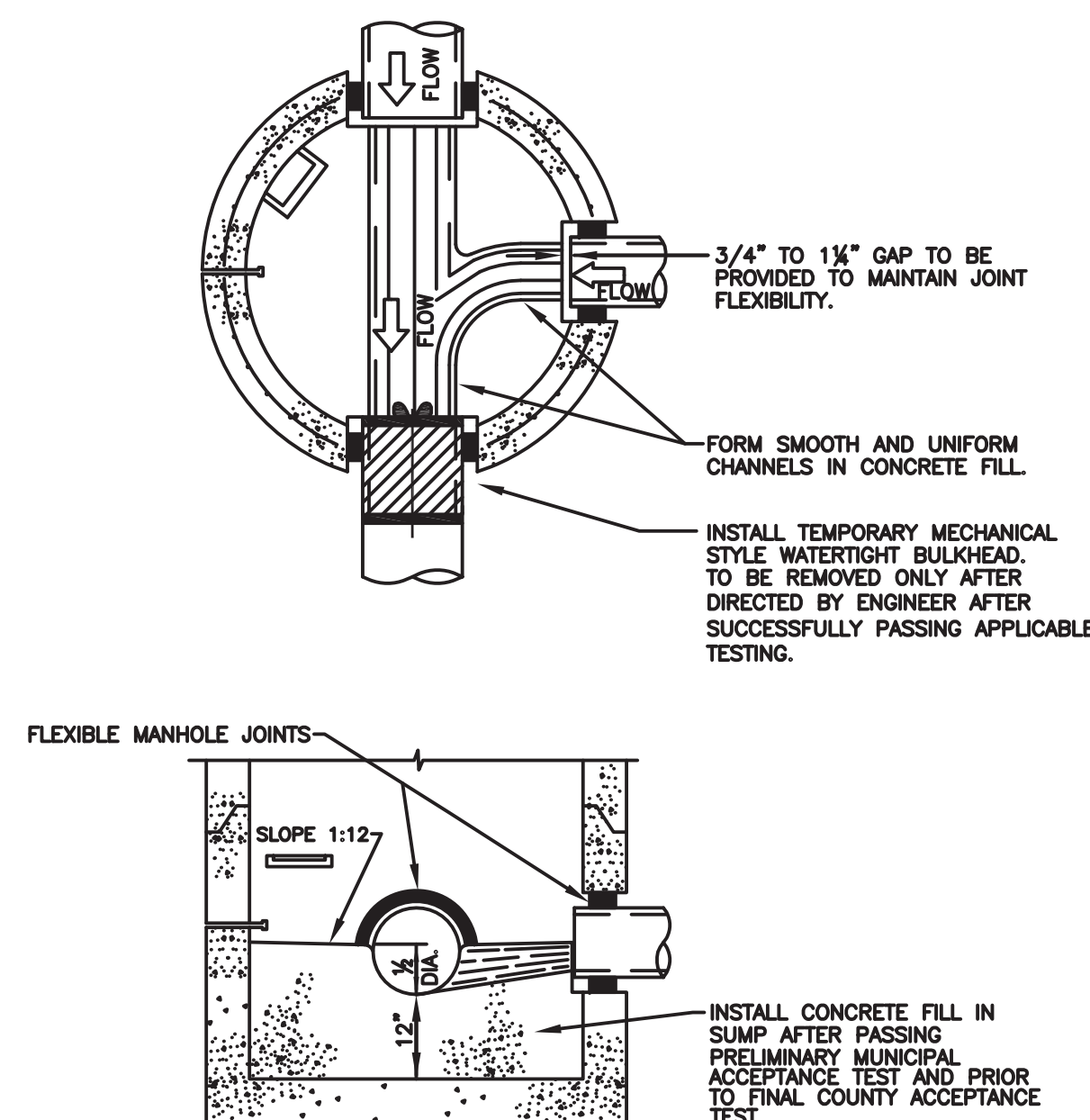
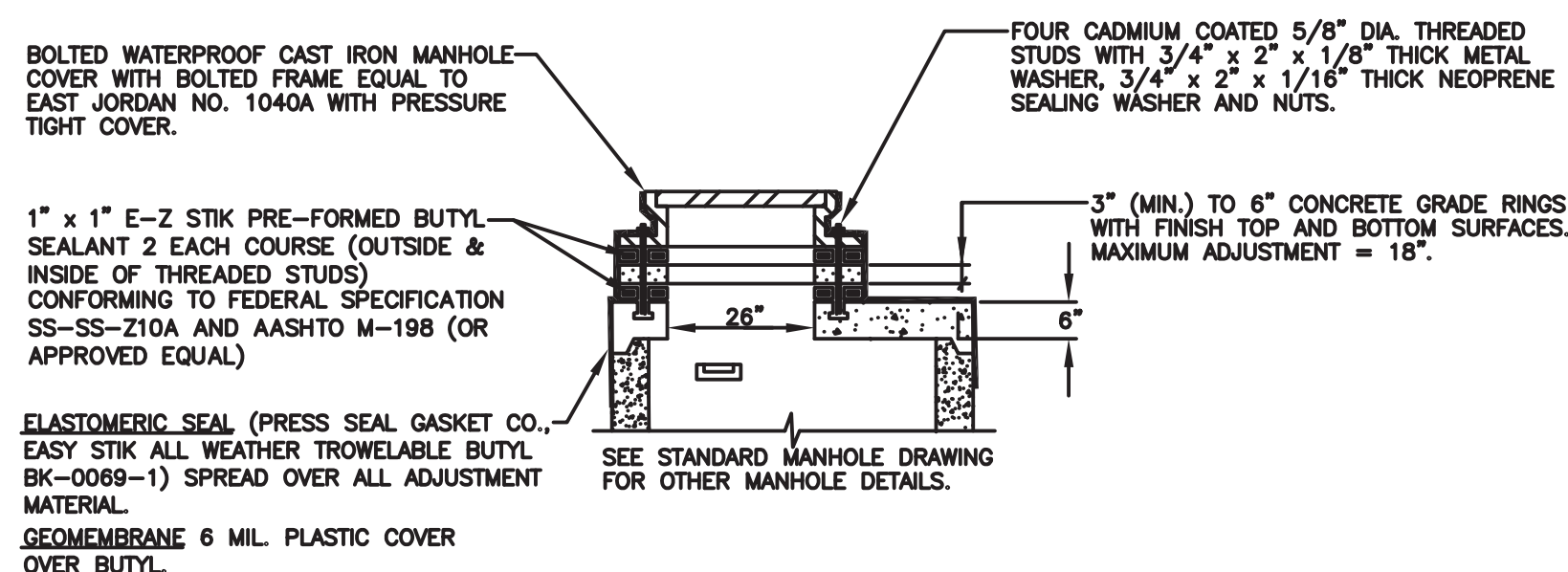
NOTE:
APPROVAL MAY BE GIVEN TO ALTERNATE
MATERIALS AND METHODS TO ACHIEVE
CLASS B BEDDING.

STANDARD BEDDING
(CLASS B)

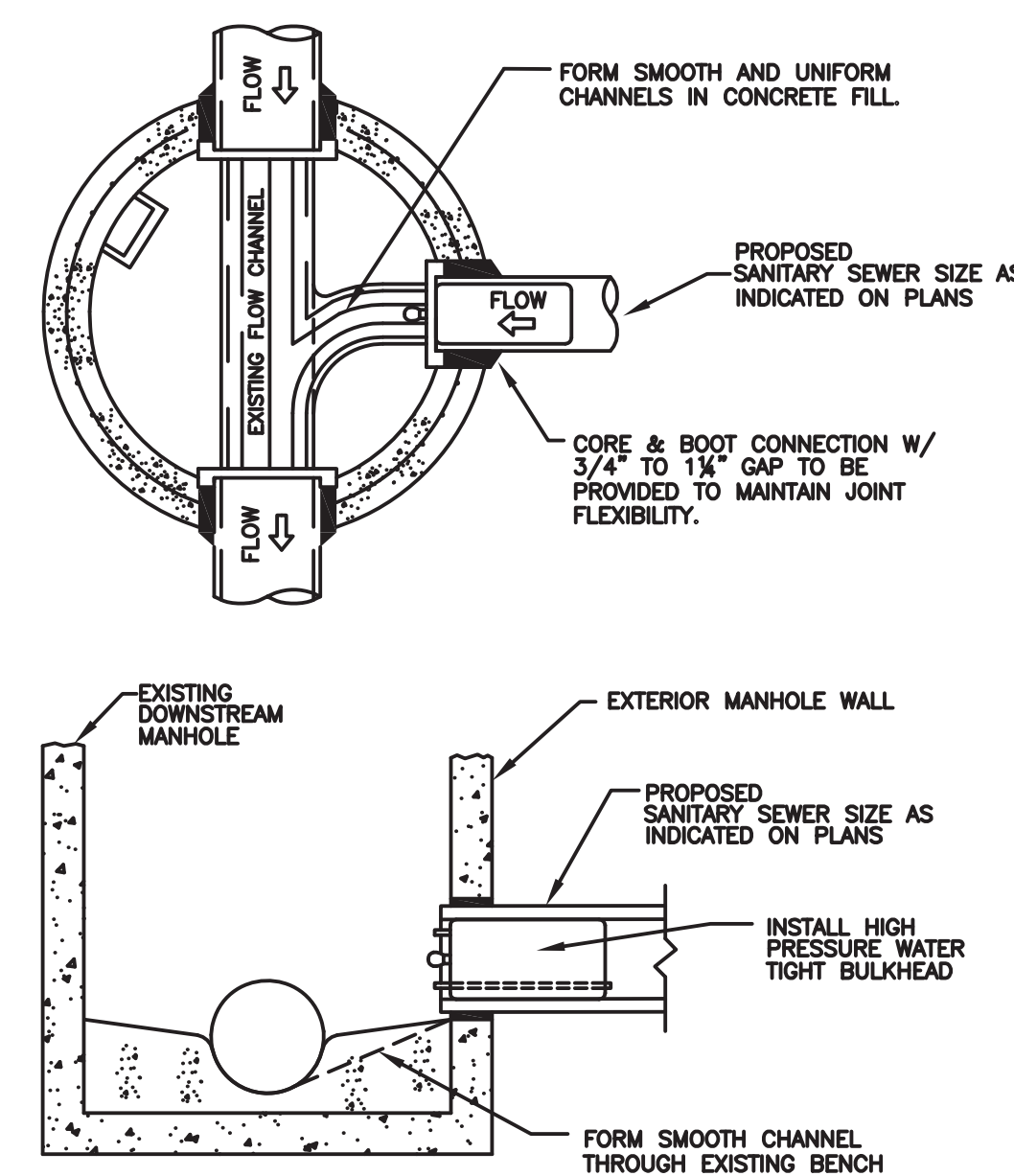


NOTE: SURFACE OF MAIN SEWER SHALL BE CLEANED WITH AN ABRASIVE GRINDER PRIOR TO EPOXY APPLICATION. DUE TO VARIATION OF SET-UP TIME OF EPOXY ADHESIVE WITH TEMPERATURE, ANCHOR STRAPS SHALL BE USED TO SECURE SADDLE IN POSITION IN COLD WEATHER OR WHENEVER WORK IS TO PROCEED PRIOR TO COMPLETE CURE OF EPOXY.

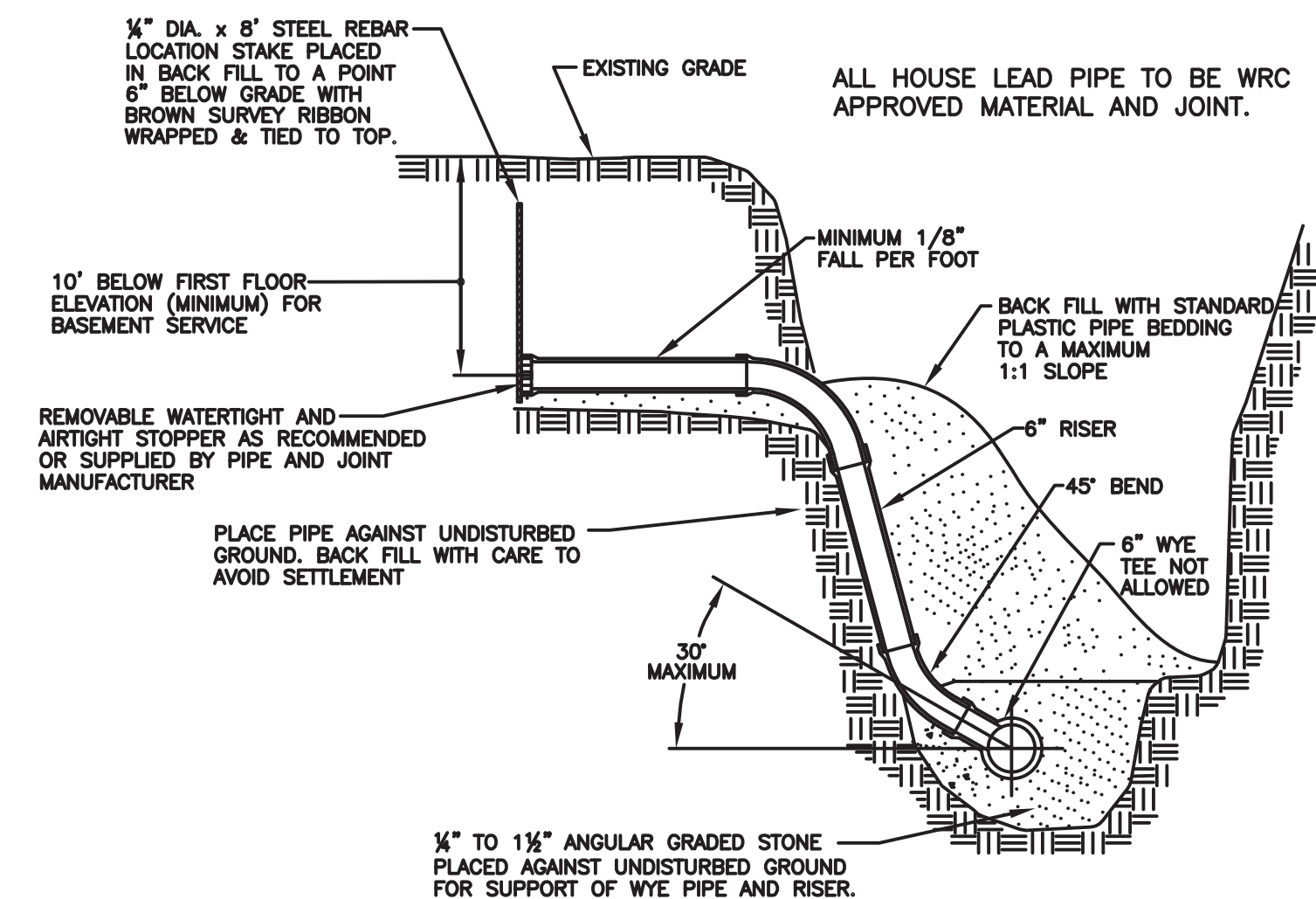
SEWER TAP-ALL SIZES OF MAIN SEWER PIPES VITRIFIED CLAY



SUMP MANHOLE FOR TESTING,
CLEANING AND DEWATERING




TESTING BULKHEAD WITH PIPE TAP

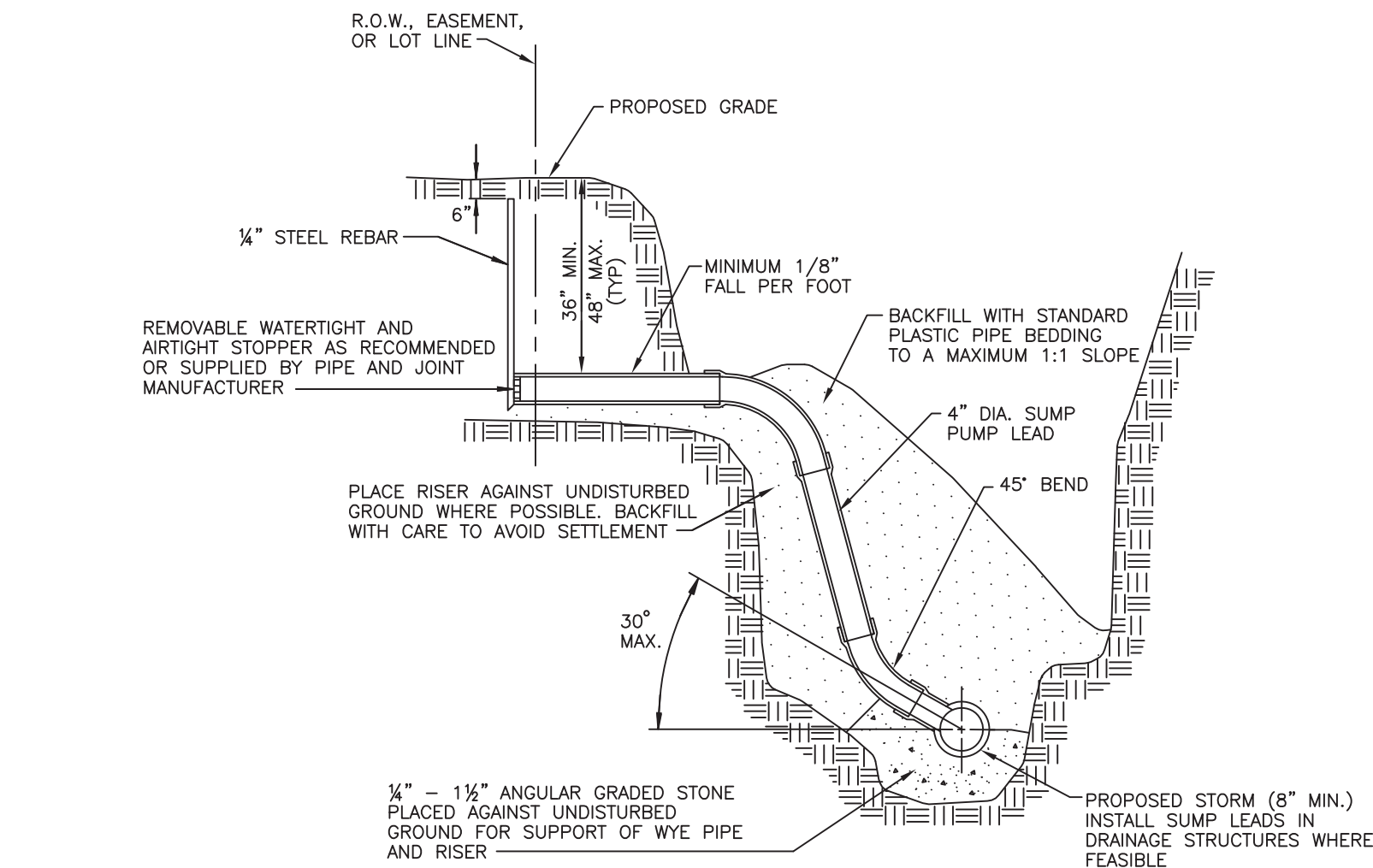


HOUSE LEAD DETAIL

REVISION BLOCK			
Parcel Base / Source Date: N/A			
Rev. No.:	Rev. By:	Rev. Date:	Description:
1	DS	06/28/06	ADDED TESTING BULKHEAD WITH PIPE TAP DETAIL
2	lr	05/28/09	MOVED DETAILS FROM SHEET 1 ONTO SHEET 2
3	lr	07/14/09	STANDARDS COMMITTEE APPROVAL FOR DETAIL CHANGES
4	DS	02/03/14	REPLACE/UPDATE OCDC WITH WRC FOR THE MANHOLE COVER DETAIL

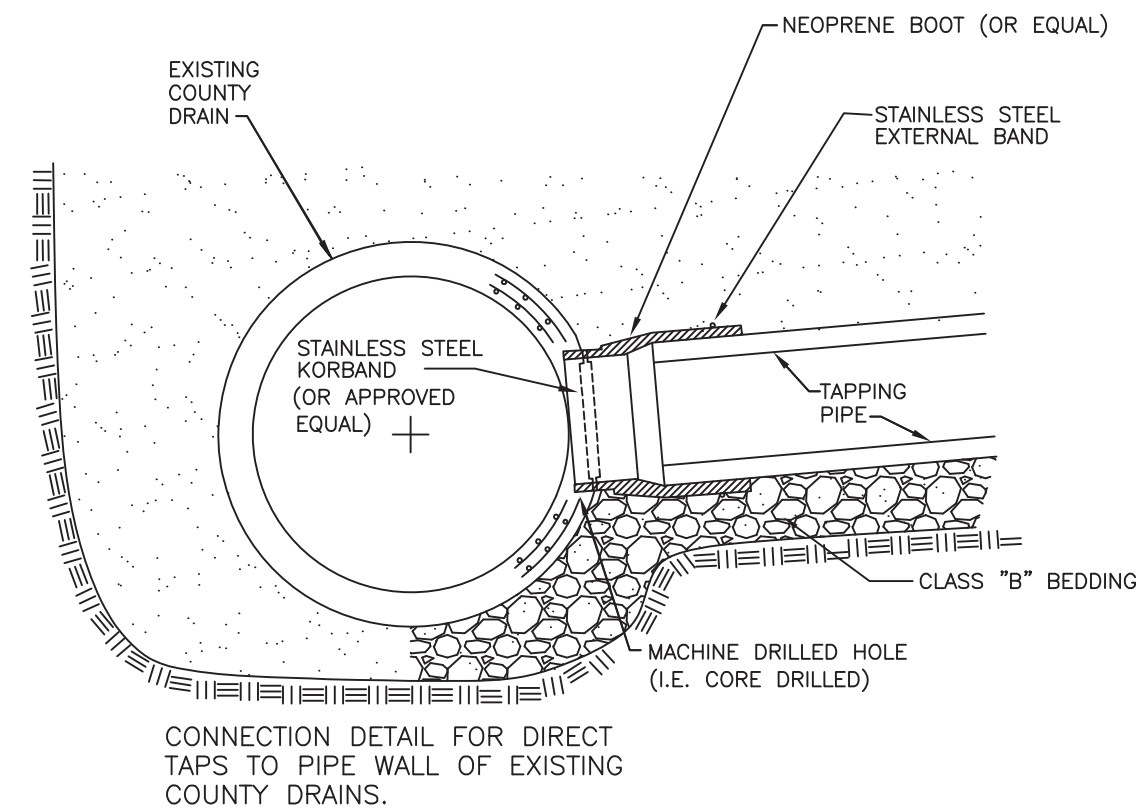
SANITARY SEWER DETAILS AND NOTES

ORIG. DATE:	05-09-03	 WATER RESOURCES COMMISSIONER <i>Jim Nash</i>	ONE PUBLIC WORKS DRIVE, BLDG 95 WEST WATERFORD, MICHIGAN 48328-1907
SCALE:	NO SCALE		SHEET NO.:
DESIGNED BY:	MWD		
DRAWN BY:	Mapping Staff		



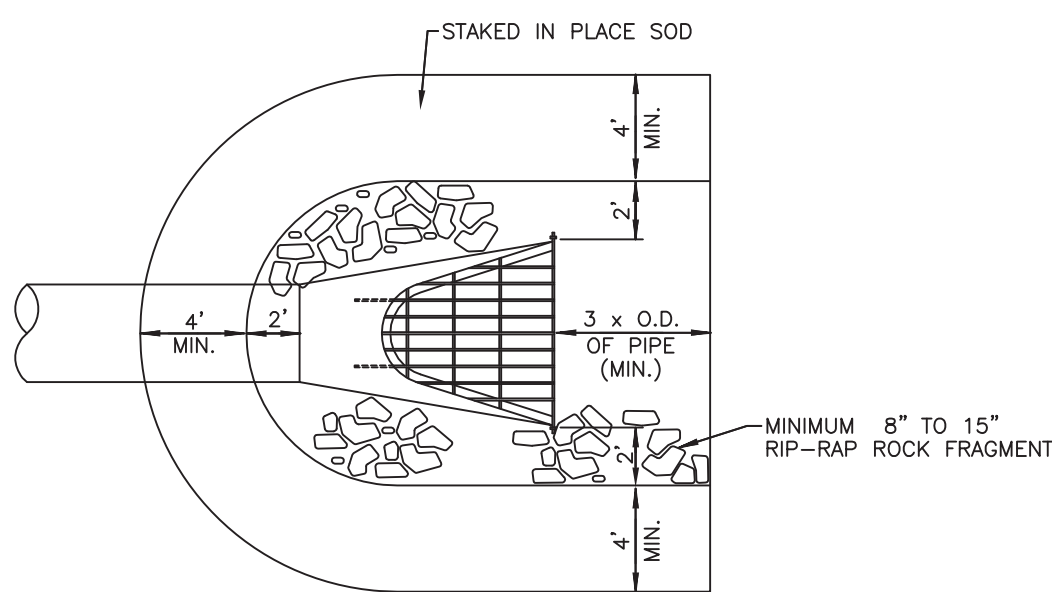
HOUSE LEAD DETAIL FOR 4" DIA. PLASTIC SUMP PUMP LEADS

NO SCALE

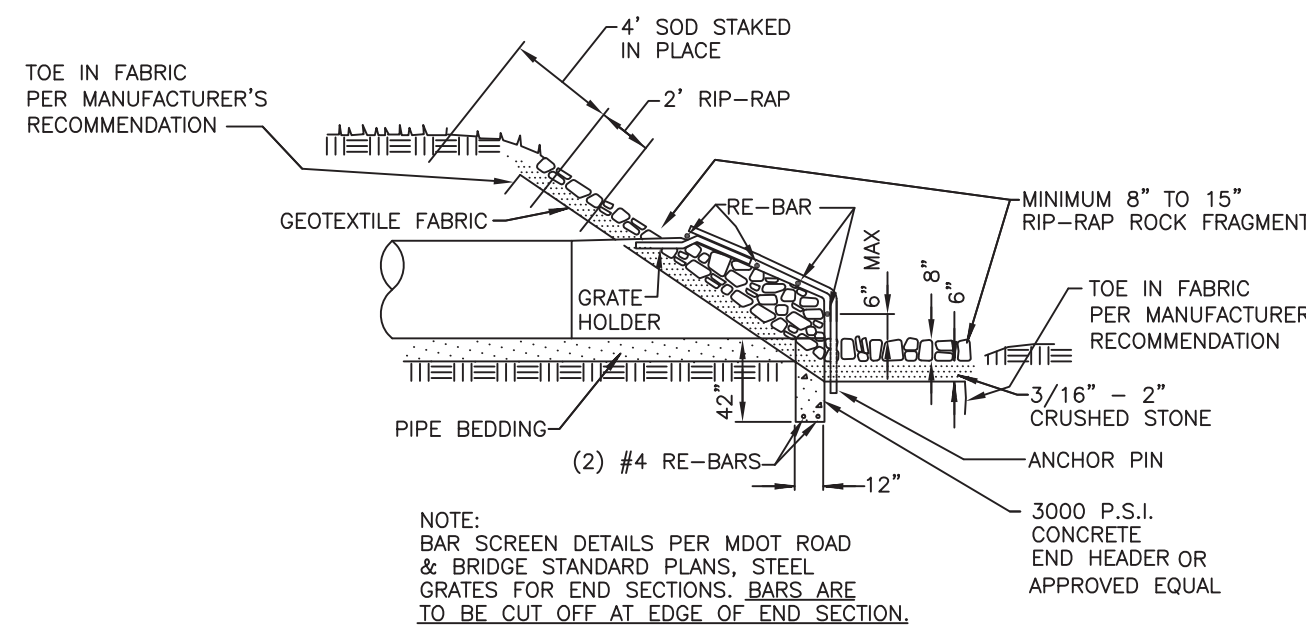


KOR-N-TEE TAP (OR APPROVED EQUAL)

- NO SCALE
- * For non-concrete to concrete taps.
 - * Use link-seal, A-lock or approved equal for concrete to concrete taps.



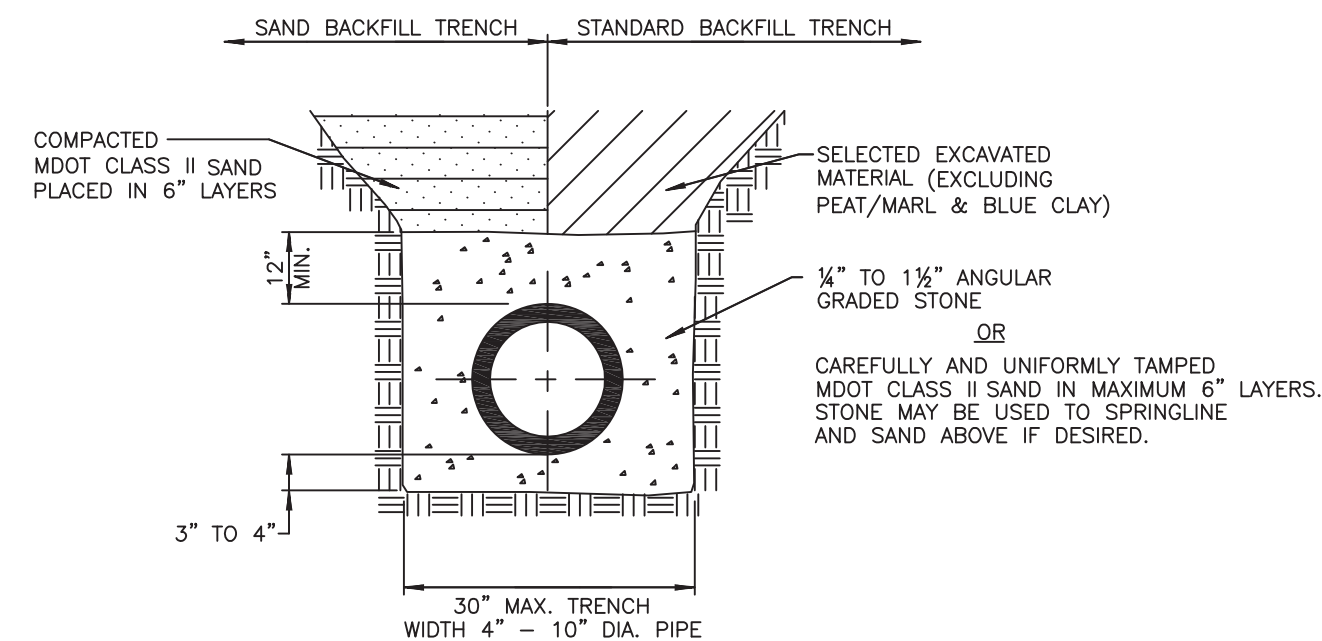
PLAN VIEW



PROFILE VIEW

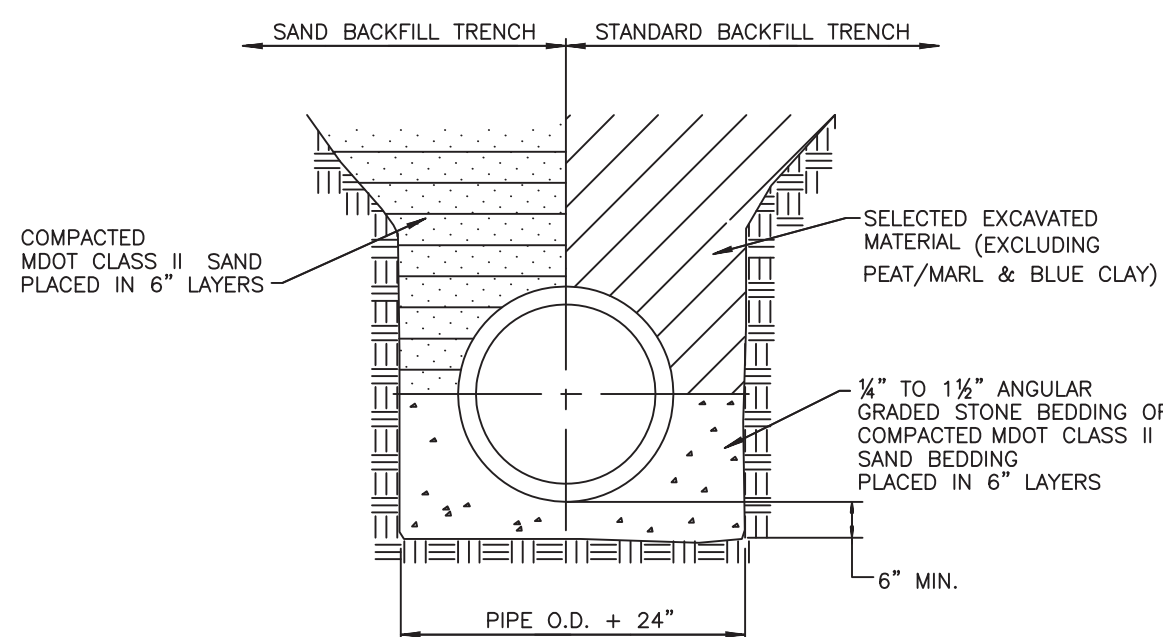
END SECTION AND BAR SCREEN DETAIL

NO SCALE



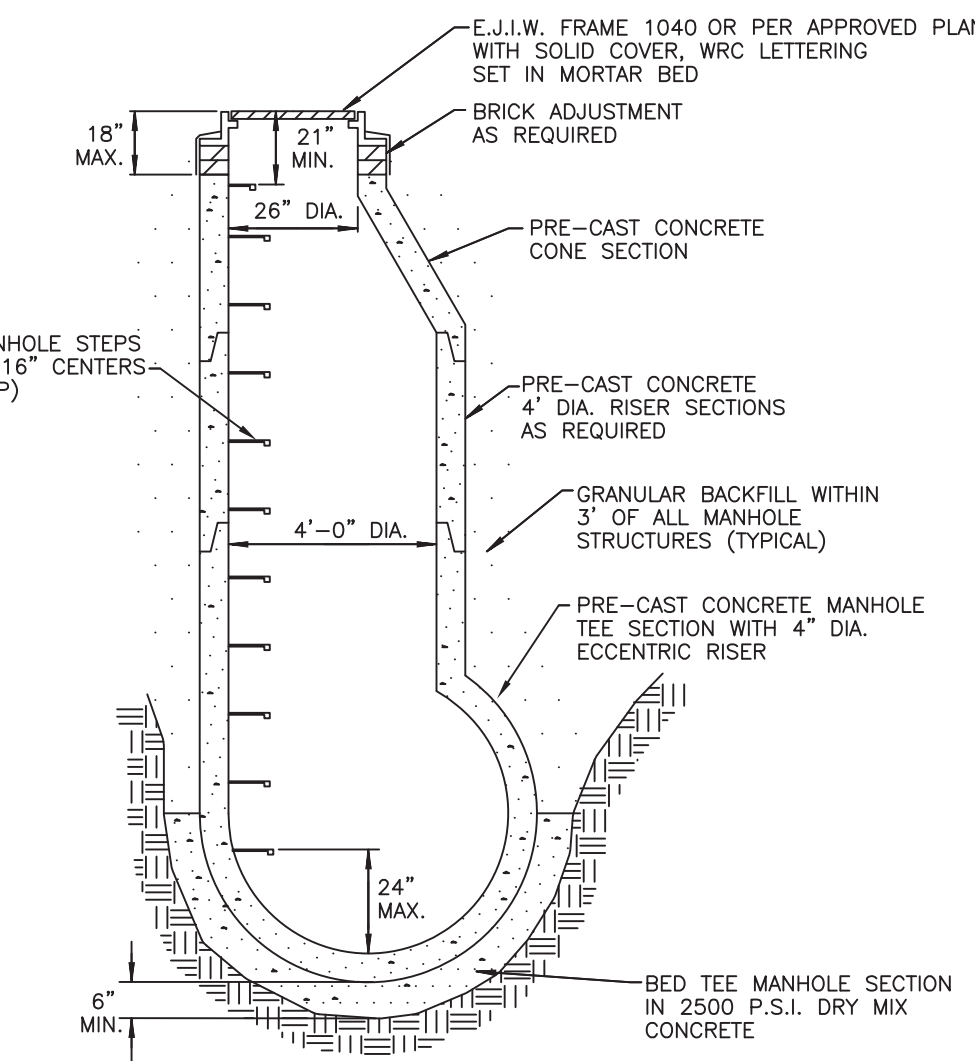
ABS (TRUSS AND SOLID WALL), PVC (TRUSS, SOLID WALL, A2000), ADS N-12 WT PIPE BEDDING DETAIL

NO SCALE



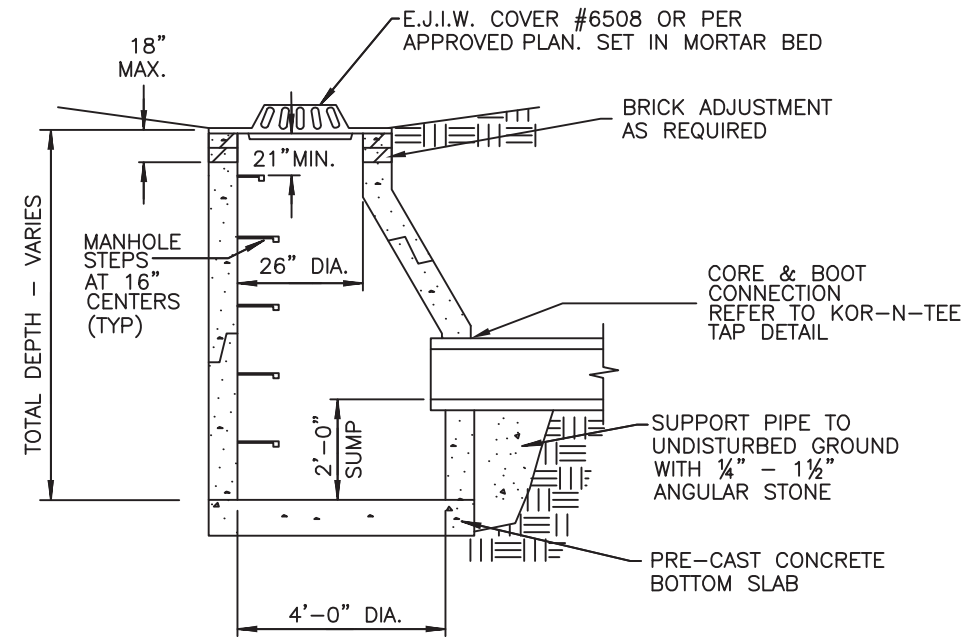
CLASS "B" BEDDING TRENCH DETAIL FOR 27" DIAMETER AND LARGER CONCRETE PIPE

NO SCALE



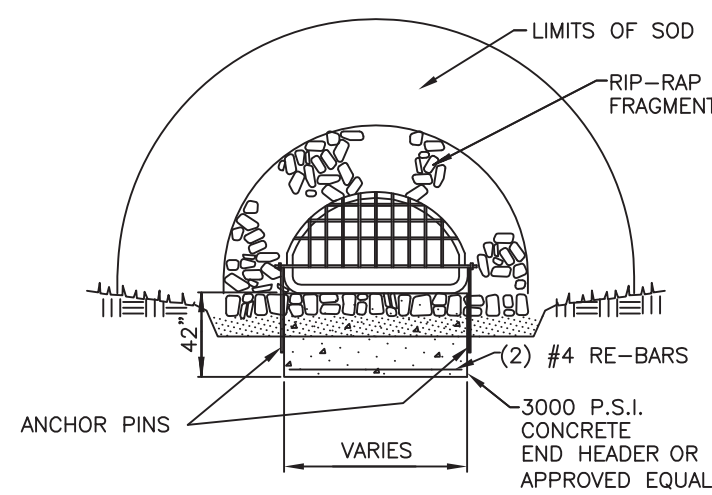
PRE-CAST TEE MANHOLE DETAIL

NO SCALE



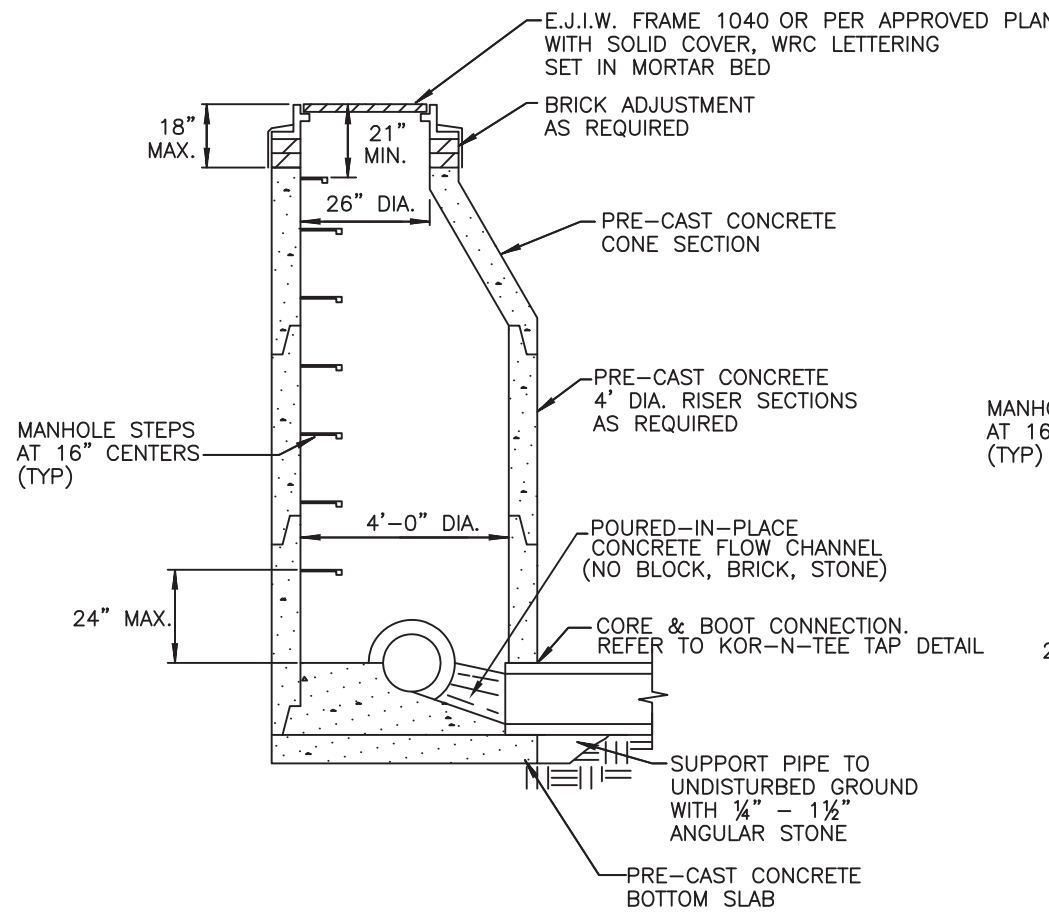
PRE-CAST CATCH BASIN DETAIL

NO SCALE

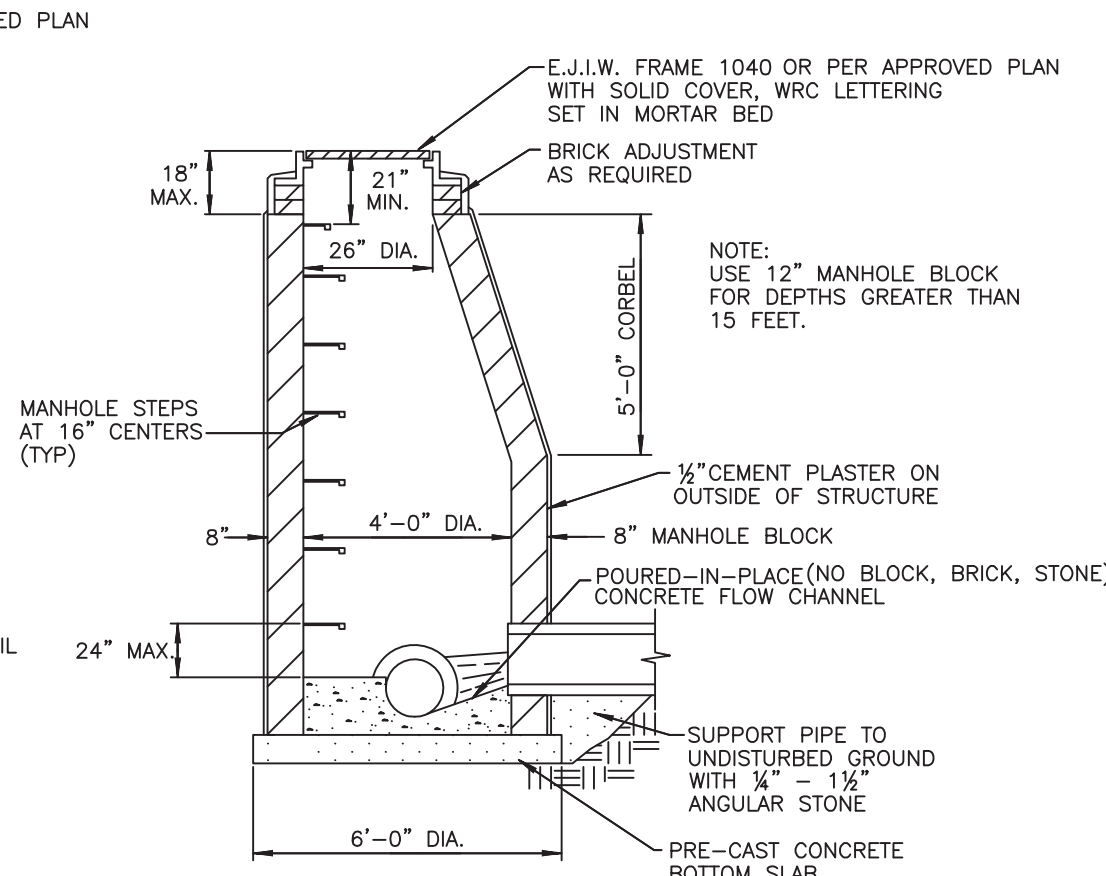


END VIEW

NO SCALE

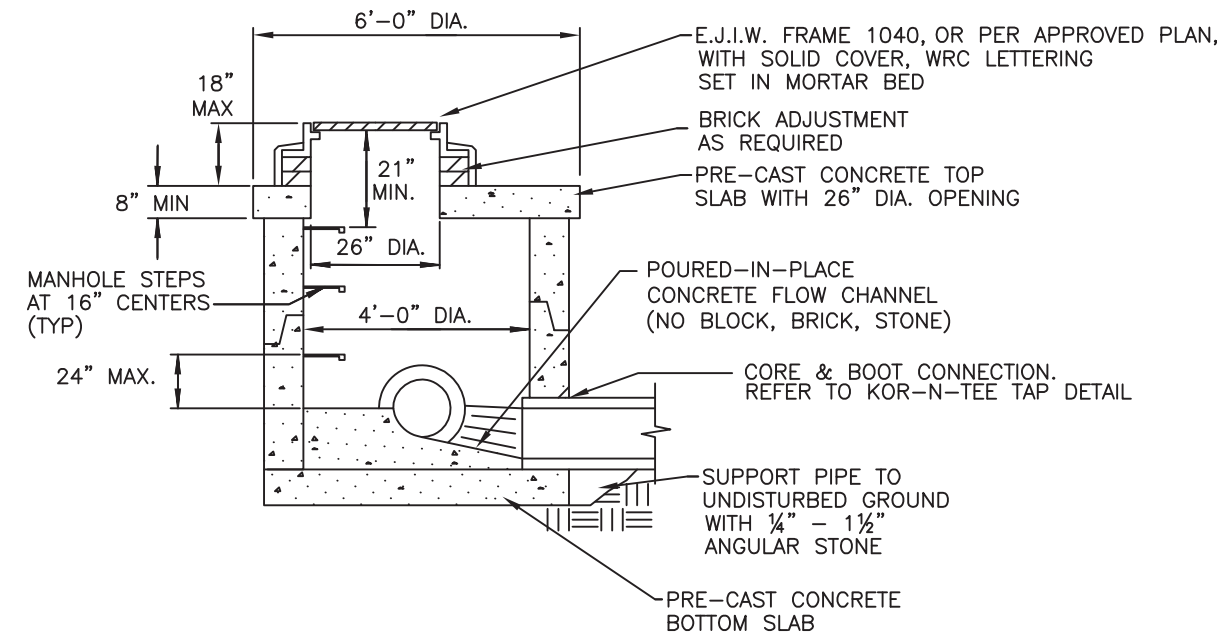


PRE-CAST MANHOLE



BLOCK MANHOLE (PRIOR APPROVAL ONLY)

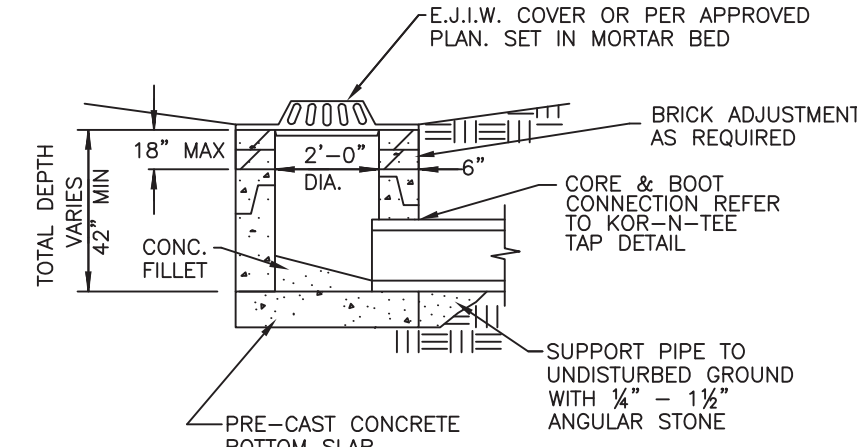
NO SCALE



PRE-CAST LOW HEAD MANHOLE DETAIL

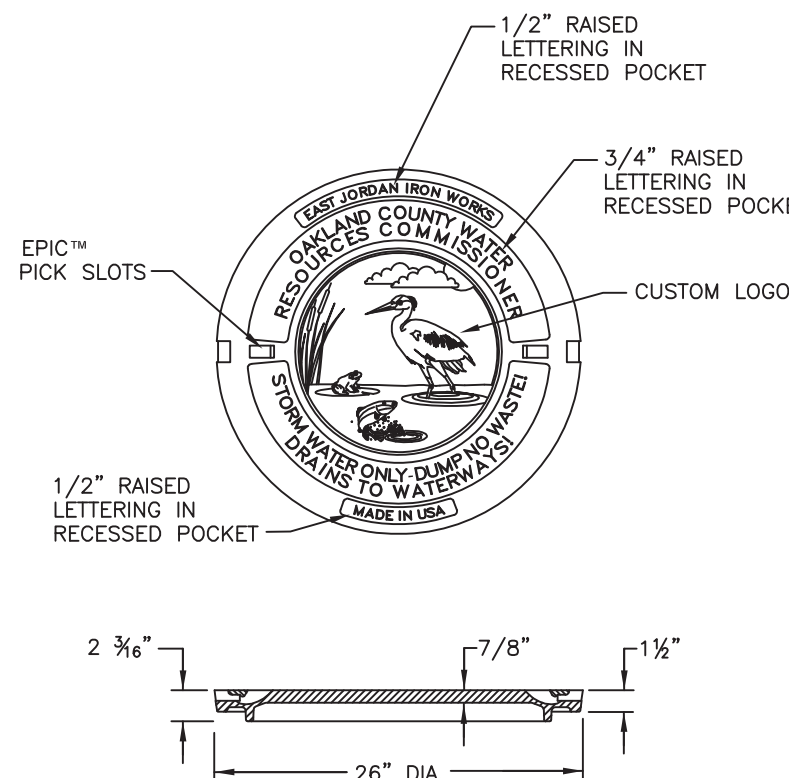
NO SCALE

(PRIOR APPROVAL ONLY)



PRE-CAST INLET DETAIL

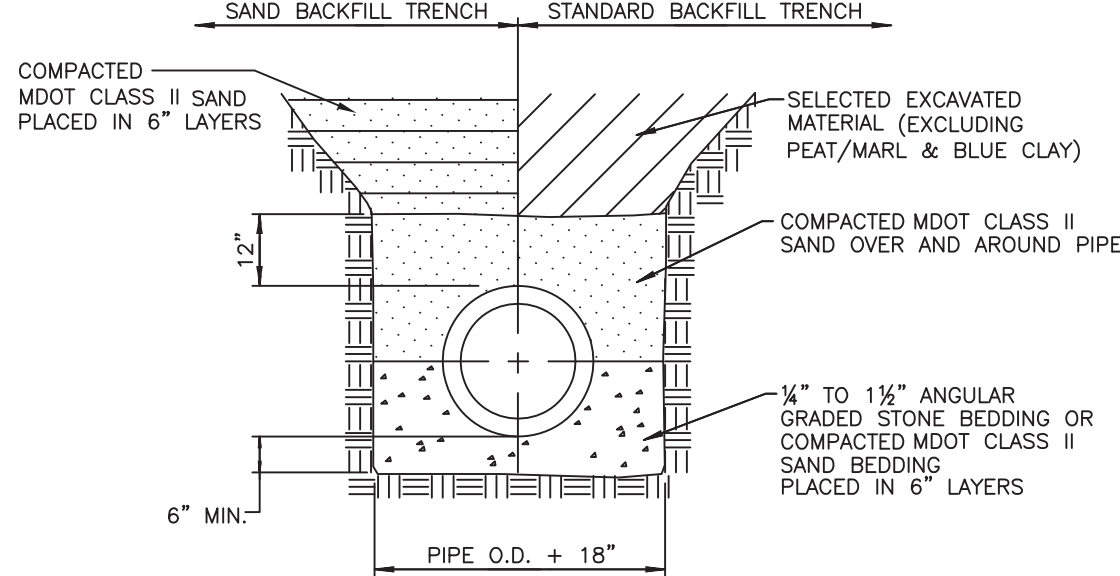
NO SCALE



EAST JORDAN IRON WORKS OR APPROVED EQUAL
HEAVY DUTY MATERIAL ASTM A48 CL35B
CATALOG NO. 1040A
PATTERN NO. 1040A, PRODUCT NO. 104718 OAKCOSTD.
2" HIGH RAISED LETTERS, 1" WIDE RAISED LETTERS
ALL IN RECESSED POCKET.

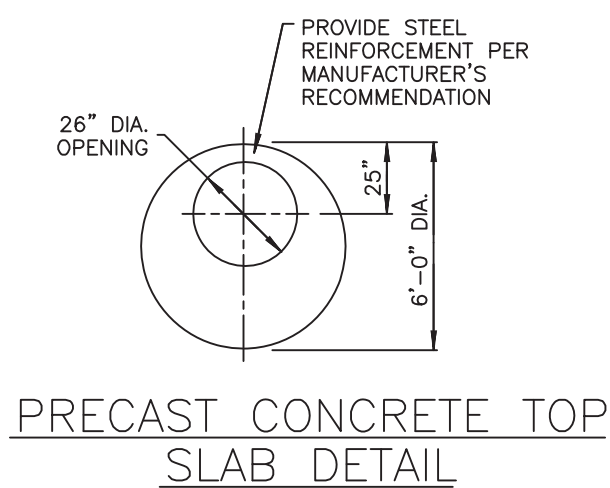
LETTERED MANHOLE COVER FOR WRC

NO SCALE



CLASS "B" BEDDING TRENCH DETAIL FOR 24" DIAMETER AND SMALLER CONCRETE PIPE

NO SCALE



PRECAST CONCRETE TOP SLAB DETAIL

GENERAL NOTES

- Type and class of pipe shall be as specified on plans.
- Class "B" bedding shall be used throughout, unless otherwise specified on the plan.
- All end sections 18" and larger shall be provided with a bar screen unless otherwise approved.
- Standard rip-rap shall be 8"-15" fragmented rock, heavy rip-rap shall be 16"-24" fragmented rock. (No Broken Concrete)
- MANHOLE REQUIREMENTS:
 - All new catch basins, inlets, and manholes are to be manufactured to ASTM C-478 specifications.
 - All new catch basins, inlets, and manholes shall have WRC approved flexible, watertight seals where pipes pass through walls. Manholes shall be of precast sections with modified groove tongue and rubber gasket type joints. Pre cast manhole cone sections shall be WRC approved modified eccentric cone type.
 - Taps through manhole joints or cone sections are prohibited unless otherwise approved.
 - Manhole steps to be plastic coated steel meeting the requirements in ASTM D 2146, Type II, Grade 49108, MA. Industries P.S.I. Polypropylene, (or approved equal). Steps to be installed during manhole manufacture. Place at 16" centers 45" from centerline of sewer.
 - Cone section with modified groove tongue joints and with stud inserts cast in place. Top to have flush surface.
 - ASTM C-478 riser section with modified groove tongue joints.
 - Res-seal, link-seal, press wedge II, or kor-n-seal boot (with stainless steel korbard) flexible rubber manhole joints. (or approved equal).
 - The inside joints of manholes, catch basins, and pipe sizes over 42" and larger in diameter shall be pointed up with mortar upon completion of backfilling.
- CONCRETE PIPE REQUIREMENTS:
 - Concrete pipe to be per ASTM C76 standards.
 - It will be required to TV all pipe 30 days after installation
 - The contractor shall provide reinforced concrete pipe as specified on the plans.
 - All reinforced concrete pipe shall have modified grooved tongue joints with o-ring type rubber gasket, per A.S.T.M. specifications C443.
 - The inside joints of manholes, catch basins, and pipe sizes over 42" and larger in diameter shall be pointed up with mortar upon completion of backfilling.
- SUMP PUMP LEAD REQUIREMENTS:
 - All sump pump leads connected to a County Drain pipe shall be pre-manufactured.
 - Sump pump leads connected to a manhole shall be cored and booted. Refer to Kor-N-Tee Tap Detail.
 - Sump pump mains and leads shall be ADS (truss and solid wall), PVC (truss, solid wall , A2000), ADS N-12 WT with premium joints.
 - Ends of all 4" sump pump leads shall be temporarily capped and their location staked, witnessed and recorded.
 - All sump pump leads to be taken to the property line, easement line or as indicated on the plan.
 - Sump pump mains must have a cleanout with a minimum inside diameter of 24" and be constructed at changes of alignment, ends of sump pump mains or as indicated on the plan.
- RESTORATION REQUIREMENTS:
 - All disturbed area within the County Drain right-of-way shall be restored as follows:
 - Under roads, sidewalks, driveways and parking areas, backfill material shall be placed loosely into trenches in six (6) inch layers with each layer compacted to not less than 95% of maximum dry density as determined by the ASTM D 1557 Compaction Standard (modified proctor compaction test). All other areas shall have each layer compacted to not less than 90% of maximum dry density.
 - Finish subgrade
 - Place 3" thickness clean topsoil acceptable to the engineer to attain finished grade. Topsoil must not be contaminated and may not be a mixture of natural underlying soils, subbase materials, or other materials. It must consist of natural loam, sandy loam, silty loam or clay loam humus-bearing soil adapted to the sustenance of plant life. Topsoil must be neither excessively acidic nor excessively alkaline. It must be of mineral origin, exclusive of any peat or muck.
 - Apply seed and fertilizer as follows:

Location	Seeding Requirements	Fertilizer Requirement
Slopes and Ditch, Banks, Etc.	M.D.O.T. "Roadside Mix" Turf Seed Mixture TGM (10% Kentucky Blue, 20% Perennial Rye, 30% Hard Fescue, 40% Creeping Red Fescue) applied at 220 lb/acre	M.D.O.T. Seeding and Sodding Fertilizers, Class A
Other Areas	M.D.O.T. "Roadside Mix" Turf Seed Mixture THM (30% Kentucky Blue, 20% Perennial Rye, 50% Creeping Red Fescue) applied at 220 lb/acre	M.D.O.T. Seeding and Sodding Fertilizers, Class A

 - Sod is required in maintained lawn areas. Refer to WRC General Specifications for additional requirements and information.
 - apply straw or marsh hay mulch in an air-dry condition to all seeded areas over the surface to a uniform thickness at 2 tons/acre.
 - mulch shall be anchored in place with biodegradable netting, not larger than 1 1/2" by 2" nor smaller than 1/2" by 1/2".
 - The contractor shall be responsible to insure the growth of all seeded areas, and shall re-seed as necessary to accomplish this.
- The Storm Drain Notes and Details Sheet shall be a supplement to WRC Standards and Specifications, which are available on the WRC website (www.oakgov.com/water/).

STORM DRAIN NOTES AND DETAILS

REVISION BLOCK

Data Source / Source Date: N/A

Rev. Rev. Rev. Description:

1. 1. 1. 1/1/08 PROPOSED DETAIL CHANGES NEW LOGO

2. 1. 1. 08/12/08 APPROVAL PER STANDARDS COMMITTEE

3. 1. 1. 03/28/10 REVISED MH COVER DETAIL

4. 08 04/27/10 REVISED GENERAL NOTES

ORIG. DATE: 05/05/97

SCALE: NONE

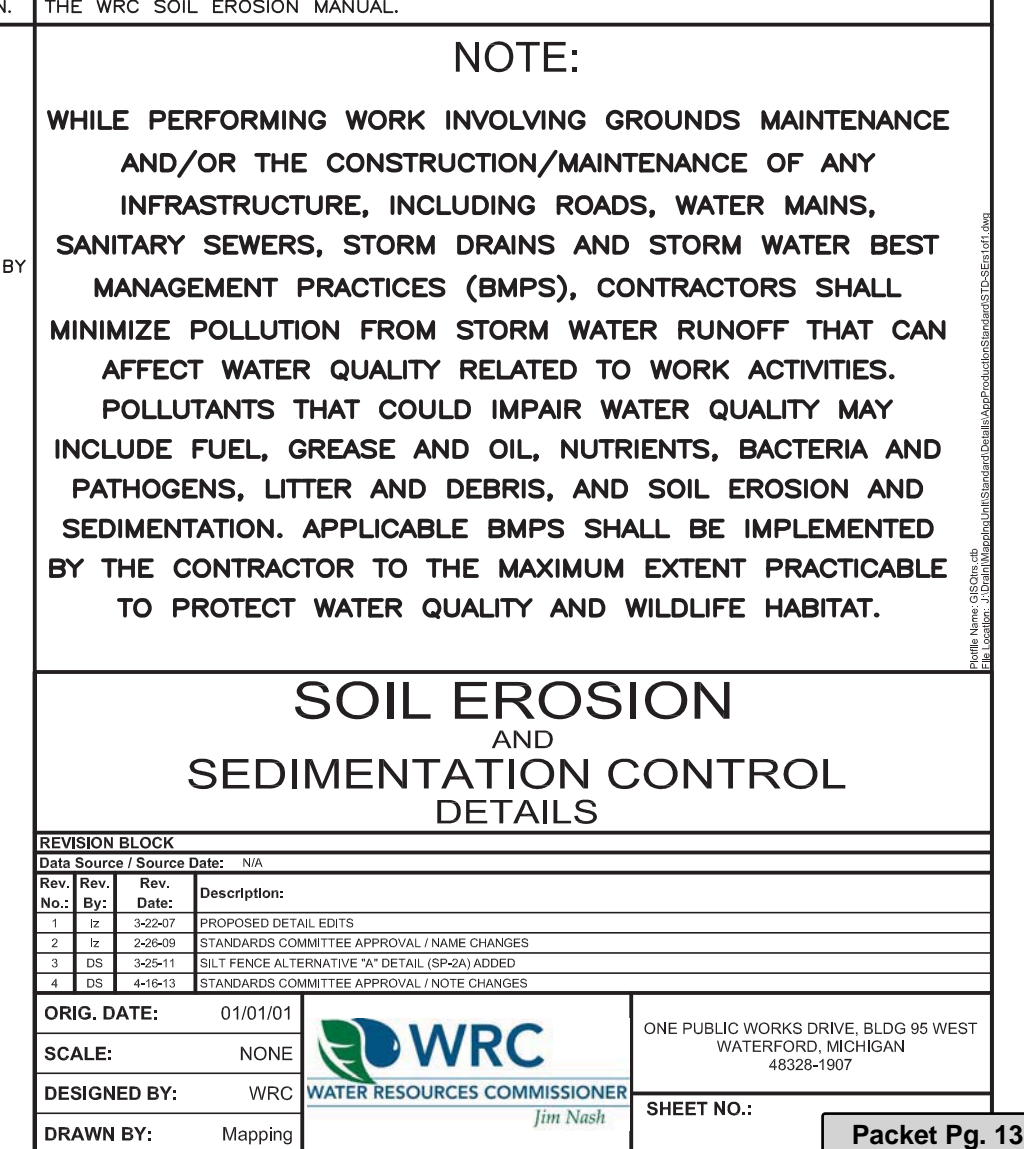
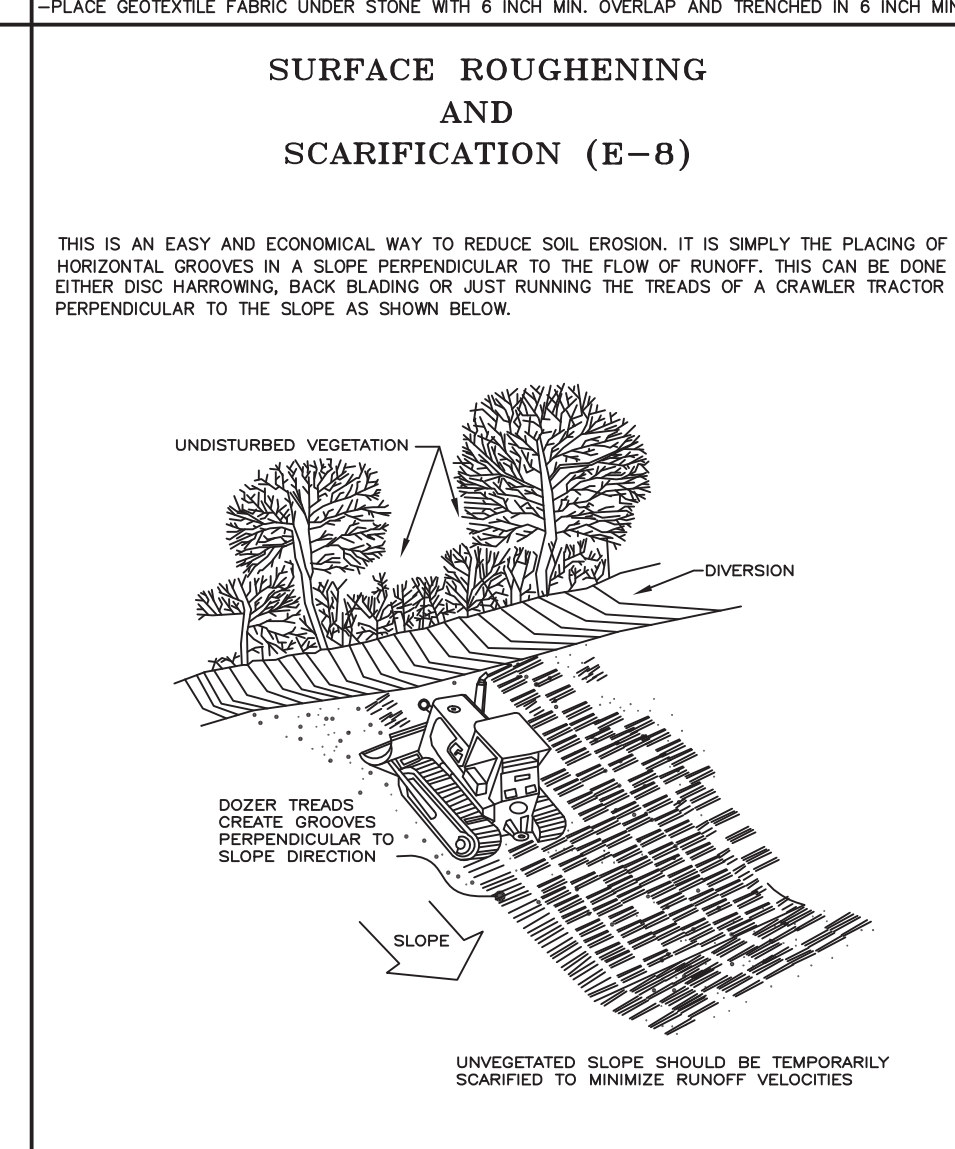
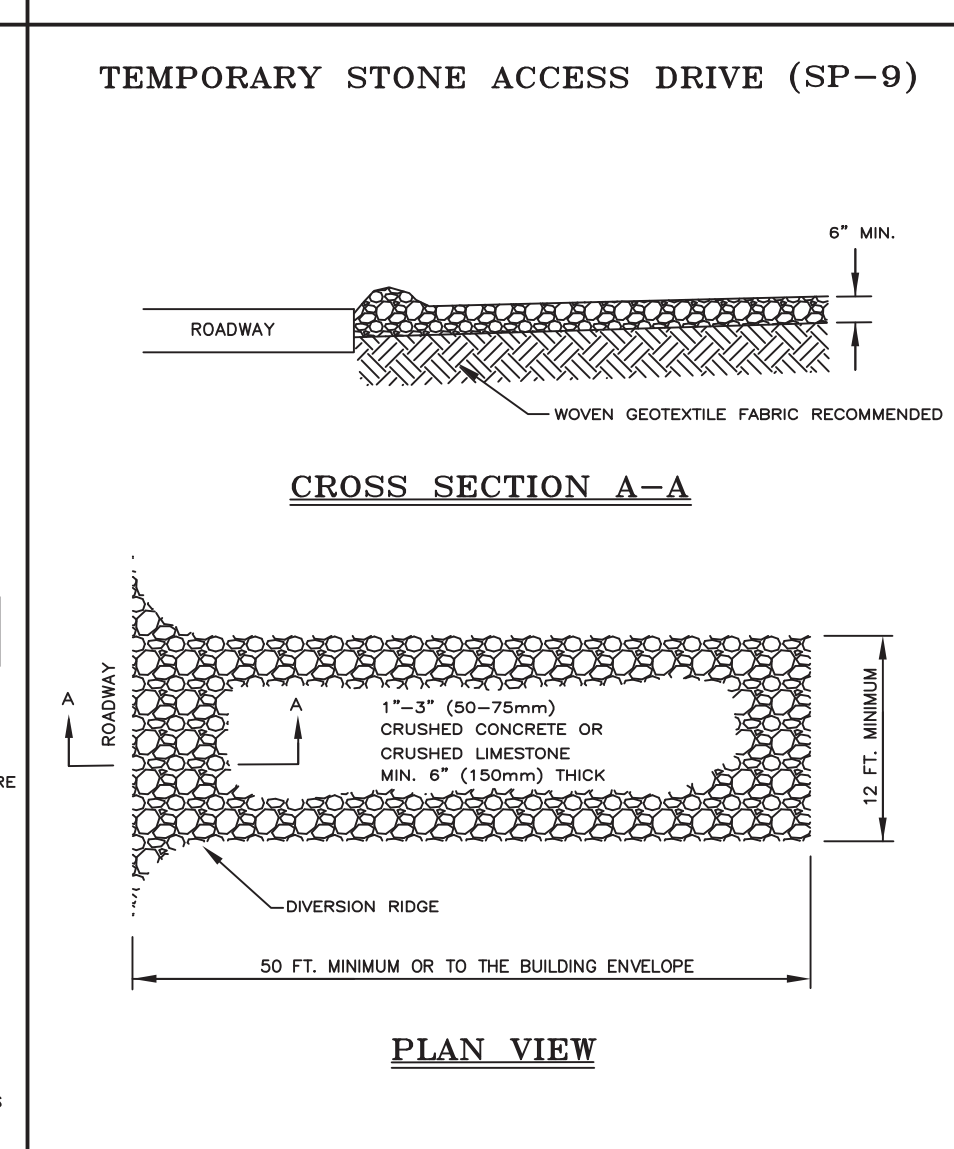
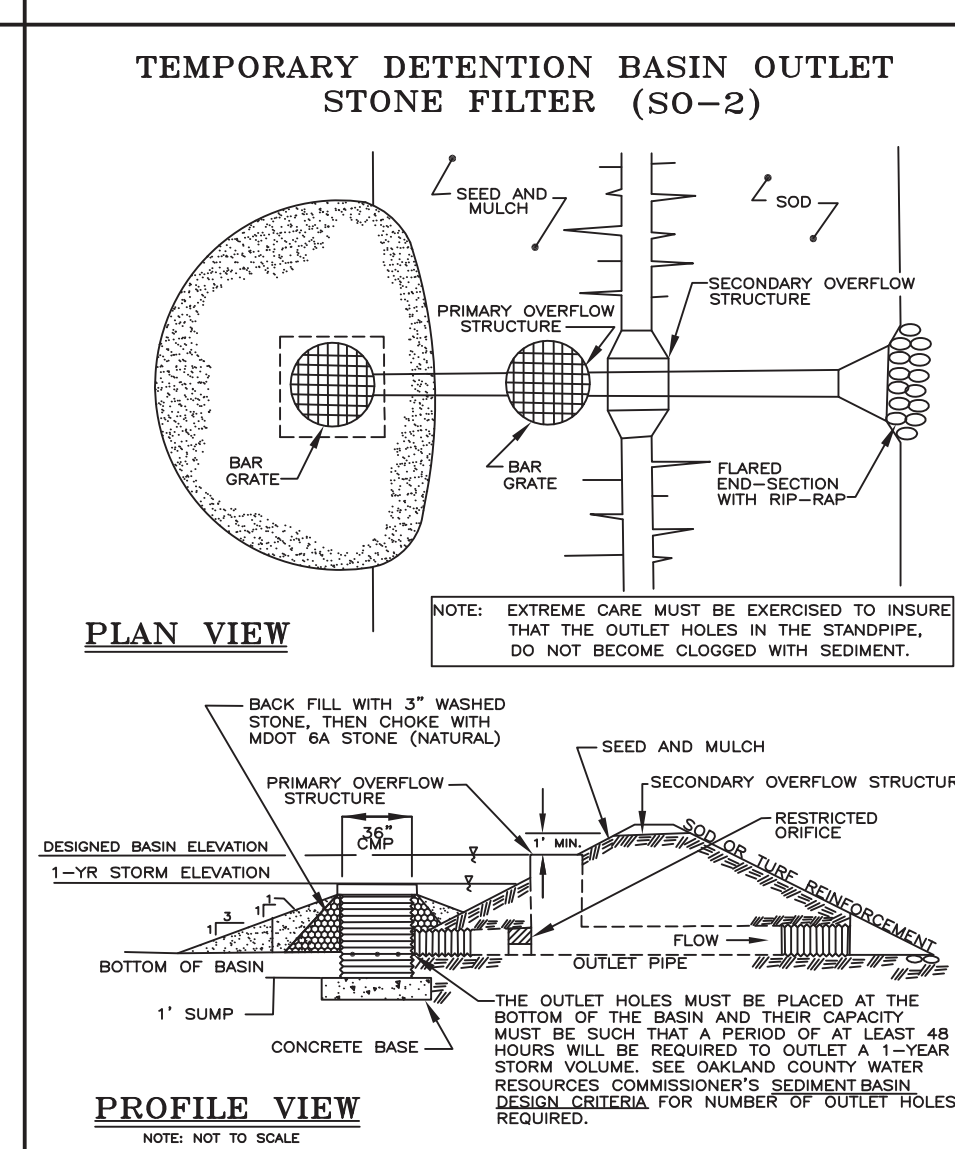
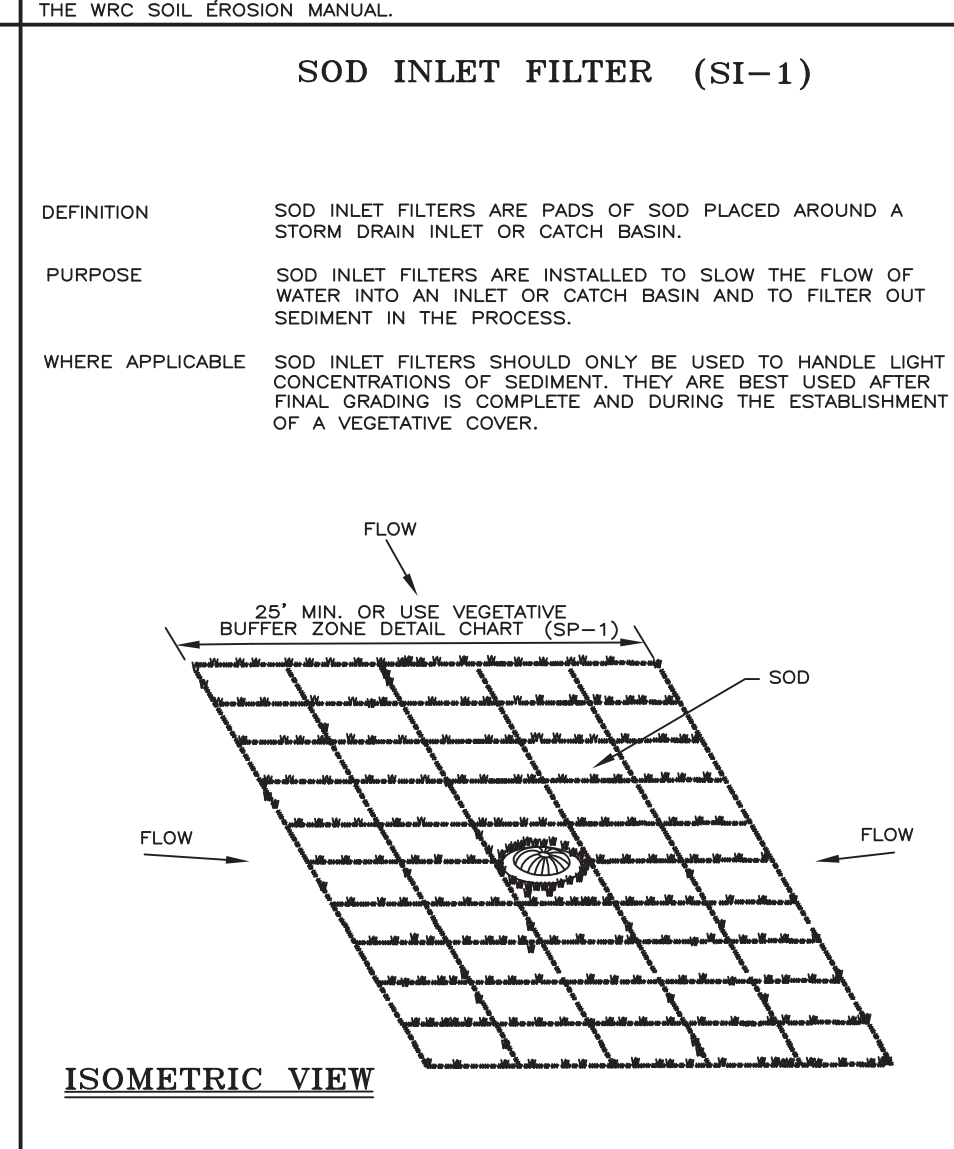
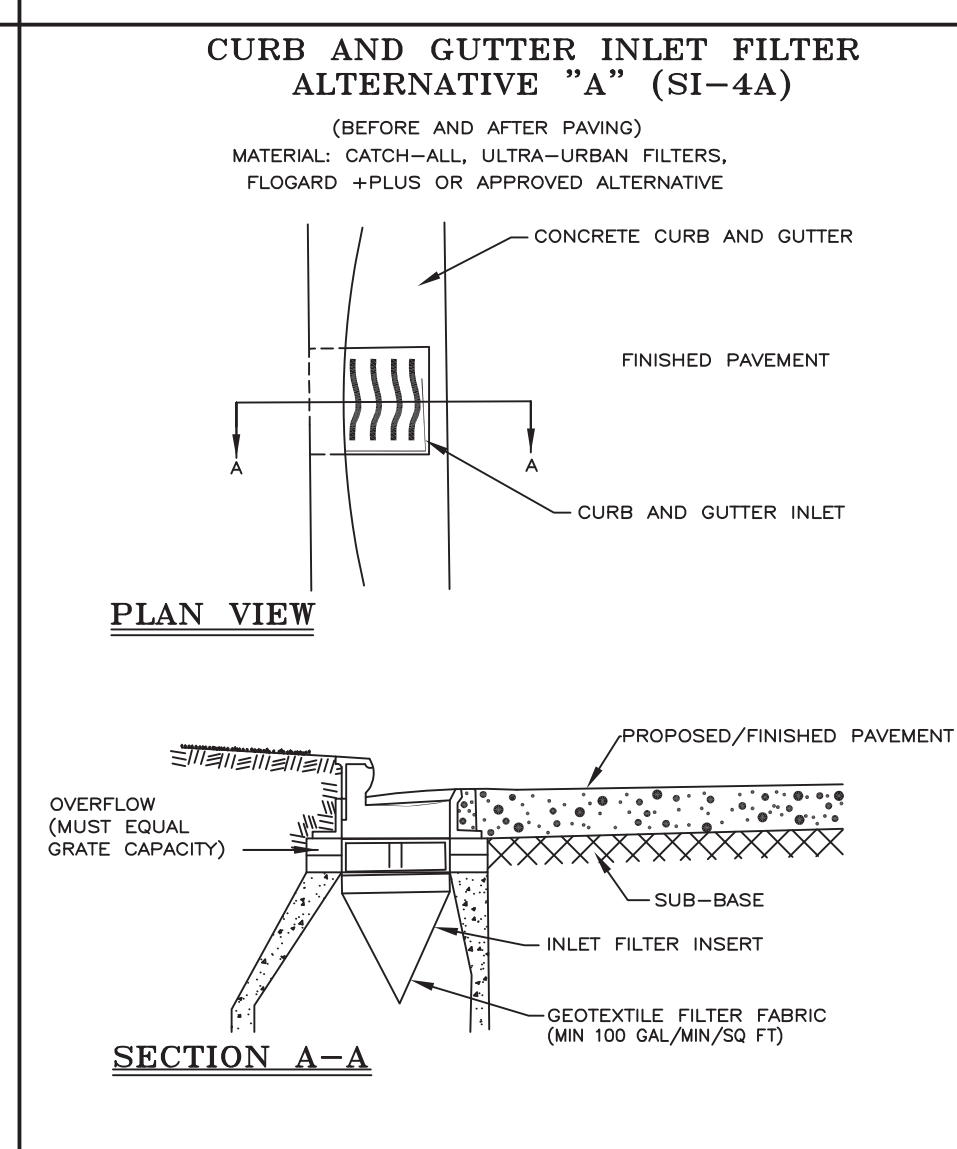
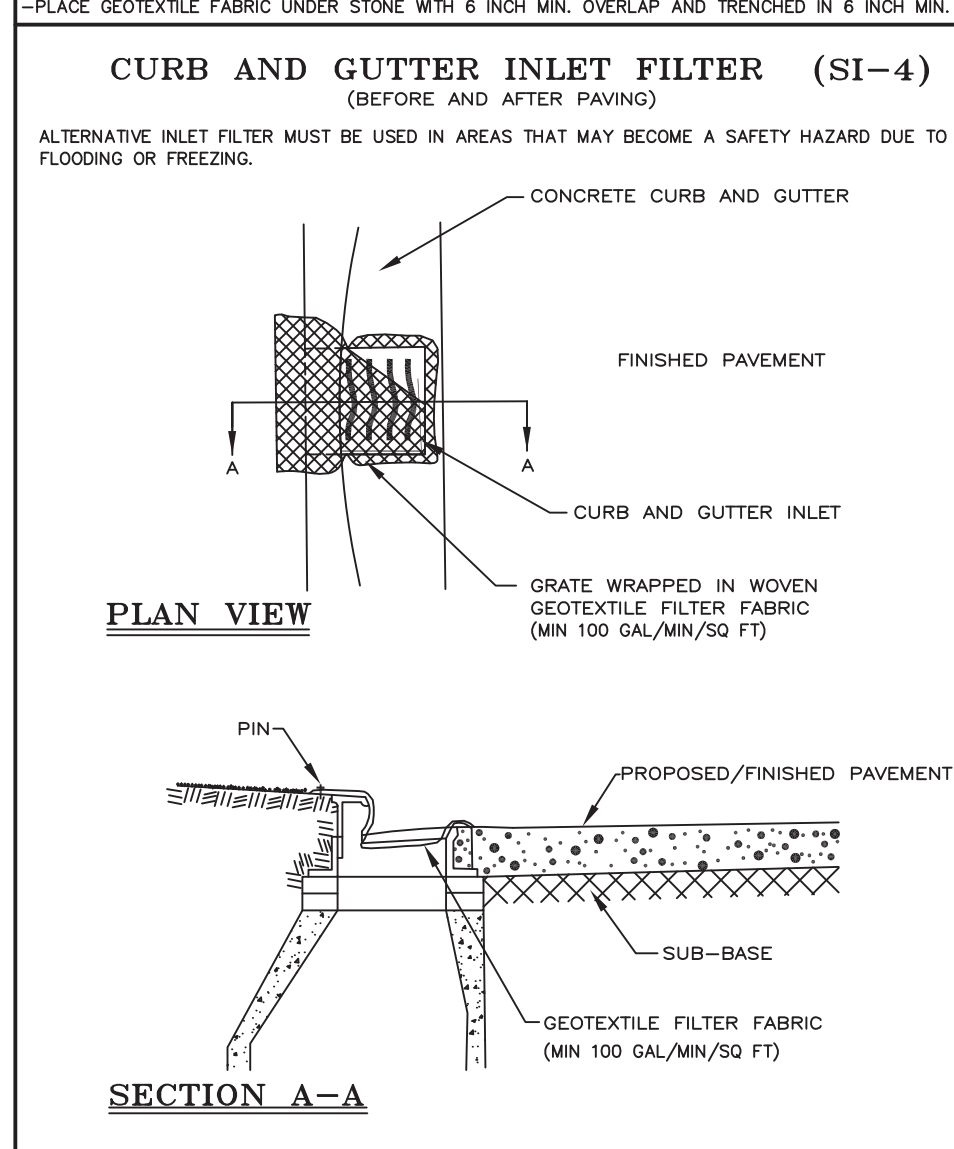
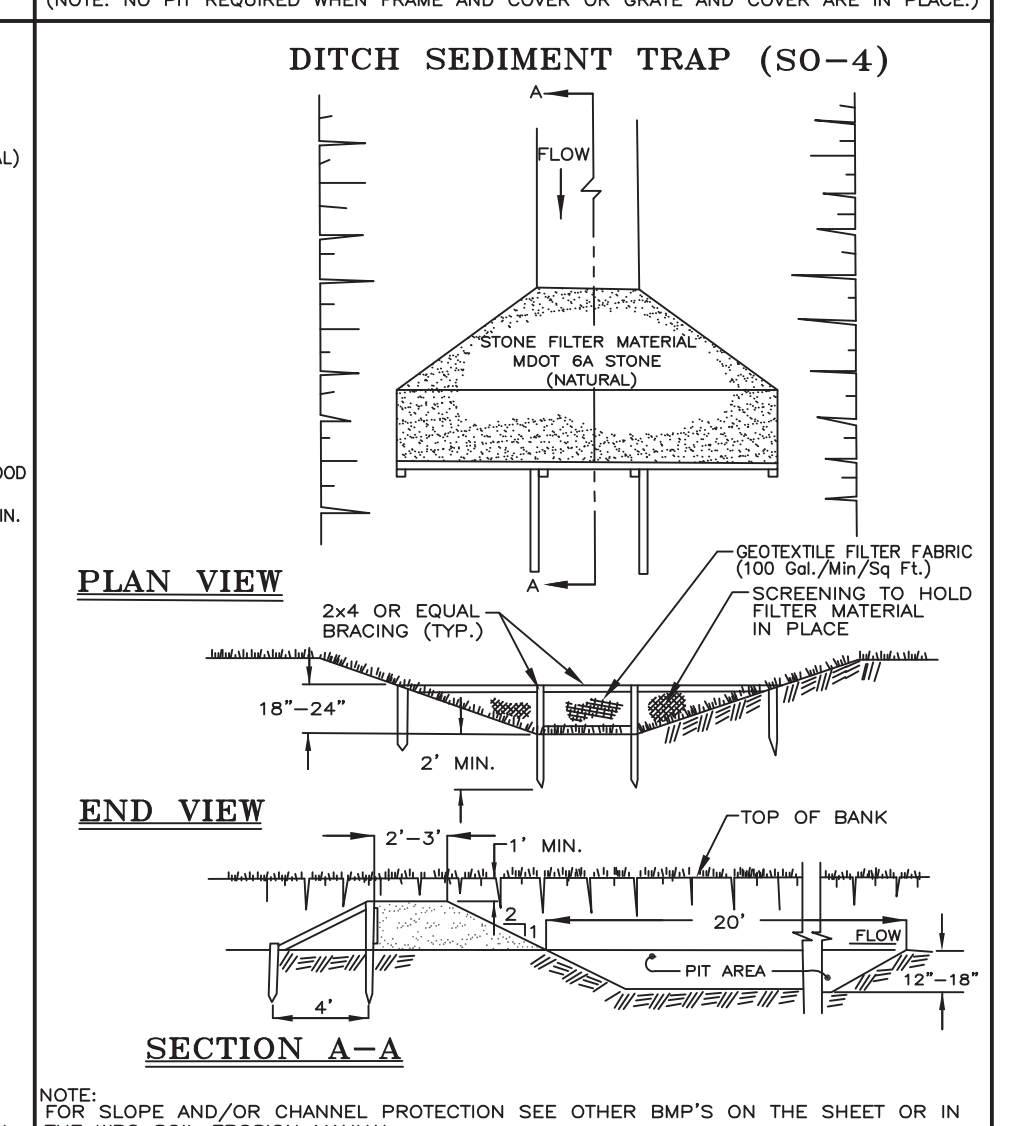
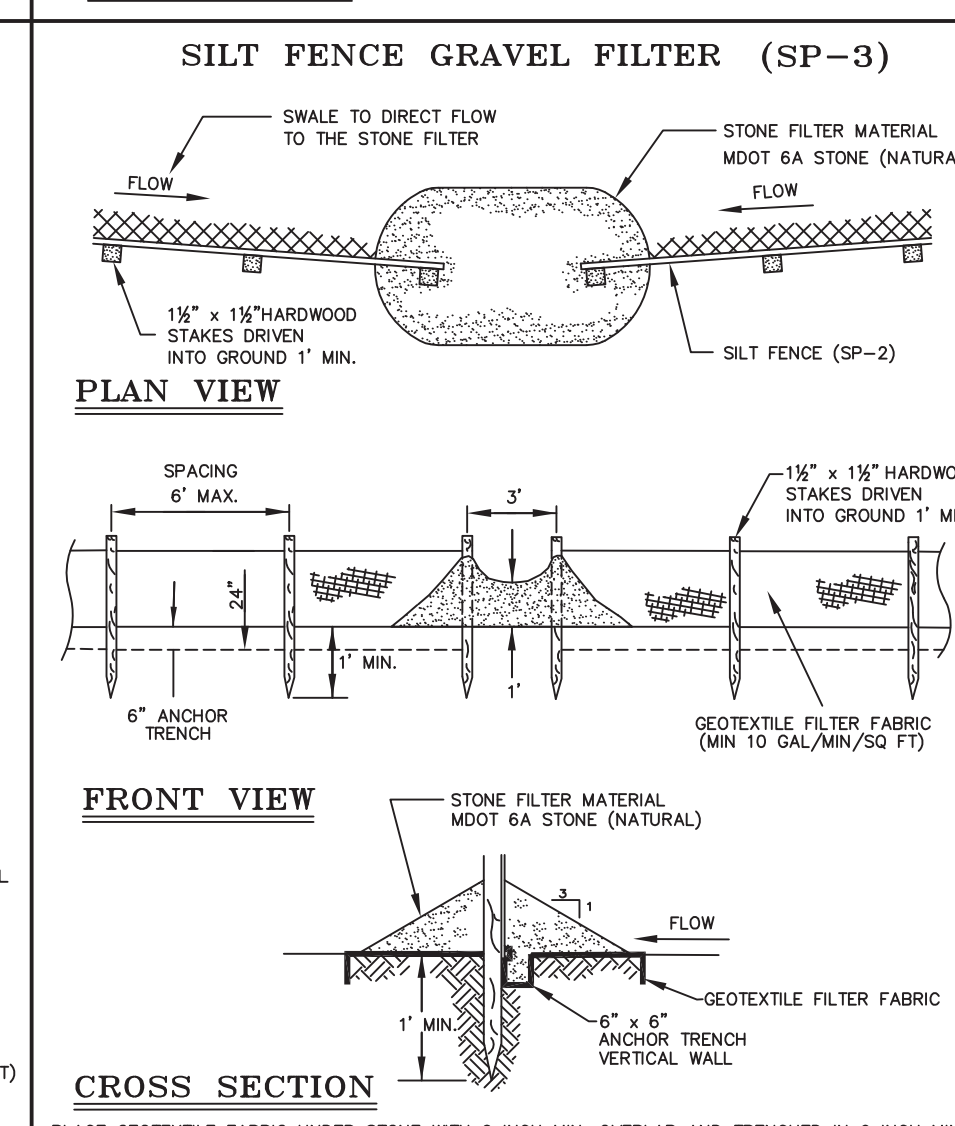
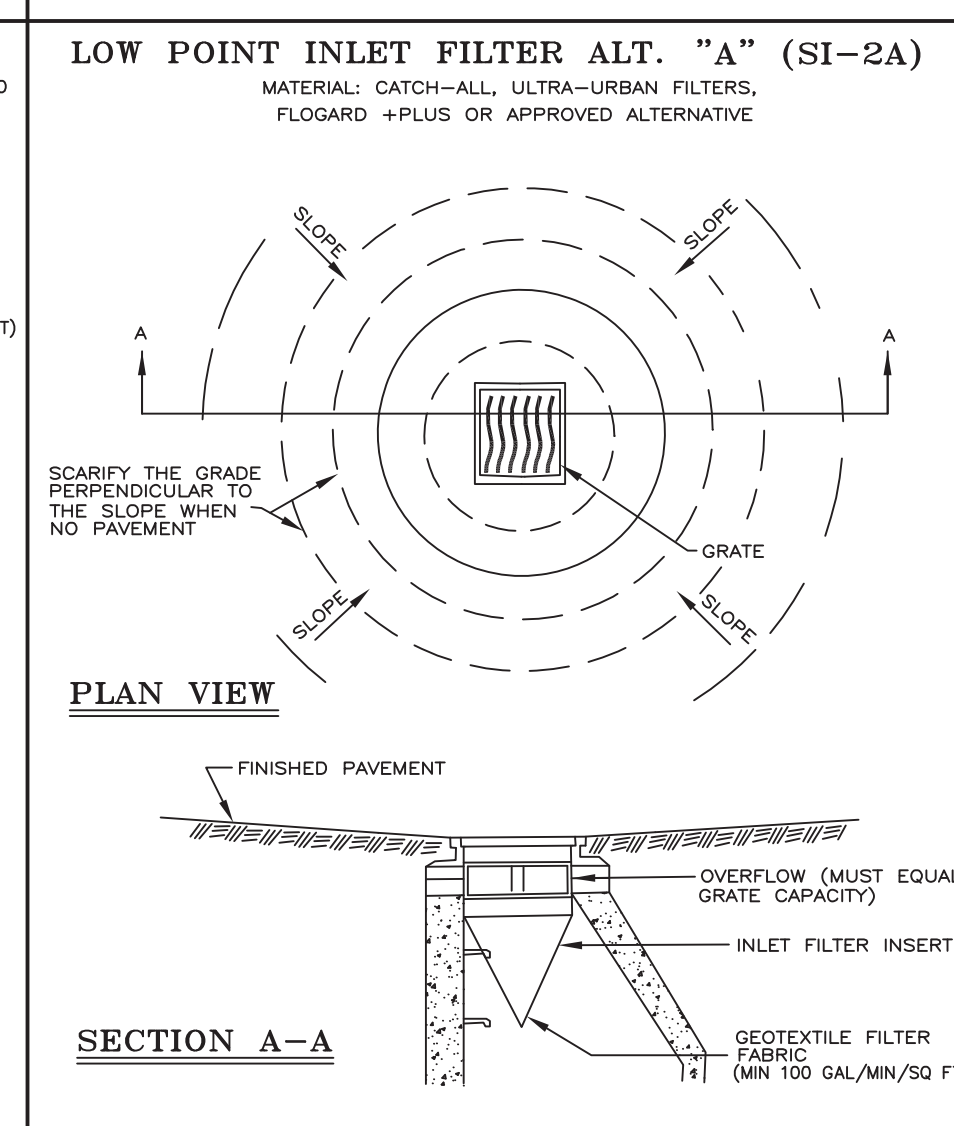
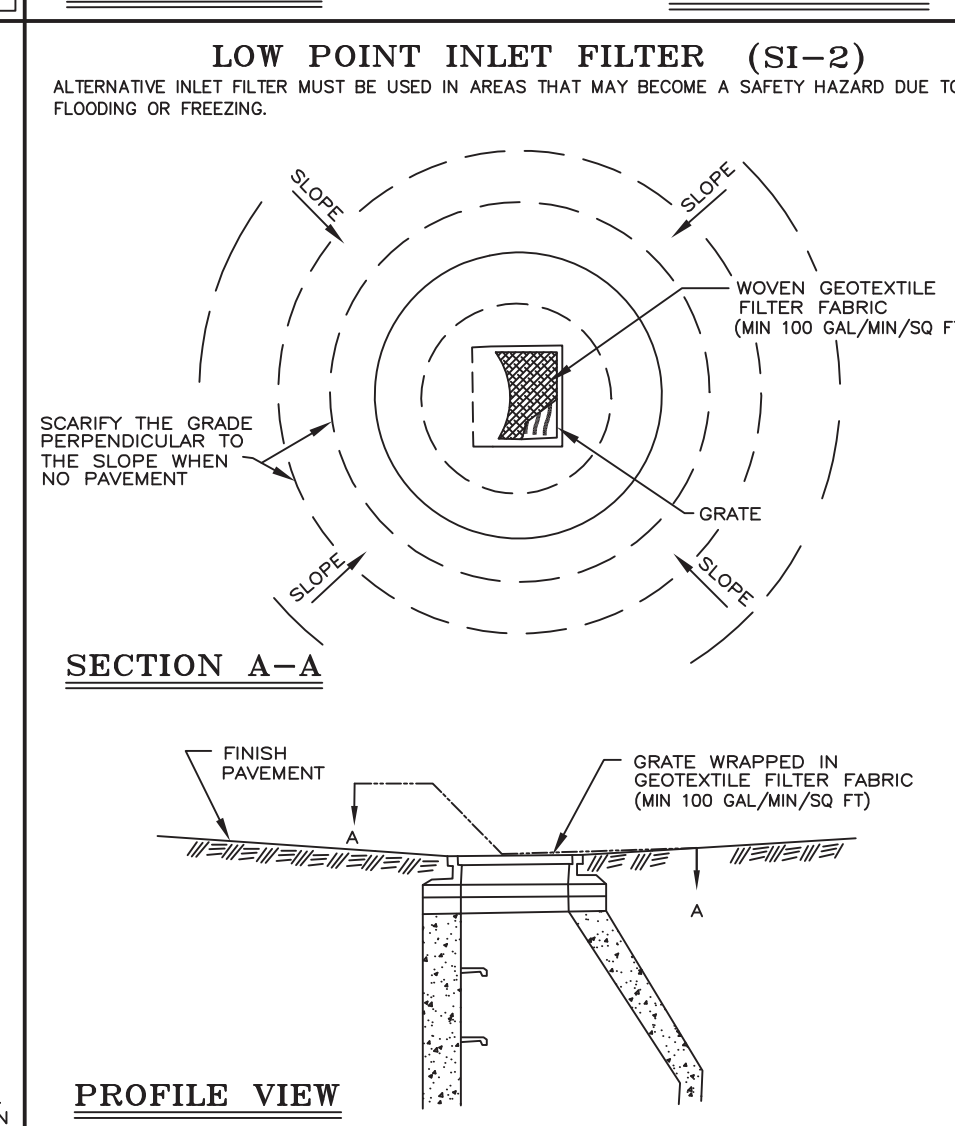
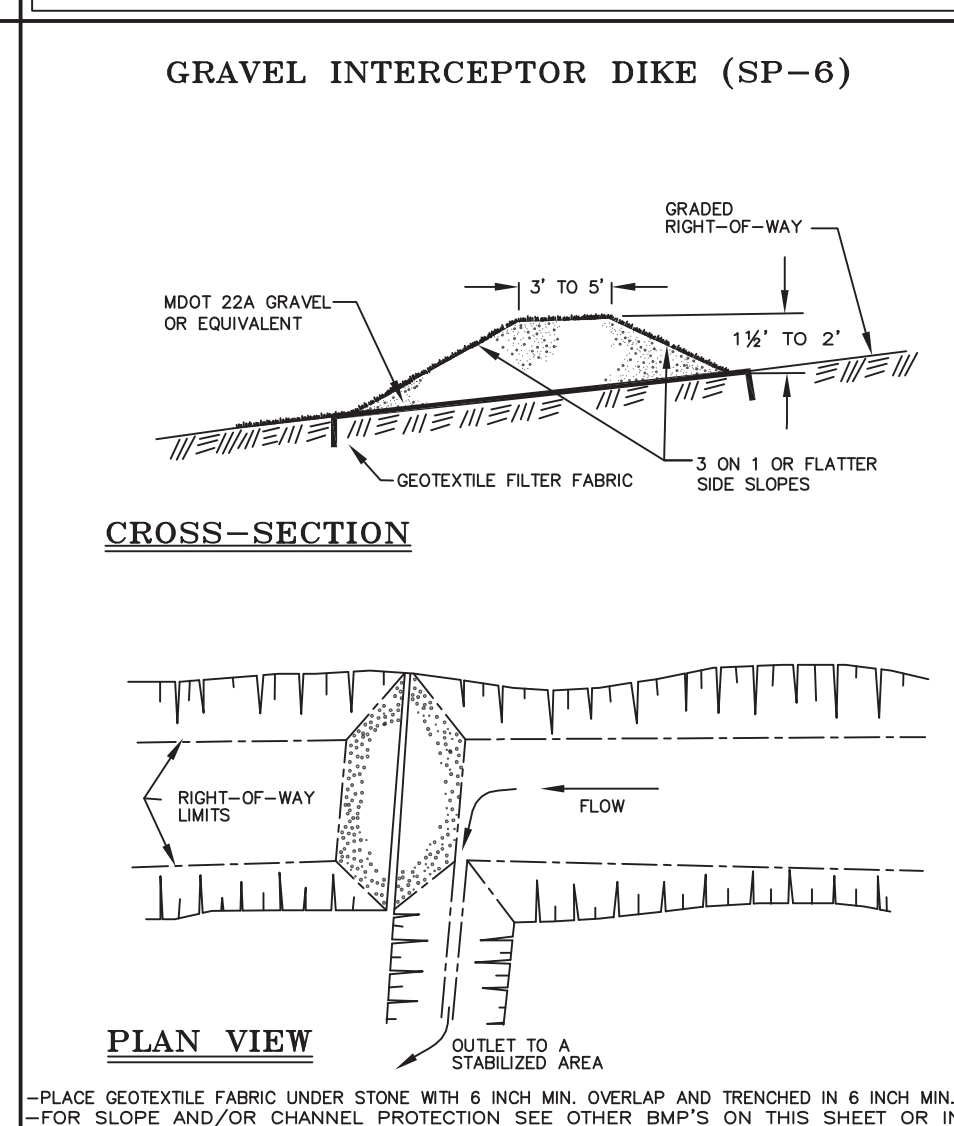
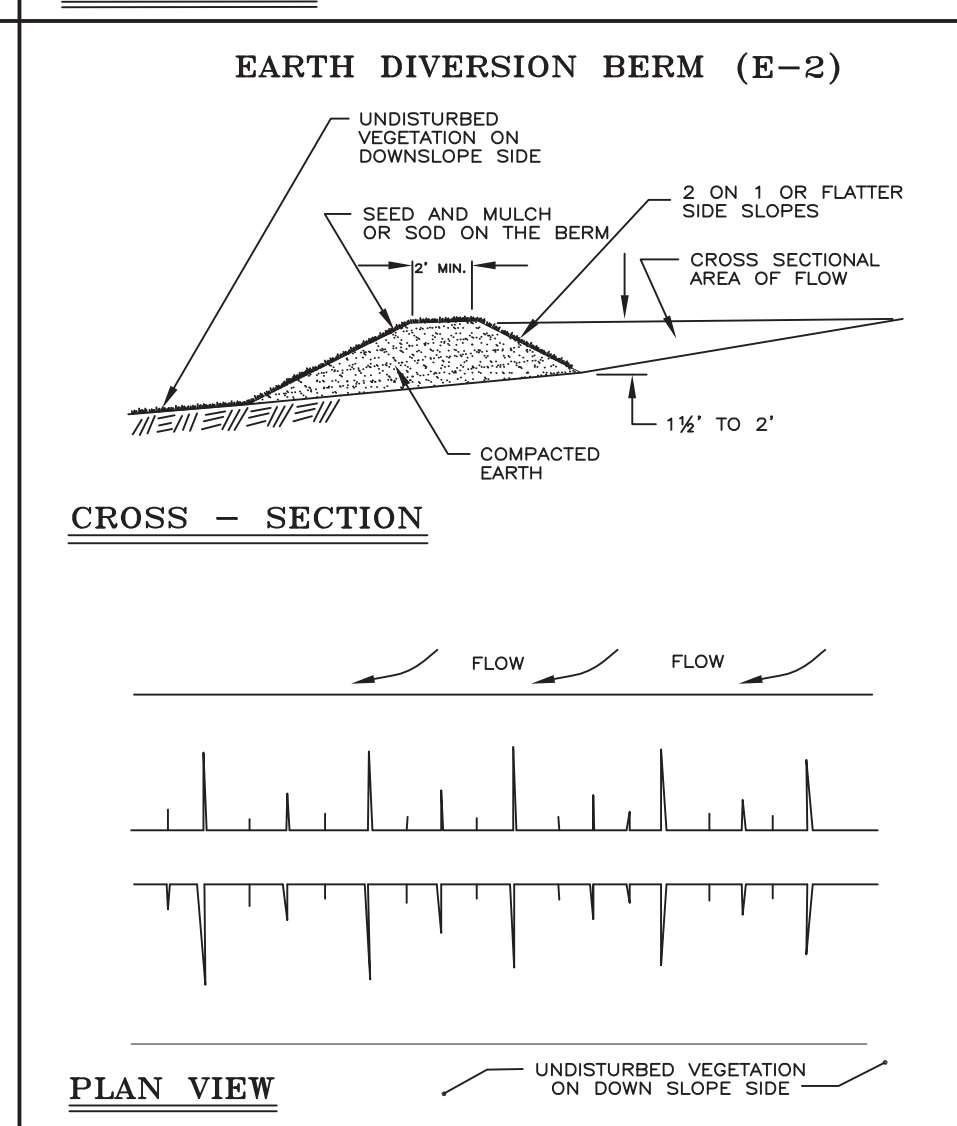
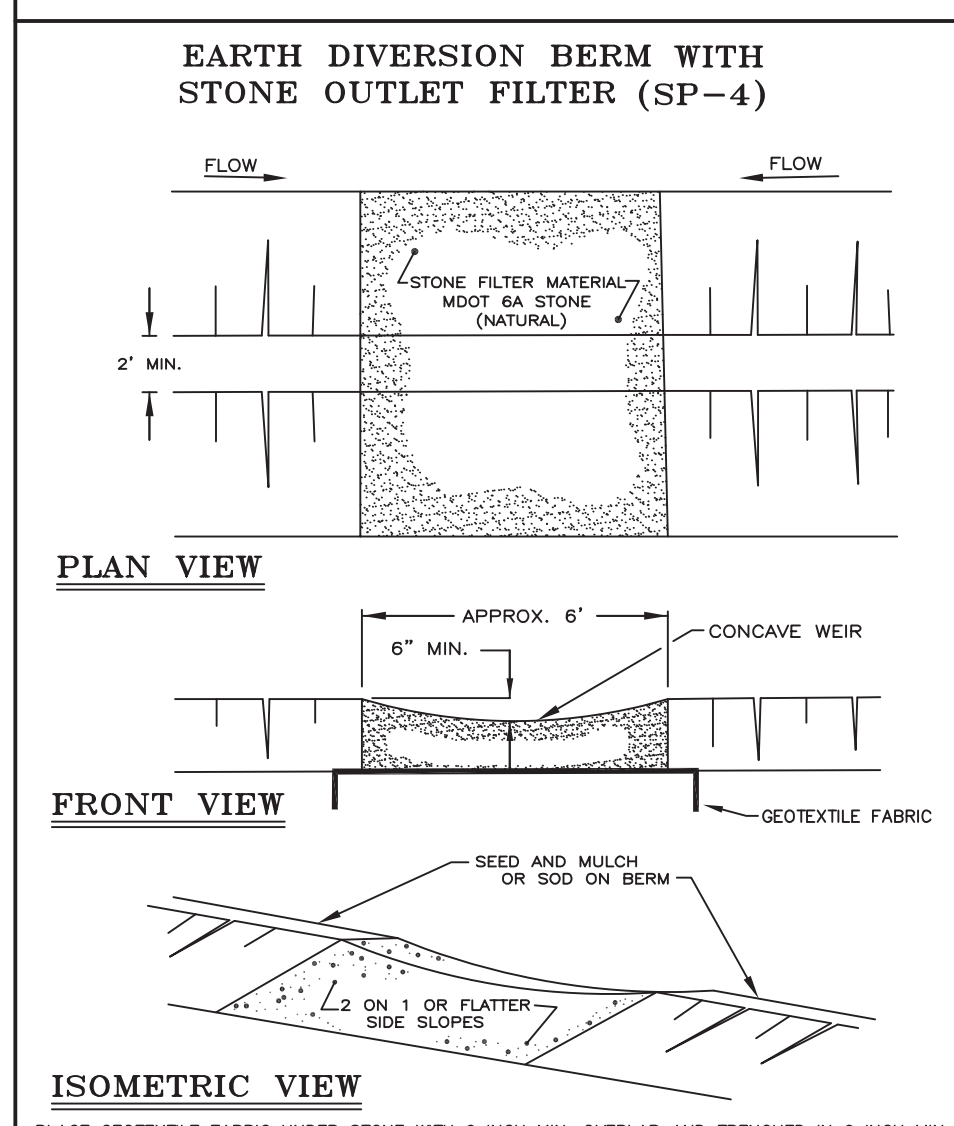
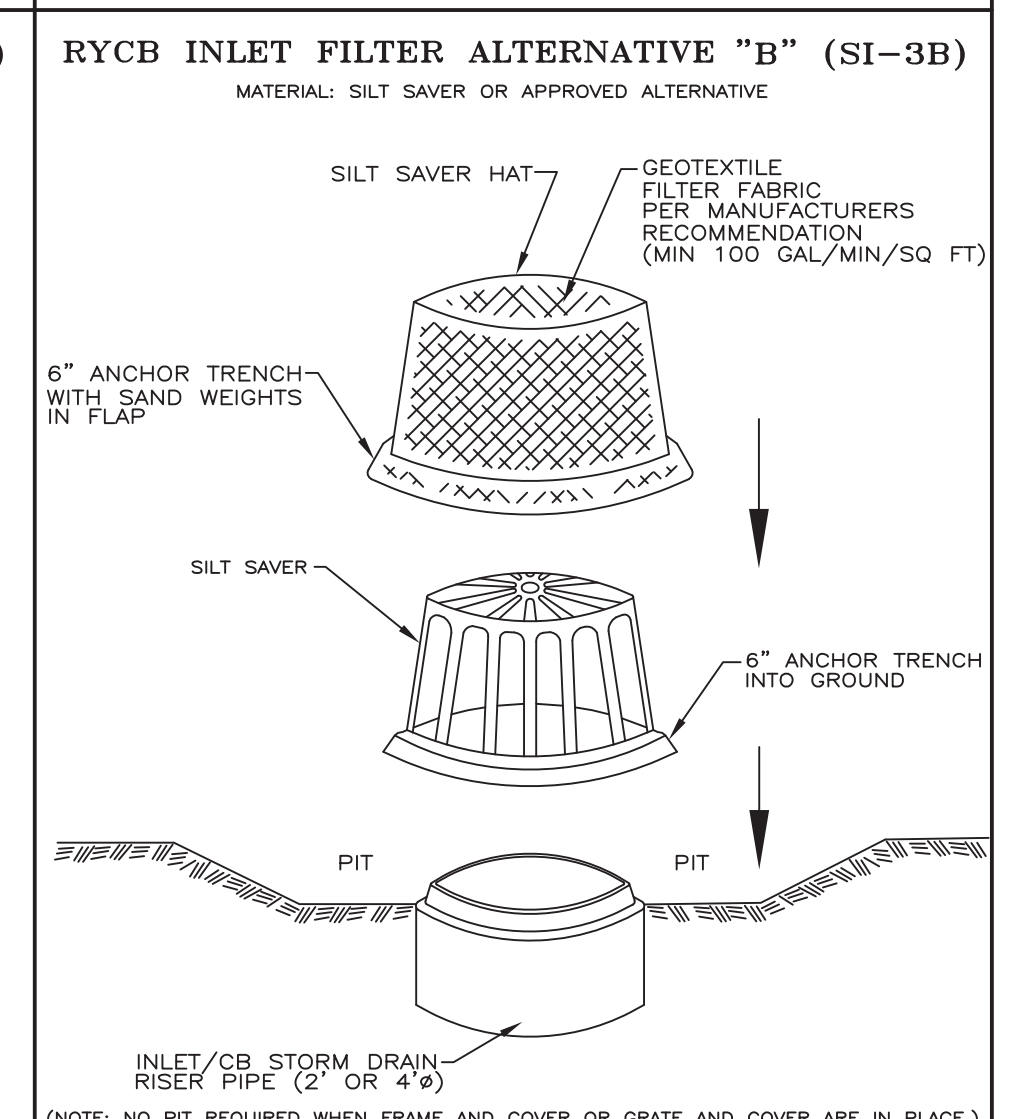
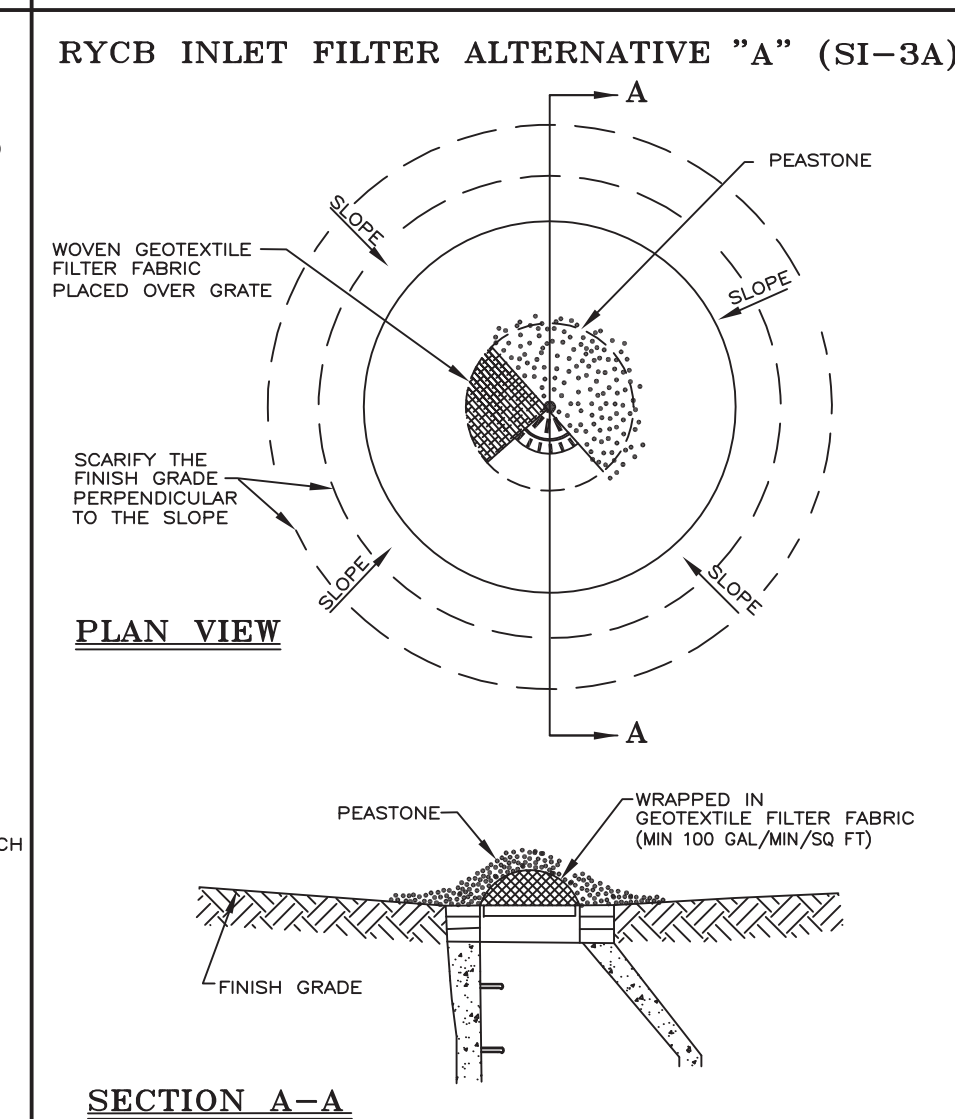
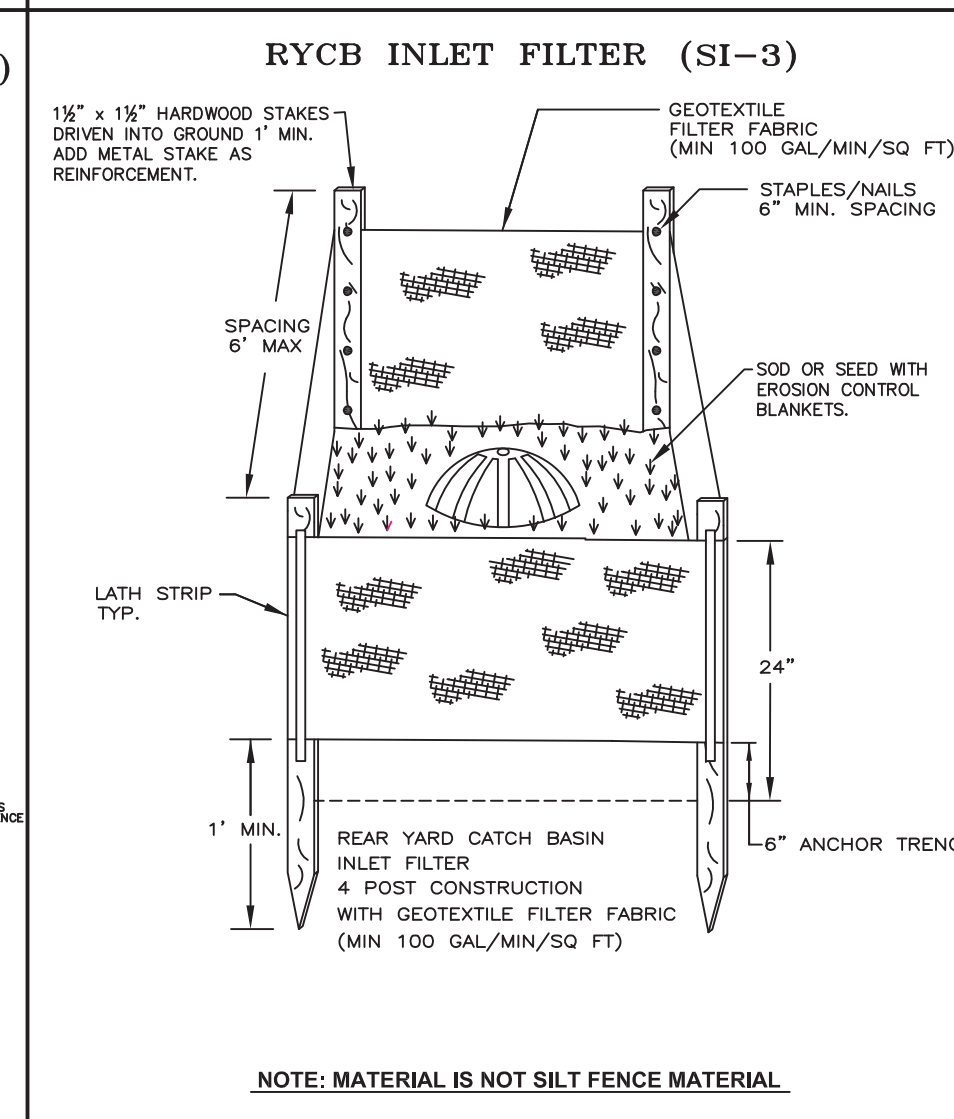
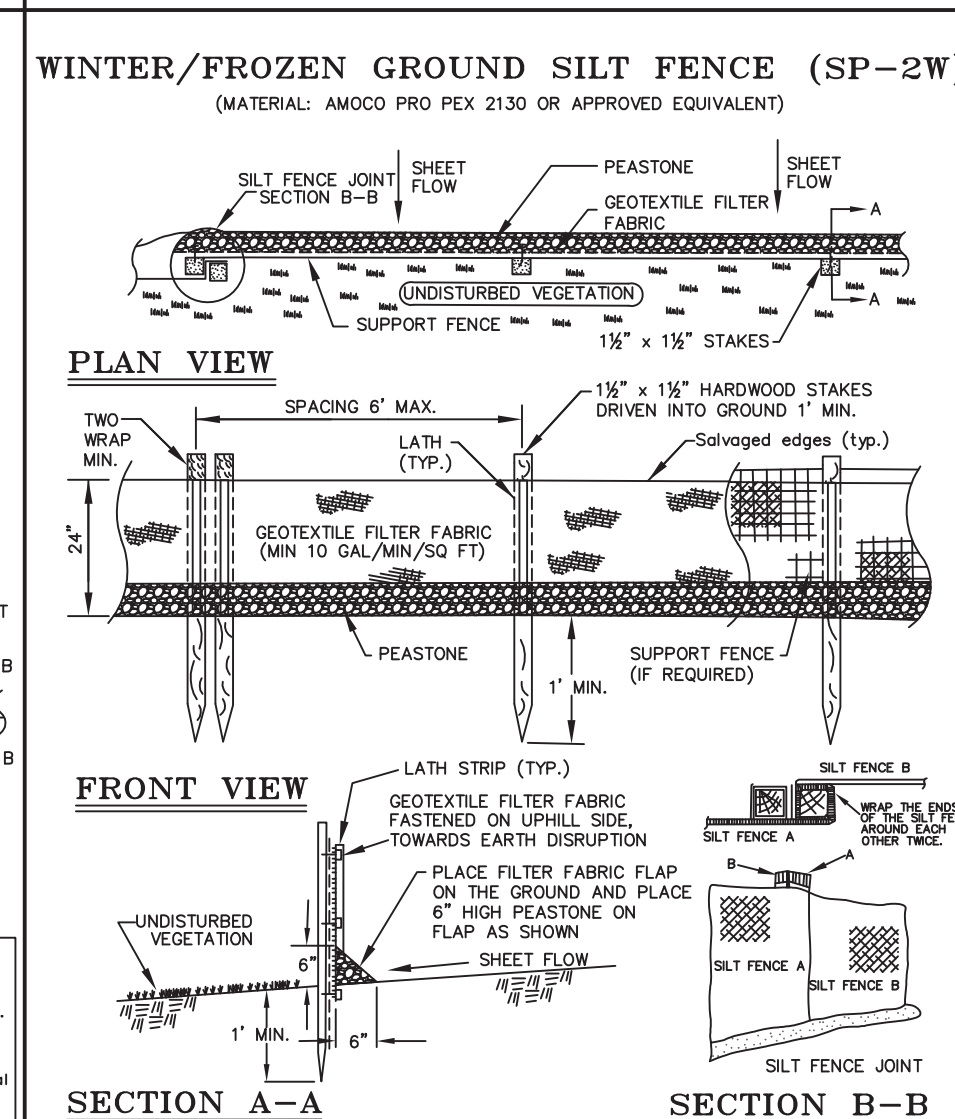
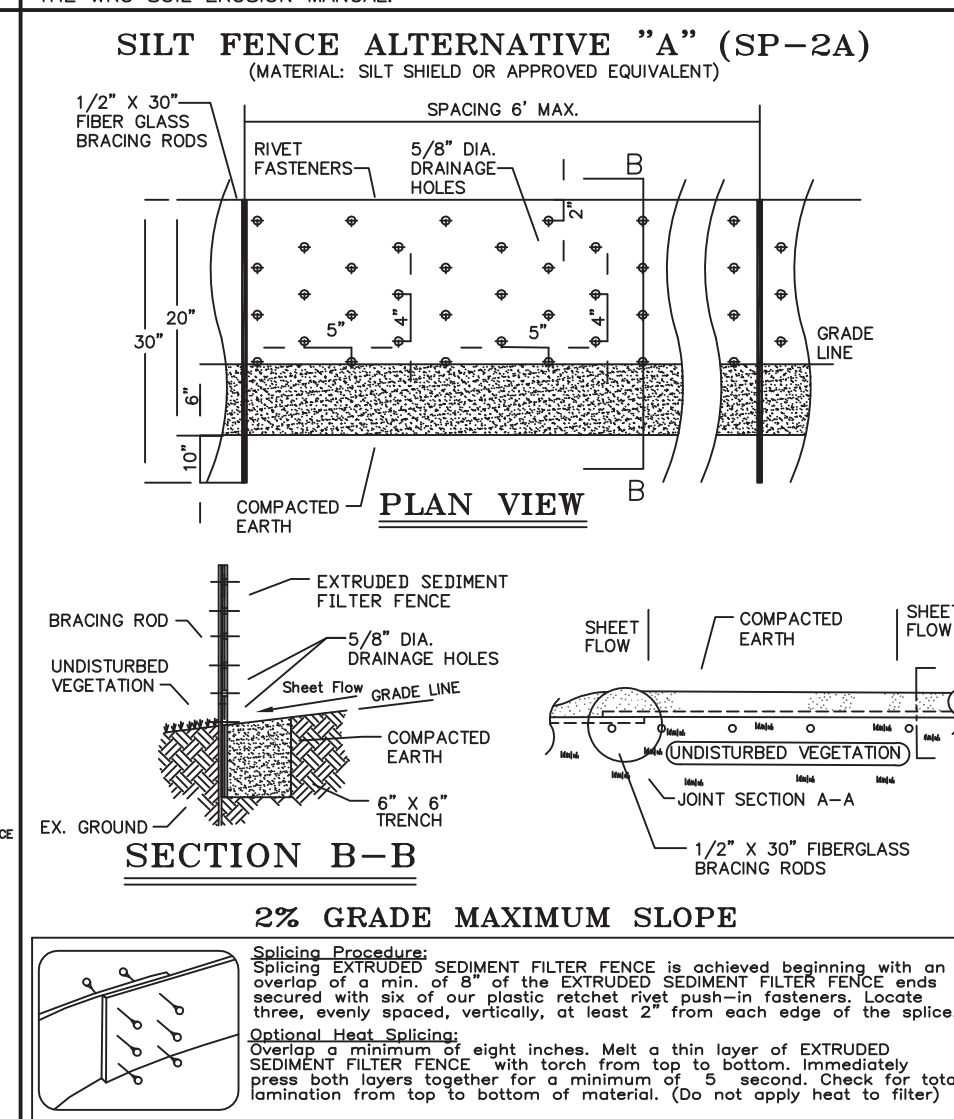
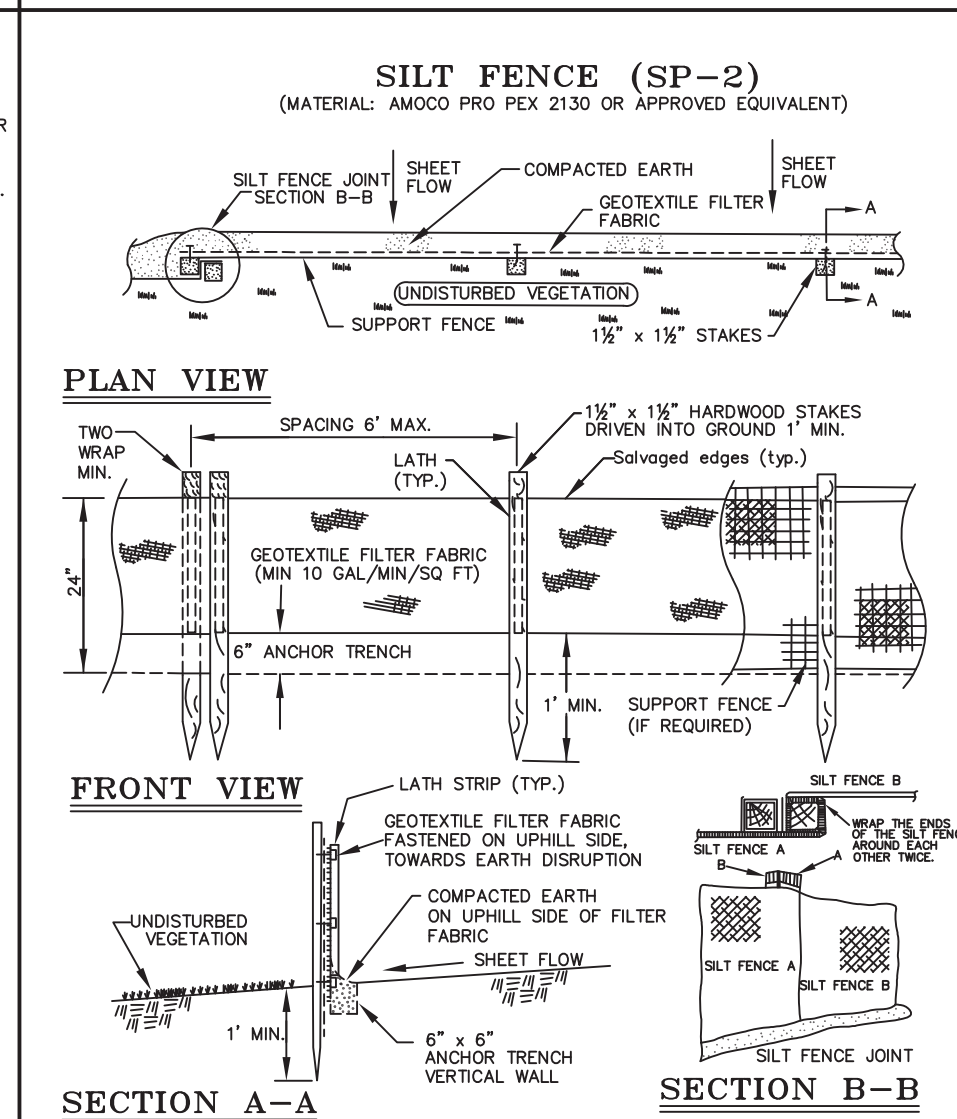
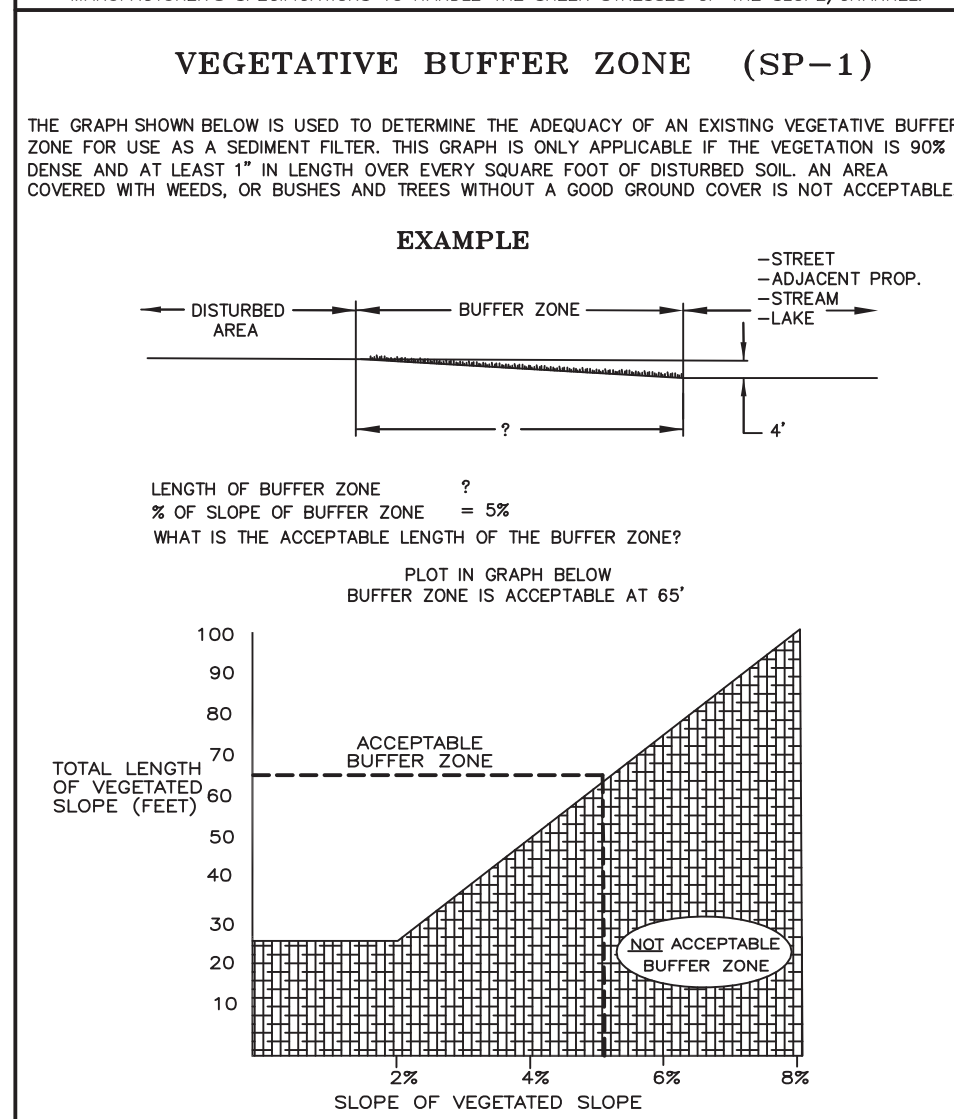
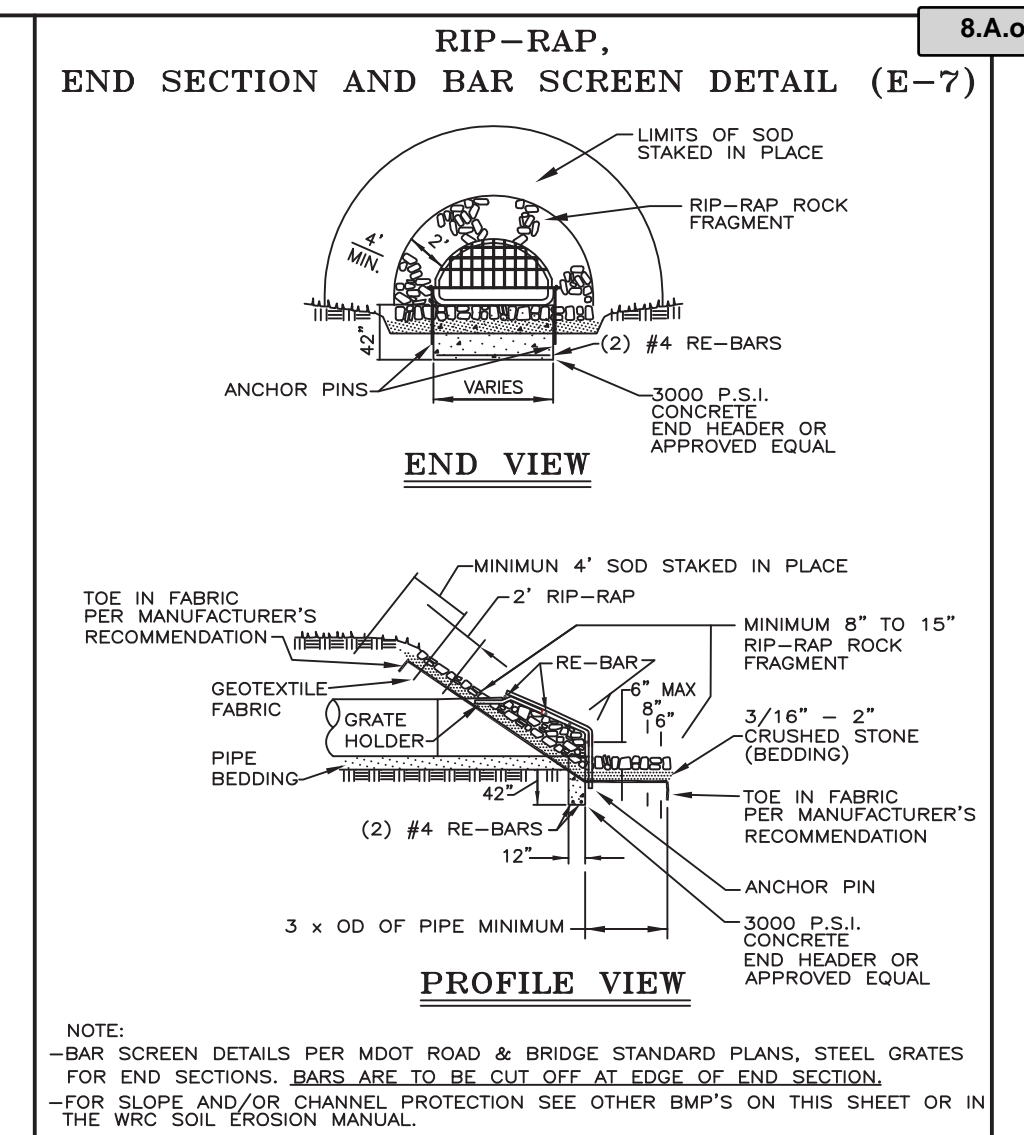
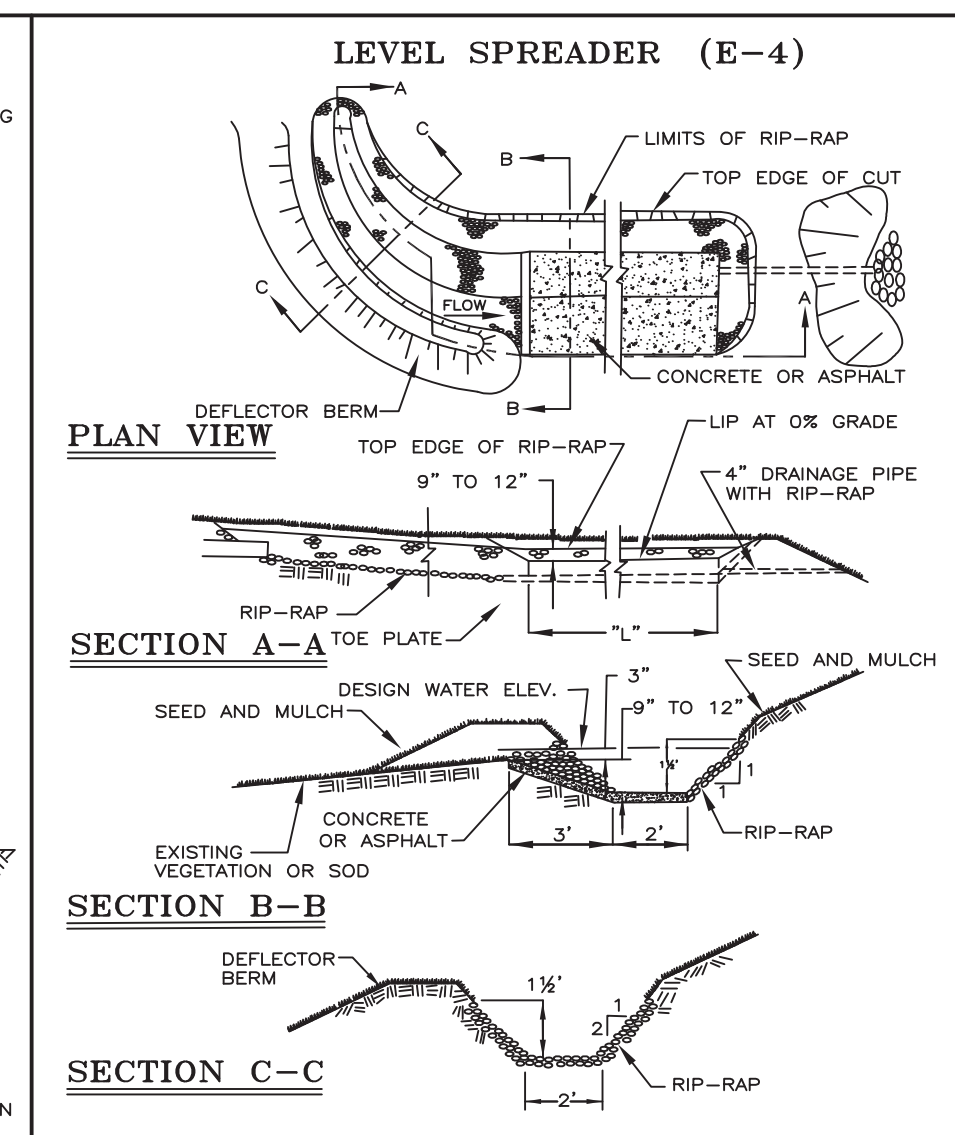
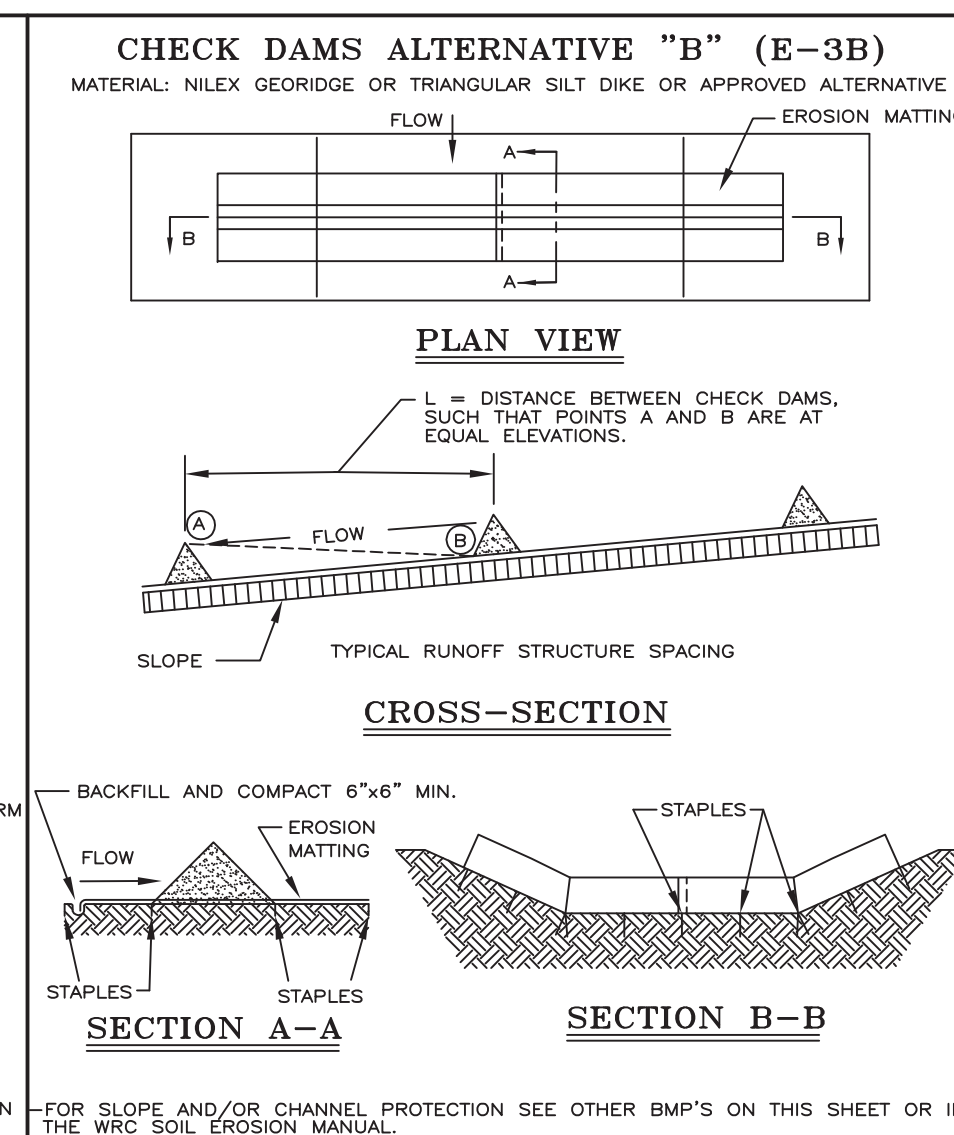
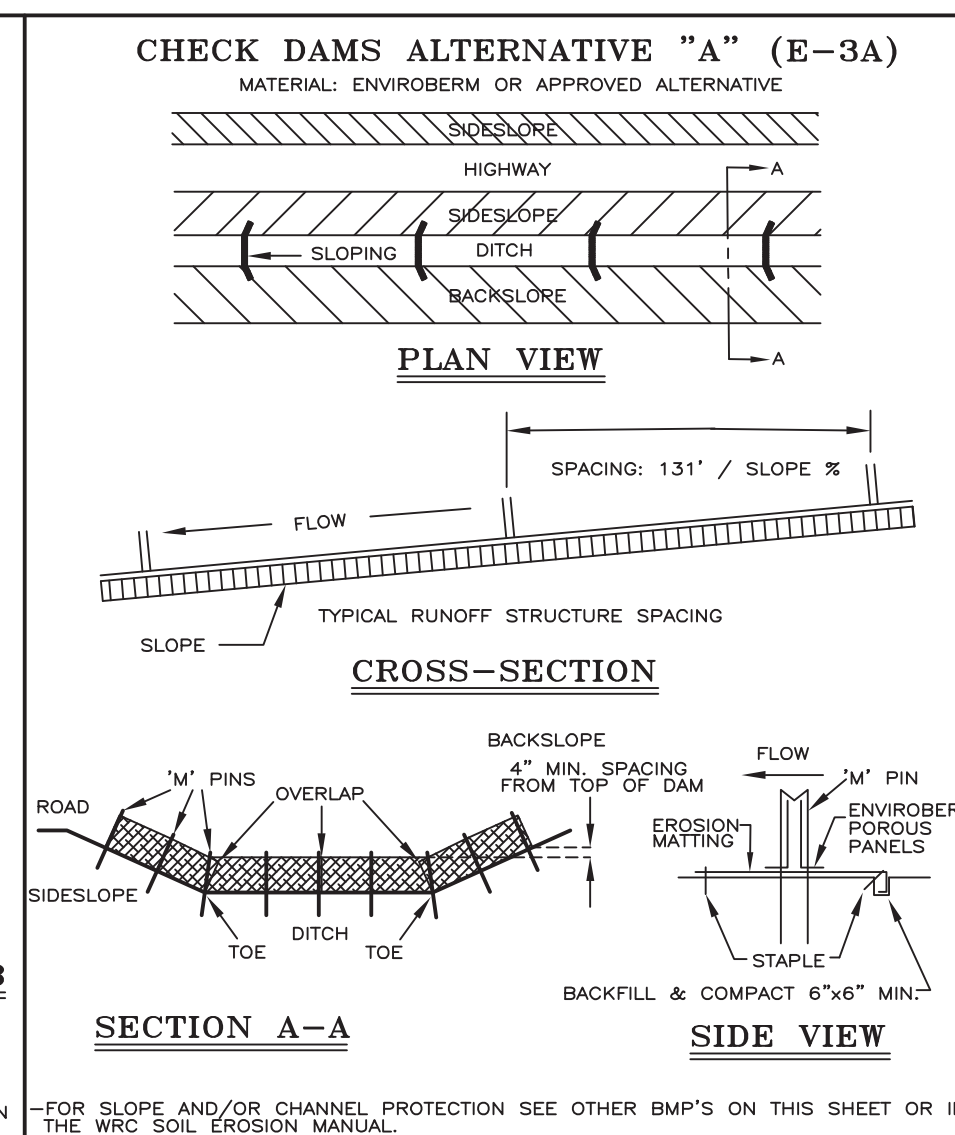
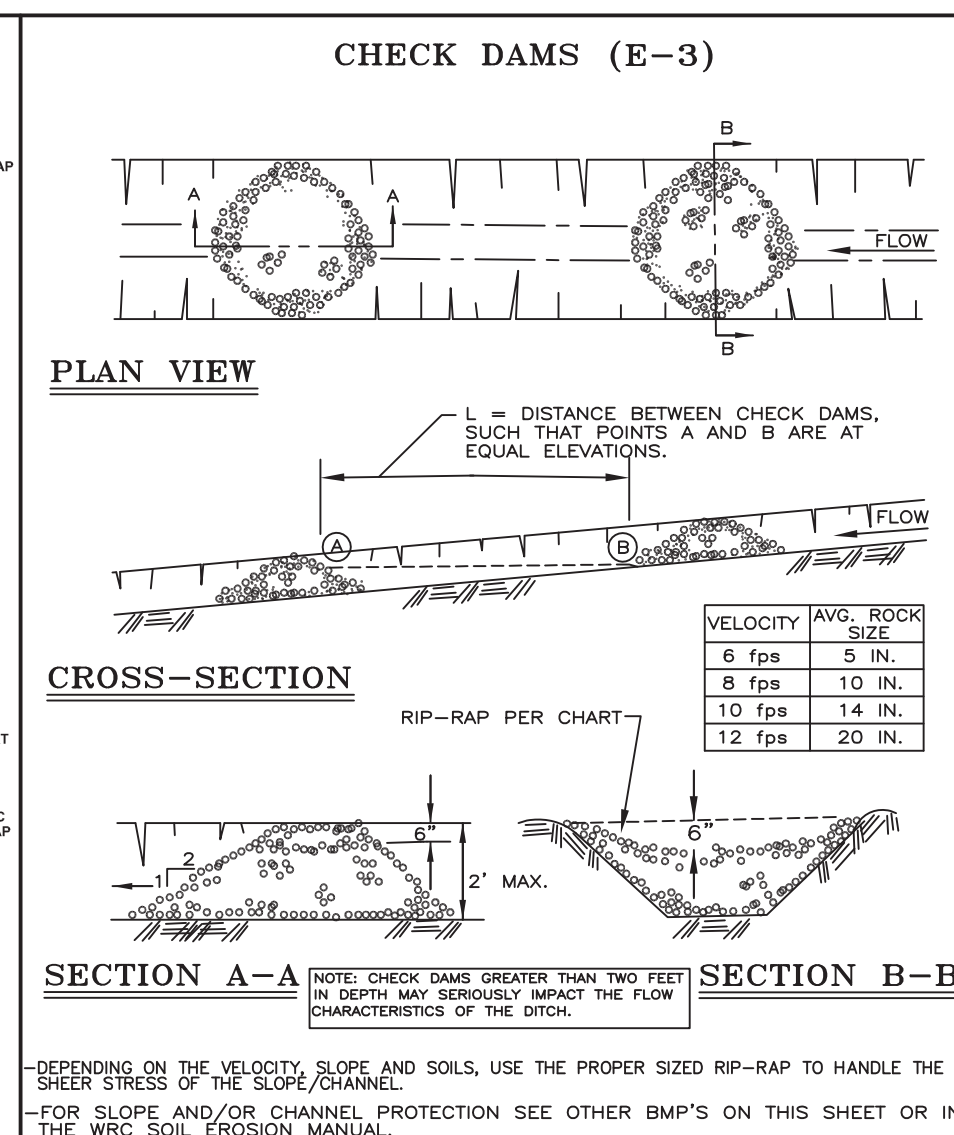
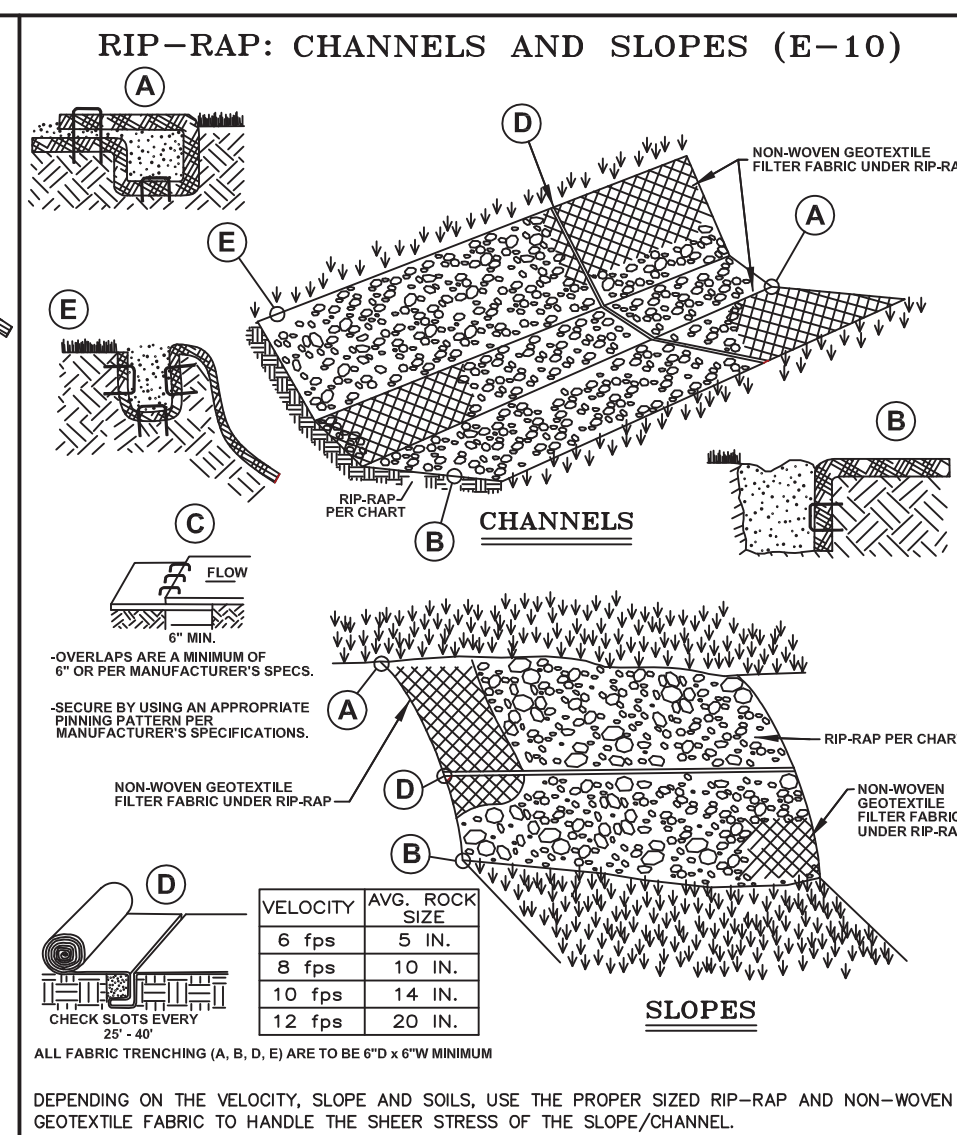
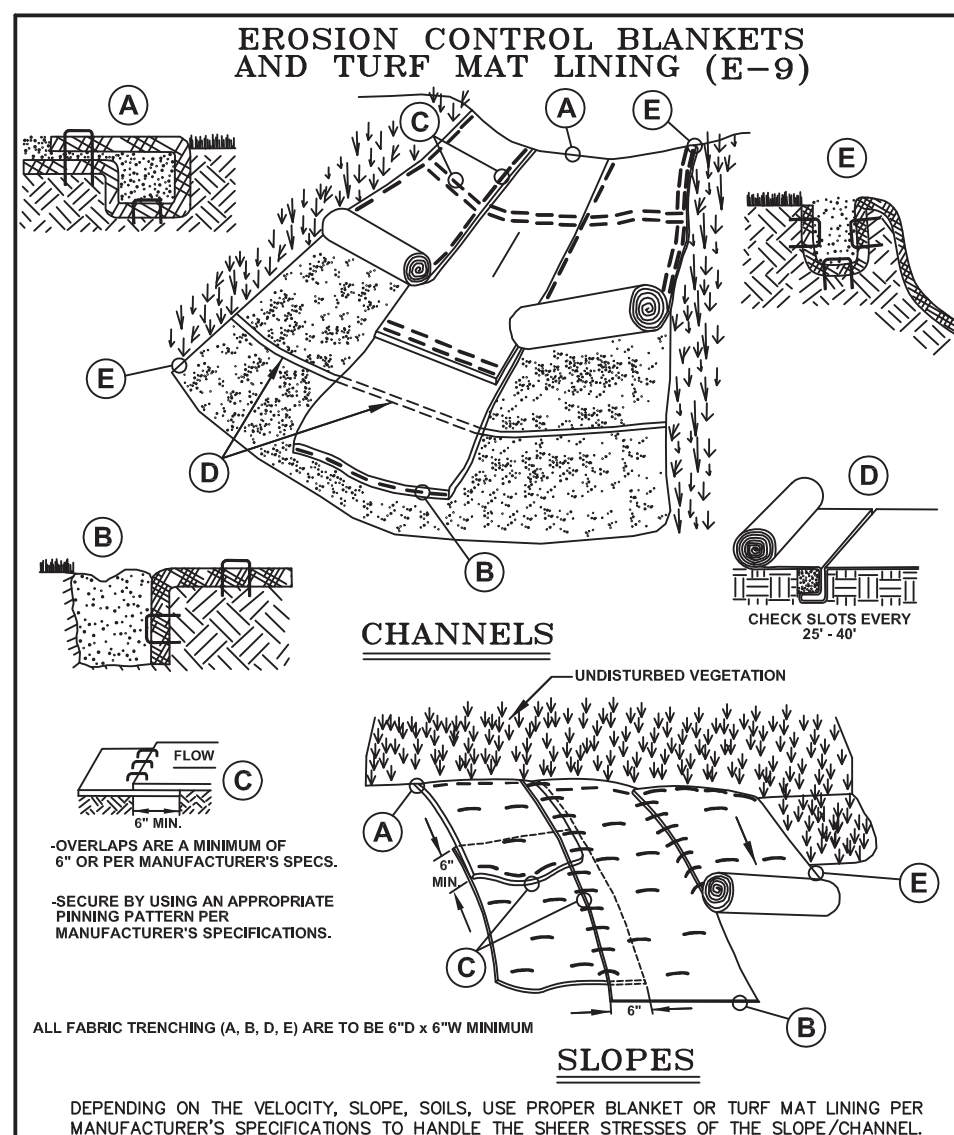
DESIGNED BY: WRC

DRAWN BY: Mapping



ONE PUBLIC WORKS DRIVE, BLDG 95 WEST
WATERFORD, MICHIGAN
48328-1907

SHEET NO.:



Schedule									
Symbol	Label	Quantity	Manufacturer	Catalog Number	Description	Lamp	Lumens Per Lamp	Light Loss Factor	Wattage
	B1	18	Lithonia Lighting	RADB LED P5 40K SYM DDBXD	RADB LED P5 40K SYM DDBXD	LED	2221	0.9	32.31
	B2	4	Lithonia Lighting	RADPT P2 40K ASY	RADEAN Post-Top with P2 4000K Asymmetric distribution		4897	0.9	38.0107
	B3	2	Lithonia Lighting	RADPT P1 27K SYM HS	RADEAN Post-Top with P1 2700K Symmetric distribution with house-side shield	LED	2757	0.9	25.4134
	C2	1	THE KIRLIN COMPANY	LRS-10526-3500L-WFL	LRS-10526-3500L-WFL	LED	3799	0.9	43
	F1	1	Lithonia Lighting	DSXF3 LED 6 P4 40K 70CRI FL	D-Series Floodlight Size 3 with 6 COBs P4 Lumen Package 4000 CCT 70CRI Type FL Distribution	LED	Absolute	0.9	189.033
	P1	2	Lithonia Lighting	DSX0 LED P5 40K 70CRI T5W	D-Series Size 0 Area Luminaire P5 Performance Package 4000K CCT 70 CRI Type 5 Wide		12830	0.94	90.12
	P2	2	Lithonia Lighting	DSX0 LED P2 40K 70CRI T5W	D-Series Size 0 Area Luminaire P2 Performance Package 4000K CCT 70 CRI Type 5 Wide		6558	0.9	90.28
	P3	1	Lithonia Lighting	DSX0 LED P4 40K TFTM MVOLT HS	DSX0 LED P4 40K TFTM MVOLT with houseside shield	LED	8243	0.9	92
	W1	3	Lithonia Lighting	ARC1 LED P1 40K	ARC1 LED WITH P1 - PERFORMANCE PACKAGE, 4000K		1454	0.9	10.8751
	W2	1	Lithonia Lighting	DSX0 LED P1 40K 70CRI TFTM	D-Series Size 0 Area Luminaire P1 Performance Package 4000K CCT 70 CRI Forward Throw		4896	0.9	33.21
	W3	14	Lithonia Lighting	ARC1 LED P1 40K	ARC1 LED WITH P1 - PERFORMANCE PACKAGE, 4000K	LED	1454	0.9	10.8751
	W4	3	BEGA Converted by LUMCat V 06.02.2017 / H.R.	33 509 K4	33 509 K4	LED	923	0.9	13
	W5	2	BEGA Converted by LUMCat V 06.07.2017 / M.S.	33 508 K4	33 508 K4	LED	505	0.9	7

General Note
1. SEE SCHEDULE FOR LUMINAIRE MOUNTING HEIGHT.
2. CALCULATIONS ARE SHOWN IN FOOTCANDLES AT: 5' - 0"
3. LIGHTING ALTERNATES REQUIRE NEW PHOTOMETRIC CALCULATION AND RESUBMISSION TO CITY FOR APPROVAL.

THE ENGINEER AND/OR ARCHITECT MUST DETERMINE APPLICABILITY OF THE LAYOUT TO EXISTING / FUTURE FIELD CONDITIONS. THIS LIGHTING LAYOUT REPRESENTS ILLUMINATION LEVELS CALCULATED FROM LABORATORY DATA TAKEN UNDER CONTROLLED CONDITIONS IN ACCORDANCE WITH ILLUMINATING ENGINEERING SOCIETY APPROVED METHODS. ACTUAL PERFORMANCE OF ANY MANUFACTURER'S LUMINAIRE MAY VARY DUE TO VARIATION IN ELECTRICAL VOLTAGE, TOLERANCE IN LAMPS, AND OTHER VARIABLE FIELD CONDITIONS. MOUNTING HEIGHTS INDICATED ARE FROM GRADE AND/OR FLOOR UP.

THESE LIGHTING CALCULATIONS ARE NOT A SUBSTITUTE FOR INDEPENDENT ENGINEERING ANALYSIS OF LIGHTING SYSTEM SUITABILITY AND SAFETY. THE ENGINEER AND/OR ARCHITECT IS RESPONSIBLE TO REVIEW FOR MICHIGAN ENERGY CODE AND LIGHTING QUALITY COMPLIANCE.

UNLESS EXEMPT, PROJECT MUST COMPLY WITH LIGHTING CONTROLS REQUIRMENTS DEFINED IN ASHRAE 90.1 2013. FOR SPECIFIC INFORMATION CONTACT GBA CONTROLS GROUP AT ASG@GASSERBUSH.COM OR 734-266-6705.

FOR ORDERING INQUIRIES CONTACT GASSER BUSH AT QUOTES@GASSERBUSH.COM OR 734-266-6705.

THIS DRAWING WAS GENERATED FROM AN ELECTRONIC IMAGE FOR ESTIMATION PURPOSE ONLY. LAYOUT TO BE VERIFIED IN FIELD BY OTHERS.

MOUNTING HEIGHT IS MEASURED FROM GRADE TO FACE OF FIXTURE. POLE HEIGHT SHOULD BE CALCULATED AS THE MOUNTING HEIGHT LESS BASE HEIGHT.

Statistics

Description	Symbol	Avg	Max	Min	Avg/Min	Max/Min
Grade @ 5'	+	0.6 fc	10.0 fc	0.0 fc	N/A	N/A
North Parking and Drives	✖	1.0 fc	2.4 fc	0.1 fc	10.0:1	24.0:1
Property Line	+	0.1 fc	0.5 fc	0.0 fc	N/A	N/A
South Parking and Drive	✖	1.0 fc	3.5 fc	0.1 fc	10.0:1	35.0:1

