



# City of Madison

## Proposed Rezoning

### Location

5401 Tancho Drive

### Applicant

Wisconsin Apartments III, LLC/  
Joseph Lee, JLA Architects and Planners

From: PD(GDP) To: Amended  
PD(GDP-SIP)

### Existing Use

Vacant land

### Proposed Use

Construct 264 apartments in  
7 buildings and a clubhouse

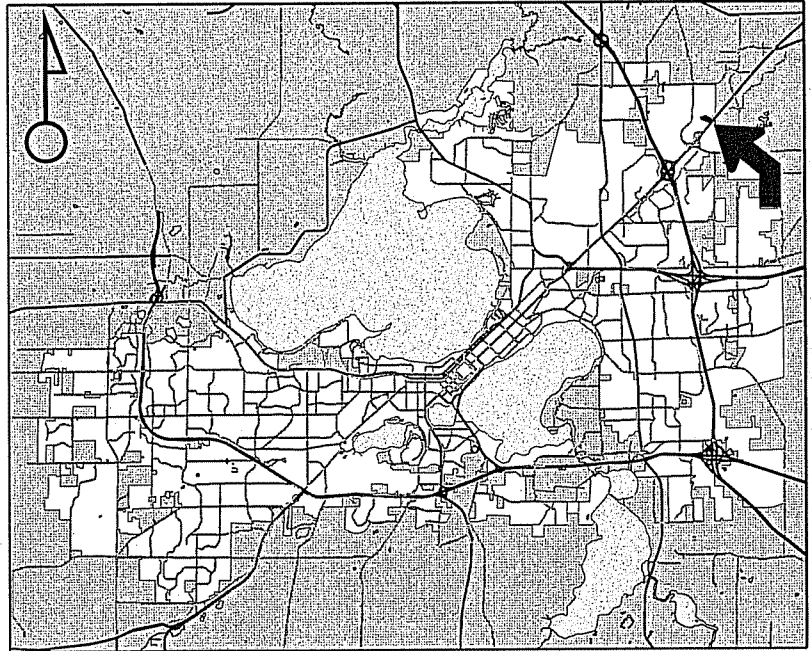
### Public Hearing Date

Plan Commission

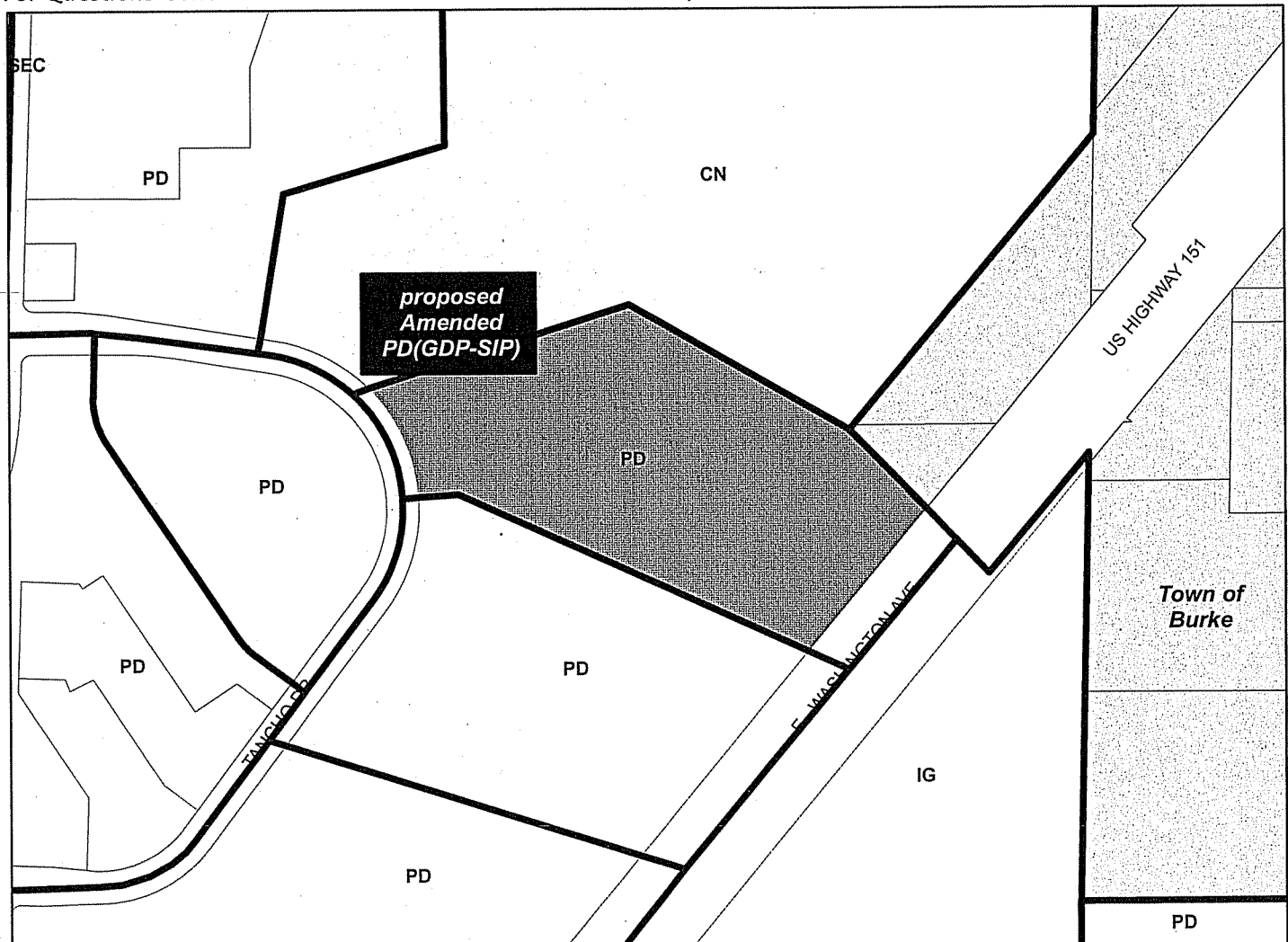
21 March 2016

Common Council

29 March 2016



For Questions Contact: Chris Wells at: 261-9135 or [cwells@cityofmadison.com](mailto:cwells@cityofmadison.com) or City Planning at 266-4635



Scale : 1" = 400'

City of Madison, Planning Division : RPJ : Date : 16 March 2016





# LAND USE APPLICATION

CITY OF MADISON

215 Martin Luther King Jr. Blvd; Room LL-100  
PO Box 2985; Madison, Wisconsin 53701-2985  
Phone: 608.266.4635 | Facsimile: 608.267.8739

- All Land Use Applications should be filed with the Zoning Administrator at the above address.
- The following information is required for all applications for Plan Commission review except subdivisions or land divisions, which should be filed using the Subdivision Application.
- This form may also be completed online at:  
[www.cityofmadison.com/developmentcenter/landdevelopment](http://www.cityofmadison.com/developmentcenter/landdevelopment)

FOR OFFICE USE ONLY:	
Amt. Paid <u>\$4,500</u>	Receipt No. <u>11629-0005</u>
Date Received <u>1/6/14</u>	
Received By <u>SLK</u>	
Parcel No. <u>0810-143-0106-4</u>	
Aldermanic District <u>17-Samba Baldeh</u>	
Zoning District <u>PD</u>	
Special Requirements <u>zoned PD, Eng</u>	
Review Required By:	
<input type="checkbox"/> Urban Design Commission	<input type="checkbox"/> Plan Commission
<input type="checkbox"/> Common Council	<input type="checkbox"/> Other: _____

Form Effective: February 21, 2013

1. **Project Address:** 5401 Tancho Drive  
**Project Title (if any):** 22 Slate Apartments

2. **This is an application for** (Check all that apply to your Land Use Application):

- ☒ **Zoning Map Amendment from** PUD-GDP **to** PUD-SIP
- ☐ **Major Amendment to Approved PD-GDP Zoning**      ☐ **Major Amendment to Approved PD-SIP Zoning**
- ☐ **Review of Alteration to Planned Development (By Plan Commission)**
- ☐ **Conditional Use, or Major Alteration to an Approved Conditional Use**
- ☐ **Demolition Permit**
- ☒ **Other Requests:** CSM Review & Approval

3. **Applicant, Agent & Property Owner Information:**

**Applicant Name:** Mr. Mike Schiltz **Company:** Fiduciary Real Estate Development  
**Street Address:** 789 North Water Street **City/State:** Milwaukee, Wisconsin **Zip:** 53202  
**Telephone:** (414) 226-4535 **Fax:** ( ) **Email:** mschiltz@fred-inc.com

**Project Contact Person:** Joseph Lee **Company:** JLA Architects + Planners  
**Street Address:** 2418 Crossroads Drive - Suite 2300 **City/State:** Madison, Wisconsin **Zip:** 53718  
**Telephone:** (608) 241-9500 **Fax:** ( ) **Email:** jlee@jla-ap.com

**Property Owner (if not applicant):** Wisconsin Apartments III, LLC  
**Street Address:** 2 North LaSalle Street - Suite 2300 **City/State:** Chicago, IL **Zip:** 60602

4. **Project Information:**

Provide a brief description of the project and all proposed uses of the site: \_\_\_\_\_

Multi-Family Development with seven (7) apartment buildings and one (1) common Clubhouse Building.

Development Schedule: Commencement Construction Start - 04/2016 Completion Anticipated 08/2018

## 5. Required Submittal Information

All Land Use applications are required to include the following:

☒ **Project Plans** including:\*

- Site Plans (fully dimensioned plans depicting project details including all lot lines and property setbacks to buildings; demolished/proposed/alterd buildings; parking stalls, driveways, sidewalks, location of existing/proposed signage; HVAC/Utility location and screening details; useable open space; and other physical improvements on a property)
- Grading and Utility Plans (existing and proposed)
- Landscape Plan (including planting schedule depicting species name and planting size)
- Building Elevation Drawings (fully dimensioned drawings for all building sides, labeling primary exterior materials)
- Floor Plans (fully dimensioned plans including interior wall and room location)

**Provide collated project plan sets as follows:**

- **Seven (7) copies** of a full-sized plan set drawn to a scale of 1 inch = 20 feet (folded or rolled and stapled)
- **Twenty Five (25) copies** of the plan set reduced to fit onto 11 X 17-inch paper (folded and stapled)
- **One (1) copy** of the plan set reduced to fit onto 8 ½ X 11-inch paper

\* For projects requiring review by the **Urban Design Commission**, provide **Fourteen (14) additional 11x17 copies** of the plan set. In addition to the above information, all plan sets should also include: 1) Colored elevation drawings with shadow lines and a list of exterior building materials/colors; 2) Existing/proposed lighting with photometric plan & fixture cutsheet; and 3) Contextual site plan information including photographs and layout of adjacent buildings and structures. The applicant shall bring samples of exterior building materials and color scheme to the Urban Design Commission meeting.

☒ **Letter of Intent: Provide one (1) Copy per Plan Set** describing this application in detail including, but not limited to:

- |   |   |  |
|---|---|--|
| • Project Team                                | • Building Square Footage                       | • Value of Land  |
| • Existing Conditions                         | • Number of Dwelling Units                      | • Estimated Project Cost                                     |
| • Project Schedule                            | • Auto and Bike Parking Stalls                  | • Number of Construction & Full-Time Equivalent Jobs Created |
| • Proposed Uses (and ft <sup>2</sup> of each) | • Lot Coverage & Usable Open Space Calculations | • Public Subsidy Requested                                   |
| • Hours of Operation                          |   |  |

☒ **Filing Fee:** Refer to the Land Use Application Instructions & Fee Schedule. Make checks payable to: *City Treasurer*.

☒ **Electronic Submittal:** All applicants are required to submit copies of all items submitted in hard copy with their application as Adobe Acrobat PDF files on a non-returnable CD to be included with their application materials, or by e-mail to pcapplications@cityofmadison.com.

☐ **Additional Information** may be required, depending on application. Refer to the Supplemental Submittal Requirements.

## 6. Applicant Declarations

☒ **Pre-application Notification:** The Zoning Code requires that the applicant notify the district alder and any nearby neighborhood and business associations in writing no later than **30 days prior to FILING this request**. List the alderperson, neighborhood association(s), and business association(s) AND the dates you sent the notices:  
Meeting w/ Alderman Baldeh - 7/24/15, Two (2) Neighborhood Meetings w/ Official Mailings (8/20/15 & 12/15/15)

→ If a waiver has been granted to this requirement, please attach any correspondence to this effect to this form.

☒ **Pre-application Meeting with Staff:** Prior to preparation of this application, the applicant is required to discuss the proposed development and review process with Zoning and Planning Division staff; note staff persons and date.

Planning Staff: Wendt & Wells Date: 11/09/15 & 12/7/15 Zoning Staff: Tucker Date: 11/09/15 & 12/7/15

**The applicant attests that this form is accurately completed and all required materials are submitted:**

Name of Applicant Mr. Mike Schiltz Relationship to Property: Developer  
Authorizing Signature of Property Owner See Following Page Date 01/06/15 7



## 5. Required Submittal Information

All Land Use applications are required to include the following:

☒ **Project Plans including:**\*

- Site Plans (fully dimensioned plans depicting project details including all lot lines and property setbacks to buildings; demolished/proposed/alterd buildings; parking stalls, driveways, sidewalks, location of existing/proposed signage; HVAC/Utility location and screening details; useable open space; and other physical improvements on a property)
- Grading and Utility Plans (existing and proposed)
- Landscape Plan (including planting schedule depicting species name and planting size)
- Building Elevation Drawings (fully dimensioned drawings for all building sides, labeling primary exterior materials)
- Floor Plans (fully dimensioned plans including interior wall and room location)

Provide collated project plan sets as follows:

- **Seven (7) copies** of a full-sized plan set drawn to a scale of 1-inch = 20 feet (folded or rolled and stapled)
- **Twenty Five (25) copies** of the plan set reduced to fit onto 11 X 17-inch paper (folded and stapled)
- **One (1) copy** of the plan set reduced to fit onto 8 1/2 X 11-inch paper

\* For projects requiring review by the **Urban Design Commission**, provide **Fourteen (14) additional 11x17 copies** of the plan set. In addition to the above information, all plan sets should also include: 1) Colored elevation drawings with shadow lines and a list of exterior building materials/colors; 2) Existing/proposed lighting with photometric plan & fixture cutsheet; and 3) Contextual site plan information including photographs and layout of adjacent buildings and structures. The applicant shall bring samples of exterior building materials and color scheme to the Urban Design Commission meeting.

☒ **Letter of Intent: Provide one (1) Copy per Plan Set** describing this application in detail including, but not limited to:

- |   |   |  |
|---|---|--|
| • Project Team                                | • Building Square Footage                       | • Value of Land  |
| • Existing Conditions                         | • Number of Dwelling Units                      | • Estimated Project Cost                                     |
| • Project Schedule                            | • Auto and Bike Parking Stalls                  | • Number of Construction & Full-Time Equivalent Jobs Created |
| • Proposed Uses (and ft <sup>2</sup> of each) | • Lot Coverage & Usable Open Space Calculations | • Public Subsidy Requested                                   |
| • Hours of Operation                          |   |  |

☒ **Filing Fee:** Refer to the Land Use Application Instructions & Fee Schedule. Make checks payable to: City Treasurer.

☒ **Electronic Submittal:** All applicants are required to submit copies of all items submitted in hard copy with their application as Adobe Acrobat PDF files on a non-returnable CD to be included with their application materials, or by e-mail to [pcapplications@cityofmadison.com](mailto:pcapplications@cityofmadison.com).

☐ **Additional Information** may be required, depending on application. Refer to the Supplemental Submittal Requirements.

## 6. Applicant Declarations

☒ **Pre-application Notification:** The Zoning Code requires that the applicant notify the district alder and any nearby neighborhood and business associations in writing no later than 30 days prior to FILING this request. List the alderperson, neighborhood association(s), and business association(s) AND the dates you sent the notices:

Meeting w/ Alderman Baldeh - 7/24/15, Two Neighborhood Meeting w/ official mailings (8/20/15 and 12/15/15)  
→ If a waiver has been granted to this requirement, please attach any correspondence to this effect to this form.

☐ **Pre-application Meeting with Staff:** Prior to preparation of this application, the applicant is required to discuss the proposed development and review process with Zoning and Planning Division staff; note staff persons and date.

Planning Staff: Wendy Wells Date: 11/9/15 Zoning Staff: Tucker Date: 11/9/15  
12/7/15 12/7/15

The applicant attests that this form is accurately completed and all required materials are submitted:

Name of Applicant Mike Schiltz

Relationship to Property: Developer

Authorizing Signature of Property Owner [Signature]

Date 1/5/16



JOSEPH LEE + ASSOCIATES, LLC  
2418 Crossroads Drive, Suite 2300  
Madison, Wisconsin 53718  
608.241.9500

January 6, 2016

Madison Plan Commission & Common Council  
c/o Mr. Matt Tucker  
Madison Zoning Administrator  
215 Martin Luther King Jr. Boulevard  
Madison, Wisconsin 53701-2985

RE: 22 Slate Apartments: PUD-SIP & CSM Submittals  
5401 Tancho Drive

Mr. Tucker,

Please find enclosed, the following required materials for a PUD-SIP submittal and the UDC submittal, and associated CSM for our proposed "22 Slate Apartments" located at 5401 Tancho Drive on Madison's east side.

- Letter of Intent 59 total copies
  - 33 copies for SIP Submittal
  - 14 copies for UDC Submittal
  - 12 copies for CSM Submittal
- PUD-SIP Application
  - Seven (7) Full Size Plan Sets at 24"x36"
  - Twenty-Five (25) Reduced Sets at 11"x17"
  - One (1) Reduced Set at 8.5"x11"
  - One (1) Set of Storm Water Management Calculations
  - Application Fee
  - Fourteen (14) UDC Submittal Sets at 11"x17"
- CSM Application – Preliminary Plat
  - Eighteen (18) Sets at 11"x17"
- CD with Digital Files of Submittal

We respectfully request that our project be inserted into the Plan Commission/Common Council Meeting Schedule for review. Below is a brief description of the project.

**Project Team:**

The project team consists of the following members:

Owner:

Fiduciary Real Estate Development, Inc.

Architect:

JLA Architects & Planners

Civil Engineers:  
The Sigma Group  
JLA Architects & Planners

Landscape Architect:  
New Eden Landscape Architecture

### **Existing Site Conditions:**

The 14.2 acre (+/-) site is located on the east side of Madison – just east of American Parkway. The site is currently a vacant parcel that is bordered by:

- Highway 151 to the east;
- Permanent open space and Madison parkland to the north;
- Various multi-family residential communities to the west and the south.

The site has a topographic change – dropping 10'-15' from north to south – and has no significant trees/vegetation. The site has an existing Storm Water management facility – shared with other adjacent buildings.

### **Project Program:**

The "22 Slate Apartments" consists of seven (7) multi-family residential buildings and a single, stand-alone Clubhouse building. The buildings are organized around thoughtfully designed common greens that serve as common amenity space for the community. For this project, we are proposing to divide a single parcel into two (2) separate parcels via the Land Division/CSM process.

### **Residential Buildings:**

There are two (2) different residential buildings types - Building Type 'A' and Building Type 'B'. Both are three story buildings above a single level of covered parking. They are to have a more traditional aesthetic to complement the existing traditional multi-family buildings adjacent to the project site.

BUILDING 'A'					
	TOTALS				
	Total Units		Common Space	Building Totals	
	833 A.S.F.			Area	Efficiency
	Qty.	Area			
Floor 5	-	-	-	-	#DIV/0!
Floor 4	-	-	-	-	#DIV/0!
Floor 3	15	12,410	2,380	14,790	83.9%
Floor 2	15	12,410	2,380	14,790	83.9%
Floor 1	14	11,810	2,980	14,790	79.9%
Totals	44	36,630	7,740	44,370	82.6%
Unit Breakdown	100%			1,008	s.f. per unit

NOTE: Final Unit Counts, Types, Mix, and Sizes are subject to change.

BUILDING 'B'					
	TOTALS				
	Total Units		Common Space	Building Totals	
	919 A.S.F.			Area	Efficiency
	Qty.	Area			
Floor 5	-	-	-	-	#DIV/0!
Floor 4	-	-	-	-	#DIV/0!
Floor 3	11	10,170	2,450	12,620	80.6%
Floor 2	11	10,170	2,450	12,620	80.6%
Floor 1	11	9,985	2,635	12,620	79.1%
Totals	33	30,325	7,535	37,860	80.1%
Unit Breakdown	100%			1,147	s.f. per unit

NOTE: Final Unit Counts, Types, Mix, and Sizes are subject to change.



#### Clubhouse Building:

The Clubhouse building will be a single story building with a basement level. At 3,500, it will contain the development's leasing office as well as common amenity spaces such as a club room, fitness center, and pool. Like the apartment buildings, the Clubhouse will have a more traditional aesthetic.

#### Density:

The total unit count for '22 Slate' is 264 units - resulting in a project density of 18.6 units/per acre. These units are comprised of the following unit mix:

- 14% Studio Units
- 44% One-Bedroom Units
- 6% One-Bedroom + Den Units
- 28% Two-Bedroom Units
- 8% Three-Bedroom Units.

#### Project Data

Currently, the Project Data for '22 Slate' is as follows:

22 SLATE PROJECT DATA									1/6/2016
BUILDING					PARKING				
NAME	USE	FOOTPRINT	FLOOR AREA	UNITS	COVERED	SURFACE	TOTAL	RATIO	
A1	Multi-Family Residential	15,000 S.F.	45,000 S.F.	44	44	24	68	1.55	PER UNIT
A2	Multi-Family Residential	15,000 S.F.	45,000 S.F.	44	44	24	68	1.55	PER UNIT
A3	Multi-Family Residential	15,000 S.F.	45,000 S.F.	44	44	24	68	1.55	PER UNIT
B1	Multi-Family Residential	13,000 S.F.	39,000 S.F.	33	33	18	51	1.55	PER UNIT
B2	Multi-Family Residential	13,000 S.F.	39,000 S.F.	33	33	18	51	1.55	PER UNIT
B3	Multi-Family Residential	13,000 S.F.	39,000 S.F.	33	33	18	51	1.55	PER UNIT
B4	Multi-Family Residential	13,000 S.F.	39,000 S.F.	33	33	18	51	1.55	PER UNIT
CH	Clubhouse	3,500 S.F.	3,500 S.F.	0	0	2	2	0.00	PER UNIT
TOTALS		100,500 S.F.	294,500 S.F.	264	264	146	410	1.55	PER UNIT

22 SLATE - BIKE PARKING						
BUILDING		BICYCLE PARKING				
NAME	UNITS	COVERED	SURFACE	TOTAL	RATIO	
A1	44	44	6	50	1.14	PER UNIT
A2	44	44	6	50	1.14	PER UNIT
A3	44	44	6	50	1.14	PER UNIT
B1	33	33	4	37	1.12	PER UNIT
B2	33	33	4	37	1.12	PER UNIT
B3	33	33	4	37	1.12	PER UNIT
B4	33	33	4	37	1.12	PER UNIT
CLUBHOUSE		0	12	12		
TOTALS	264	264	46	310	1.17	PER UNIT

ZONING REQUIREMENT	DESIGN VALUE	CALCULATIONS
SITE DENSITY	18.57 Units/Acre	264 Units / 14.22 AC. = 18.57
BUILDING COVERAGE	16.2% of Parcel	100,500 S.F. / 619,231 S.F. = 16.2%
FLOOR AREA RATIO	47.6% of Parcel	294,500 S.F. / 619,231 S.F. = 47.6%
IMPERVIOUS SURFACE	37.6% of Parcel	233,078 S.F. / 619,231 S.F. = 37.6%
LANDSCAPE AREA	62.4% of Parcel	386,153 S.F. / 619,231 S.F. = 62.4%



**Project Schedule:**

Currently, the anticipated Construction Schedule would be as follows. However, changing market conditions could result in either the acceleration or delay in this schedule.

- Phase 1
  - Clubhouse – May 2016 to December 2016
  - Building B2 – May 2016 to March 2017
  - Building B4 – July 2016 to April 2017
  - Building B3 – September 2016 to June 2017
  - Building A3 – November 2016 to August 2017
- Phase 2
  - Building A2 – July 2017 to April 2018
  - Building B1 – September 2017 to June 2018
  - Building A1 – November 2017 to August 2018

**Project Cost:**

The current anticipated value & construction cost of the project is as follows:

- Land Value \$2,480,000
- Total Construction Cost \$37,750,000

**Post-Occupancy Operation:**

After the completion of the project – it is anticipated that there would be seven (7) full-time equivalent jobs create. These will be a combination of Property Managers, Office Staff, Leasing Agents, and Maintenance Staff. The regular office hours would be as follows:

- Mondays-Fridays 8:00AM - 6:00PM
- Saturdays 10:00AM - 5:00PM
- Sundays 11:00AM - 4:00PM

We look forward to working with you, and other City of Madison Departments on this project. Please feel free to contact us if you have any questions or need anything else.

Regards,



Joseph M. Lee, AIA  
JLA Architects + Planners

## **CITY OF MADISON - PD ZONING TEXT**

**Project:**       **22 SLATE APARTMENTS**  
5401 Tancho Drive  
Madison, Wisconsin 53718

### **Legal Description:**

The lands subject to this Planned Development (PD) shall include those described in Exhibit 'A', attached hereto.

### **Lot Area:**

The lot area for the lands contained within this Planned Development (PD) is as stated in Exhibit 'A', attached hereto.

### **A. Statement of Purpose:**

This zoning district is established to allow for the construction of seven (7) three-story Apartment buildings and one (1) Clubhouse building at the parcel located at 5401 Tancho Drive.

### **B. Permitted Uses:**

The following uses are Permitted in this Planned Development (PD):

1. Multi-family residences as shown on the approved plans;
2. Accessory Uses to the above uses as shown on the approved plans – including parking and common space amenities of the Clubhouse Building.

### **C. Floor Area Ratio:**

The maximum Floor Area Ratio permitted with this Planned Development (PD) shall be as shown on the approved plans.

### **D. Building Height:**

In this Planned Development (PD), Building Heights shall be as shown on the approved plans.

### **E. Yard Requirements:**

In this Planned Development (PD), yards shall be as shown on the approved plans.

**F. Usable Open Space:**

In this Planned Development (PD), Usable Open Space shall be as shown on the approved plans. Balconies which are accessible only from dwelling units may be counted as Usable Open Space.

**G. Accessory Off-Street Parking & Loading:**

In this Planned Development (PD), the following minimum Off-Street Parking & Loading facilities shall be as shown on the approved plans.

**H. Signage:**

In this Planned Development (PD), signage shall be allowed as per Chapter 31 of the Madison General Ordinances - as compared to the SR-V2 District, or signage shall be provided as shown on the recorded plans.

**I. Lighting:**

In this Planned Development (PD), lighting shall be provided as shown on the approved plans.

**J. Landscaping:**

In this Planned Development (PD), landscaping shall be provided as shown on the approved plans.

**K. Alterations & Revisions:**

No alteration or revision to this Planned Development (PD) shall be permitted unless approved by the City of Madison Plan Commission. However, the Zoning Administrator may issue permits for minor alterations and/or additions which are approved by both the Director of Planning & Development and the Alderperson of the District. These minor alterations and/or additions shall be compatible with the concept approved by the City of Madison Common Council.

# 22 SLATE APARTMENTS

5401 Tancho Drive  
Madison, Wisconsin



PUD-SIP Submittal



JLA PROJECT NUMBER: 15-0617

January 6, 2016

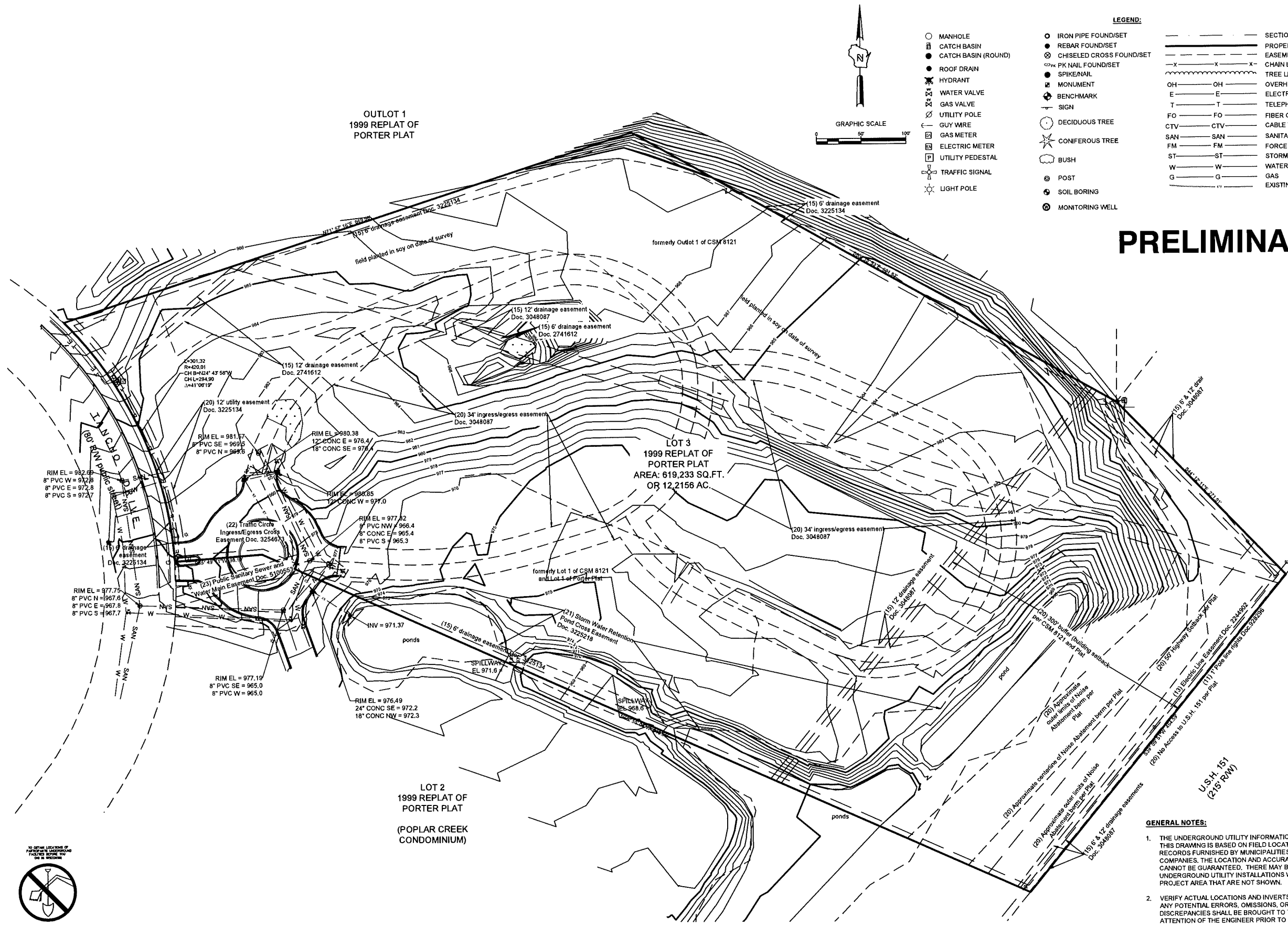


File: I:\Joseph Lee & Associates\15689 Tancos Drive\600 CAD/C - Civil\500-Sub-Site Survey\15689 SURVEY.dwg



CALL DIGGERS HOTLINE  
1-800-242-8511  
TOLL FREE  
NO EXCESS DEPTH/DEPTH  
REQUIRED AND 3 MORE DAYS  
NOT BEHIND THE SCHEDULE  
MILW. AREA 259-1181

THE UNDERGROUND UTILITY INFORMATION SHOWN ON THIS MAP IS BASED ON FIELD  
MARKINGS AND INFORMATION FURNISHED BY UTILITY COMPANIES AND THE LOCAL  
MUNICIPALITY. WHILE THIS INFORMATION IS BELIEVED TO BE RELIABLE, ITS ACCURACY AND  
COMPLETENESS CANNOT BE GUARANTEED.



**LEGEND:**

○ MANHOLE	○ IRON PIPE FOUND/SET	— SECTION 1/4 SECTION LINE
● CATCH BASIN	● REBAR FOUND/SET	— PROPERTY LINE
● CATCH BASIN (ROUND)	⊗ CHISELED CROSS FOUND/SET	— EASEMENT
● ROOF DRAIN	⊗ PK NAIL FOUND/SET	— CHAIN LINK FENCE
⊗ HYDRANT	● SPIKE/NAIL	— TREE LINE
⊗ WATER VALVE	● MONUMENT	— OVERHEAD UTILITY LINE
⊗ GAS VALVE	⊕ BENCHMARK	— ELECTRIC
⊗ UTILITY POLE	— SIGN	— TELEPHONE
— GUY WIRE	○ DECIDUOUS TREE	— FIBER OPTIC
⊗ GAS METER	⊗ CONIFEROUS TREE	— CABLE TV
⊗ ELECTRIC METER	○ BUSH	— SANITARY SEWER
⊗ UTILITY PEDESTAL	⊗ POST	— FORCE MAIN
⊗ TRAFFIC SIGNAL	⊗ SOIL BORING	— STORM SEWER
⊗ LIGHT POLE	⊗ MONITORING WELL	— WATER MAIN
		— GAS
		— EXISTING CONTOUR

**PRELIMINARY**

**JLA**  
ARCHITECTS • PLANNERS

JLA PROJECT NUMBER: 15-0617

**Fiduciary**  
REAL ESTATE DEVELOPMENT, INC.

**THE SIGMA GROUP**  
Single Source. Sound Solutions.  
www.thesigmagroup.com  
1300 West Canal Street  
Milwaukee, WI 53233  
Phone: 414-643-4200  
Fax: 414-643-4210

**Fiduciary Real Estate Development**

PUD-SIP Submittal

22 SLATE

**PROGRESS DOCUMENTS**

These documents reflect progress and intent and may be subject to change, including additional detail. These are not final construction documents and should not be used for final bidding or construction-related purposes.

DATE OF ISSUANCE JANUARY 6, 2016

**REVISION SCHEDULE**

Mark	Description	Date
------	-------------	------

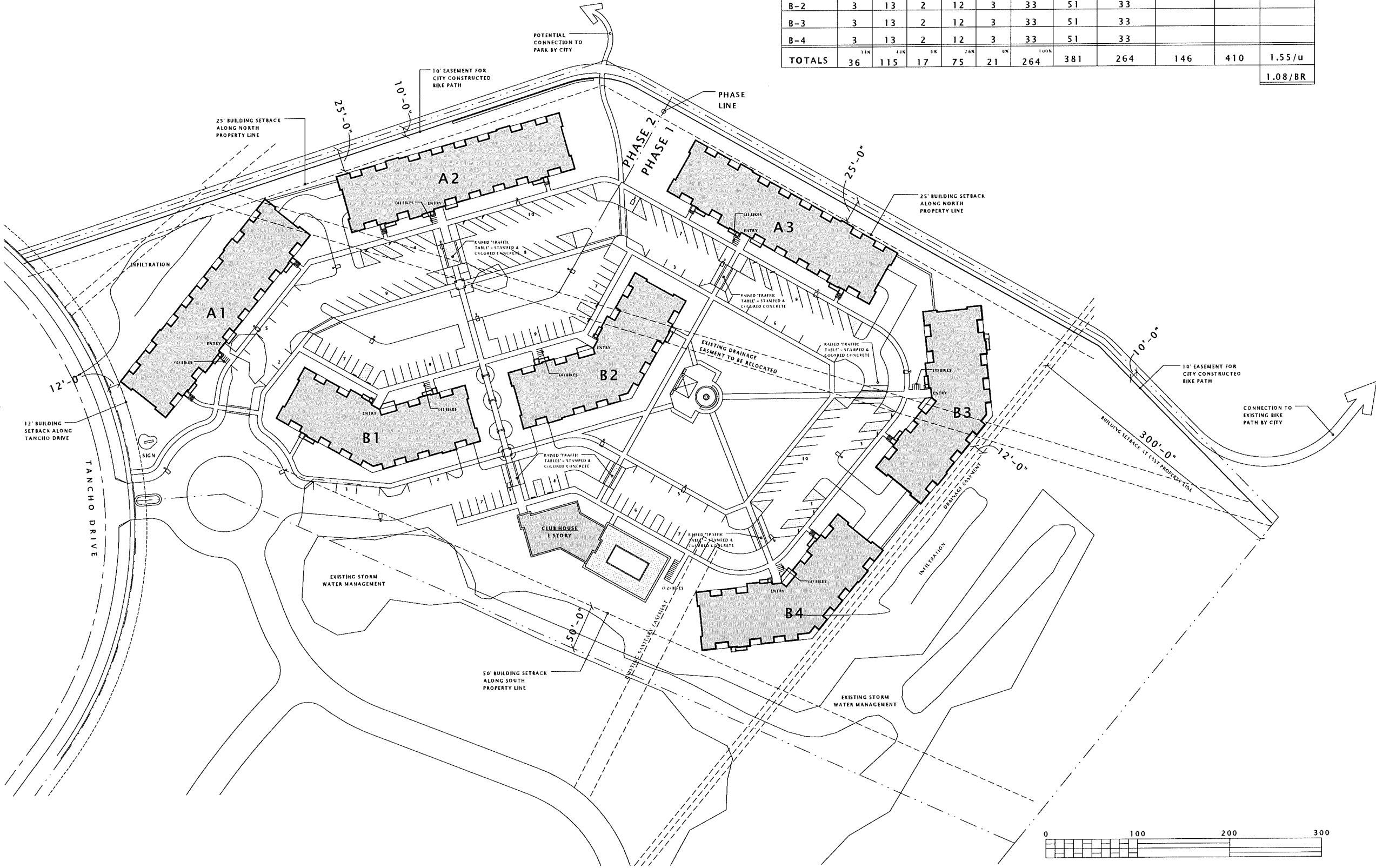
SHEET TITLE  
**SITE SURVEY**

SHEET NUMBER  
**C 001**

**GENERAL NOTES:**

1. THE UNDERGROUND UTILITY INFORMATION SHOWN ON THIS DRAWING IS BASED ON FIELD LOCATIONS AND/OR RECORDS FURNISHED BY MUNICIPALITIES AND UTILITY COMPANIES. THE LOCATION AND ACCURACY OF WHICH CANNOT BE GUARANTEED. THERE MAY BE ADDITIONAL UNDERGROUND UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.
2. VERIFY ACTUAL LOCATIONS AND INVERTS IN THE FIELD. ANY POTENTIAL ERRORS, OMISSIONS, OR DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION.
3. DRAWING IS BASED ON FIELD SURVEY COMPLETED BY THE SIGMA GROUP, INC. ON SEPTEMBER 2015.
4. DATUM FOR THE PROJECT SURVEY IS NAVD88. BENCHMARK FOR THE PROJECT SURVEY IS 1" REBAR IN MONUMENT BOX AT THE SW CORNER OF SECTION 14-8-10, WITH AN ELEVATION OF 950.41, PER CITY OF MADISON MONUMENT RECORD INDEX NO. 810087.

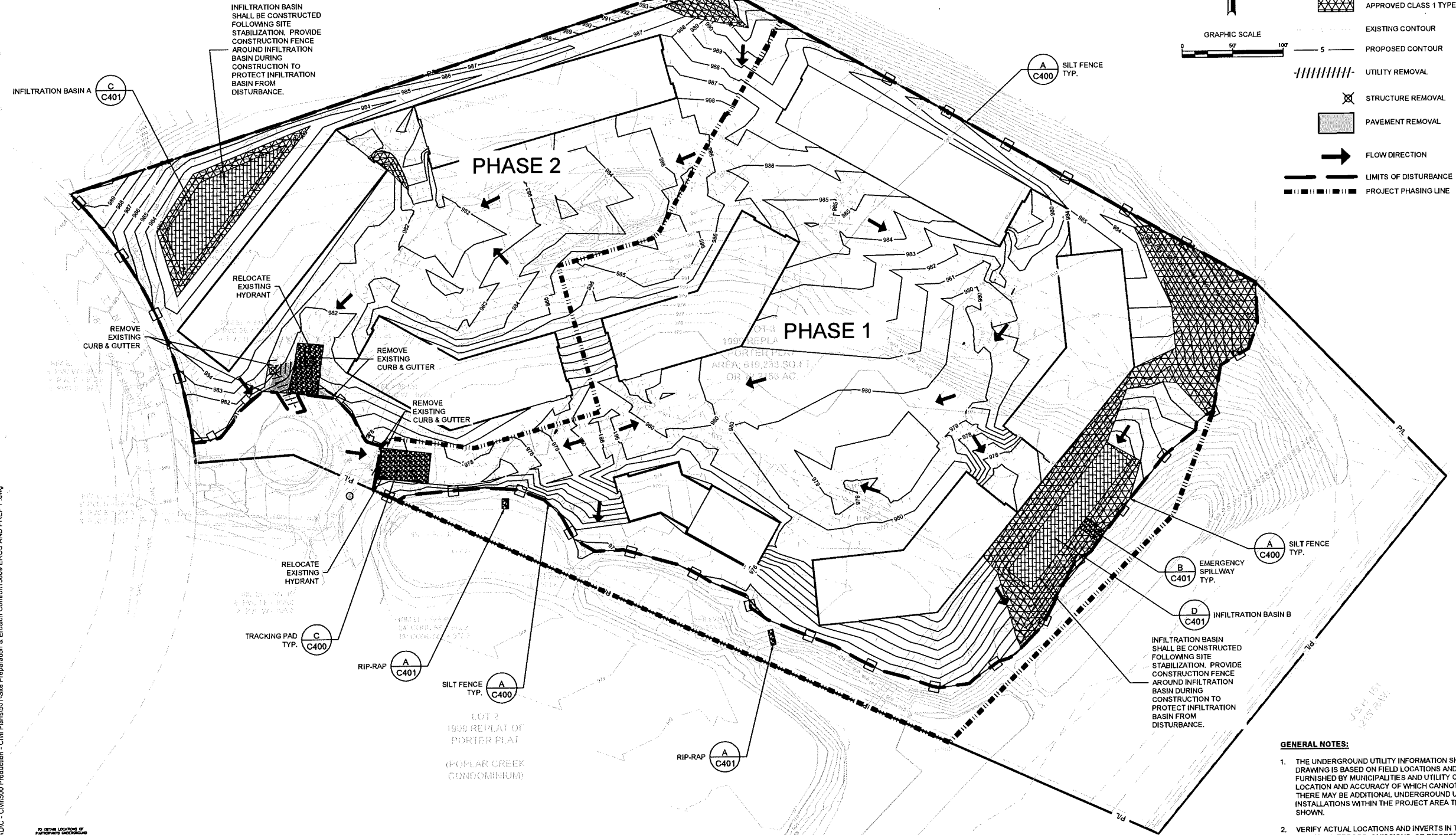
	UNITS							PARKING			
	ST.	1BR	1BR+	2BR	3BR	TOTAL	BR'S	COVERED	SURFACE	TOTAL	RATIO
A-1	8	21	3	9	3	44	59	44			
A-2	8	21	3	9	3	44	59	44			
A-3	8	21	3	9	3	44	59	44			
B-1	3	13	2	12	3	33	51	33			
B-2	3	13	2	12	3	33	51	33			
B-3	3	13	2	12	3	33	51	33			
B-4	3	13	2	12	3	33	51	33			
TOTALS	36	115	17	75	21	264	381	264	146	410	1.55/u
											1.08/BR



PRELIMINARY

DISTURBANCE AREA= 11.06 ACRES

OUTLOT 1  
1999 REPLAT OF  
PORTER PLAT



**LEGEND:**

- PROPOSED SILT FENCE
- PROPOSED INLET PROTECTION
- PROPOSED TRACKING PAD
- PROPOSED EROSION MATTING WISDOT APPROVED CLASS 1 TYPE B
- EXISTING CONTOUR
- PROPOSED CONTOUR
- UTILITY REMOVAL
- STRUCTURE REMOVAL
- PAVEMENT REMOVAL
- FLOW DIRECTION
- LIMITS OF DISTURBANCE
- PROJECT PHASING LINE

GRAPHIC SCALE: 0 50 100



JLA PROJECT NUMBER: 15-0617



**THE SIGMA GROUP**  
Single Source. Sound Solutions.  
www.thesigmagroup.com  
1300 West Canal Street  
Milwaukee, WI 53233  
Phone: 414-643-4200  
Fax: 414-643-4210

Fiduciary Real Estate Development

PUD-SIP Submittal

22 SLATE

PROGRESS DOCUMENTS

These documents reflect progress and intent and may be subject to change, including additional detail. These are not final construction documents and should not be used for final bidding or construction-related purposes.

DATE OF ISSUANCE JANUARY 6, 2016

REVISION SCHEDULE		
Mark	Description	Date

SHEET TITLE

EROSION CONTROL AND SITE PREPARATION PLAN

SHEET NUMBER

C 002

- GENERAL NOTES:**
- THE UNDERGROUND UTILITY INFORMATION SHOWN ON THIS DRAWING IS BASED ON FIELD LOCATIONS AND/OR RECORDS FURNISHED BY MUNICIPALITIES AND UTILITY COMPANIES. THE LOCATION AND ACCURACY OF WHICH CANNOT BE GUARANTEED. THERE MAY BE ADDITIONAL UNDERGROUND UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.
  - VERIFY ACTUAL LOCATIONS AND INVERTS IN THE FIELD. ANY POTENTIAL ERRORS, OMISSIONS, OR DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION.
  - WORK TO BE COMPLETED IS INDICATED IN BOLD TYPE LINES AND EXISTING CONDITIONS ARE INDICATED BY LIGHT TYPE LINES.
  - ELECTRONIC CIVIL FILES ARE AVAILABLE UPON WRITTEN REQUEST. DO NOT USE ELECTRONIC CIVIL FILES TO LAYOUT FOUNDATIONS, COLUMN LINES, LIGHT POLES, OR OTHER NON CIVIL SITE WORK. REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS OF BUILDING AND ARCHITECTURAL FEATURES.
  - SEE SHEET C400 FOR A COMPLETE LIST OF EROSION CONTROL NOTES AND DETAILS. EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO START OF LAND DISTURBING ACTIVITIES.
  - DO NOT BEGIN LAND DISTURBING ACTIVITIES UNTIL AN EROSION CONTROL PERMIT IS OBTAINED FROM LOCAL JURISDICTION.

CALL DIGGERS HOTLINE  
1-800-242-8511  
TOLL FREE  
NO TOLERANCE FOR VIOLATIONS  
NOTICE BEFORE YOU DIG  
M.W. AREA 259-1181

THE UNDERGROUND UTILITY INFORMATION SHOWN ON THIS MAP IS BASED ON FIELD MARKINGS AND INFORMATION FURNISHED BY UTILITY COMPANIES AND THE LOCAL MUNICIPALITY. WHILE THIS INFORMATION IS BELIEVED TO BE RELIABLE, ITS ACCURACY AND COMPLETENESS CANNOT BE GUARANTEED.

File: L:\Joseph Lee & Associates\156616 Tancho Drive\1000 CAD/C - Civil\1500 Production - Civil Plans\501-Site Preparation & Erosion Control\156616 EROS AND PREP P.dwg

PRELIMINARY

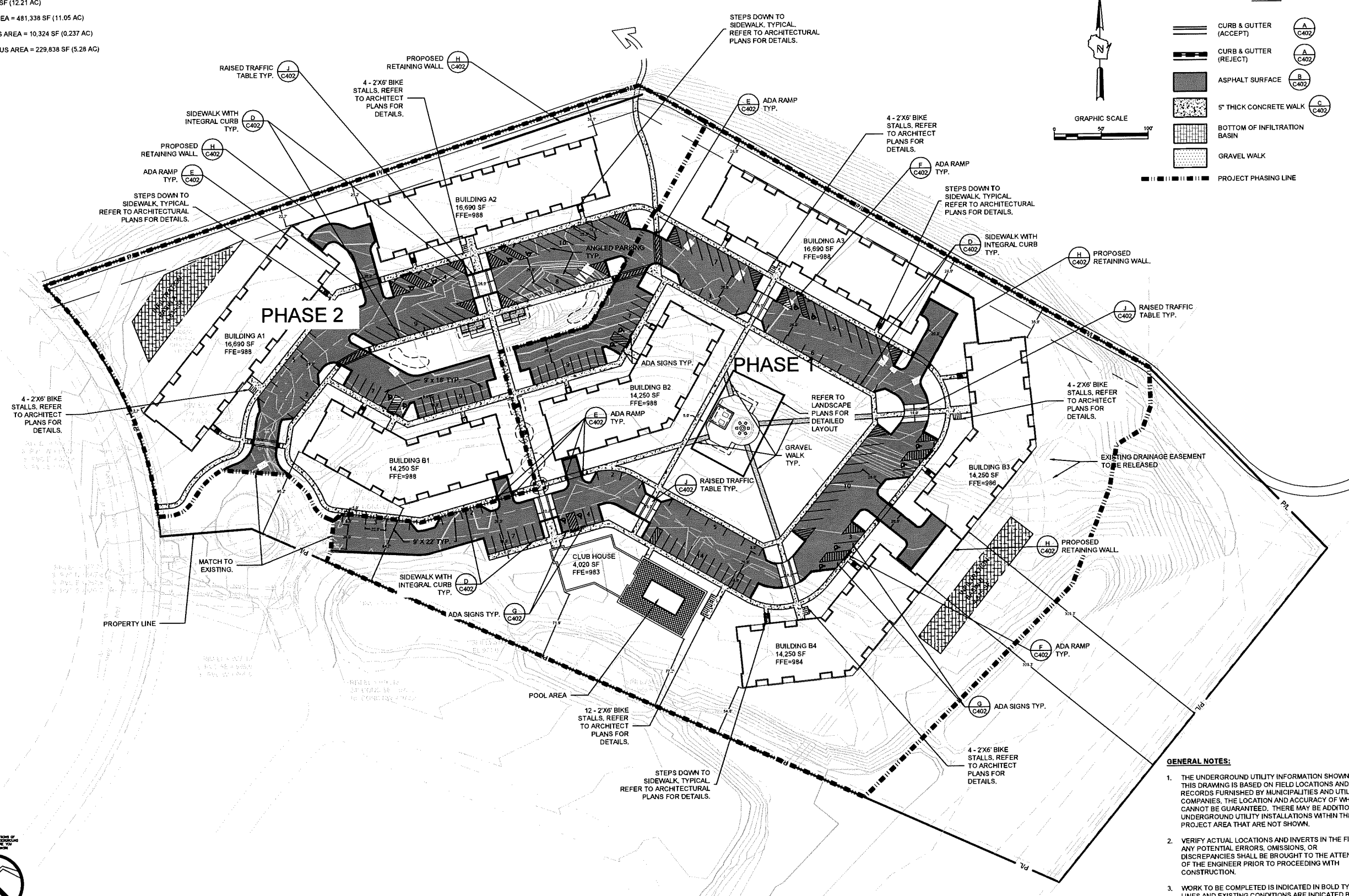
SITE INFORMATION:

TOTAL SITE = 619,233 SF (12.21 AC)  
TOTAL DISTURBED AREA = 481,338 SF (11.05 AC)  
EXISTING IMPERVIOUS AREA = 10,324 SF (0.237 AC)  
PROPOSED IMPERVIOUS AREA = 229,838 SF (5.28 AC)

LEGEND:

- CURB & GUTTER (ACCEPT)
- CURB & GUTTER (REJECT)
- ASPHALT SURFACE
- 5" THICK CONCRETE WALK
- BOTTOM OF INFILTRATION BASIN
- GRAVEL WALK
- PROJECT PHASING LINE

GRAPHIC SCALE  
0 50 100'



GENERAL NOTES:

- THE UNDERGROUND UTILITY INFORMATION SHOWN ON THIS DRAWING IS BASED ON FIELD LOCATIONS AND/OR RECORDS FURNISHED BY MUNICIPALITIES AND UTILITY COMPANIES. THE LOCATION AND ACCURACY OF WHICH CANNOT BE GUARANTEED. THERE MAY BE ADDITIONAL UNDERGROUND UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.
- VERIFY ACTUAL LOCATIONS AND INVERTS IN THE FIELD. ANY POTENTIAL ERRORS, OMISSIONS, OR DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION.
- WORK TO BE COMPLETED IS INDICATED IN BOLD TYPE LINES AND EXISTING CONDITIONS ARE INDICATED BY LIGHT TYPE LINES.
- ELECTRONIC CIVIL FILES ARE AVAILABLE UPON WRITTEN REQUEST. DO NOT USE ELECTRONIC CIVIL FILES TO LAYOUT FOUNDATIONS, COLUMN LINES, LIGHT POLES, OR OTHER NON CIVIL SITE WORK. REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS OF BUILDING AND ARCHITECTURAL FEATURES.
- DIMENSIONS ARE FROM FACE OF CURB OR EDGE OF PAVEMENT.
- WORK WITHIN THE PUBLIC RIGHT OF WAY, INCLUDING BUT NOT LIMITED TO DRIVEWAY OPENINGS, SIDEWALK AND RAMPS, PAVING, AND CURB AND GUTTER SHALL BE COMPLETED PER MUNICIPAL AND/OR COUNTY REQUIREMENTS AND STANDARDS.

INFILTRATION BASIN INFORMATION

TOTAL DISTURBED AREA = 481,338 SF (11.05 AC)  
2% OF DISTURBED AREA = 9,628 (0.22 AC)

INFILTRATION BASIN A = 4,815 SF (0.11 AC)  
INFILTRATION BASIN B = 4,815 SF (0.11 AC)  
INFILTRATION BASIN TOTAL = 9,630 (0.22 AC)

JLA  
ARCHITECTS PLANNERS

JLA PROJECT NUMBER: 15-0617

Fiduciary  
REAL ESTATE DEVELOPMENT INC.

THE SIGMA GROUP  
Single Source. Sound Solutions.  
www.thesigmagroup.com  
1300 West Canal Street  
Milwaukee, WI 53233  
Phone: 414-643-4200  
Fax: 414-643-4210

Fiduciary Real Estate  
Development

PUD-SIP Submittal

22 SLATE

PROGRESS DOCUMENTS

These documents reflect progress and intent and may be subject to change, including additional detail. These are not final construction documents and should not be used for final bidding or construction-related purposes.

DATE OF ISSUANCE JANUARY 6, 2016

REVISION SCHEDULE

Mark	Description	Date
------	-------------	------

SHEET TITLE

SITE PLAN

SHEET NUMBER

C 100



CALL DIGGERS HOTLINE  
1-800-242-8511  
TOLL FREE

WE STRONGLY RECOMMEND  
CALLING 811 BEFORE ANY  
DIGGING. AREA 259-1181

THE UNDERGROUND UTILITY INFORMATION SHOWN ON THIS MAP IS BASED ON FIELD MARKINGS AND INFORMATION FURNISHED BY UTILITY COMPANIES AND THE LOCAL MUNICIPALITY. WHILE THIS INFORMATION IS BELIEVED TO BE RELIABLE, ITS ACCURACY AND COMPLETENESS CANNOT BE GUARANTEED.





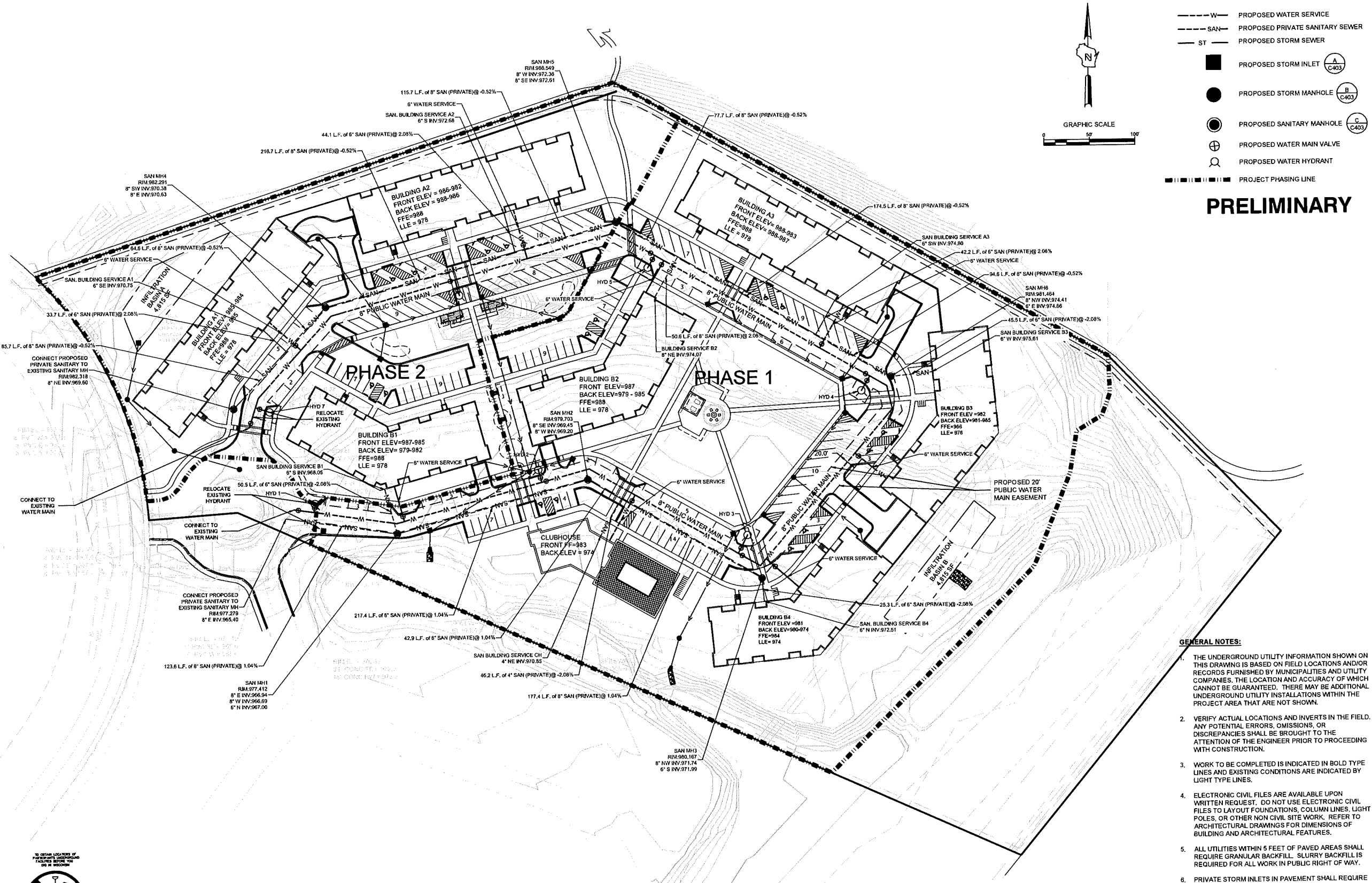
File: I:\Joseph Lee & Associates\15669 Tancho Drive\060 CAD\C - Civil\15669-Utility Plan\15669-Utility P.dwg



CALL DIGGERS HOTLINE  
1-800-242-8511

TOLL FREE  
WE STRONGLY RECOMMEND  
CALLING THE TOLL FREE DIAL  
NUMBER BEFORE YOU DIG ANY  
MILWAUKEE AREA 259-1181

THE UNDERGROUND UTILITY INFORMATION SHOWN ON THIS MAP IS BASED ON FIELD  
MARKINGS AND INFORMATION FURNISHED BY UTILITY COMPANIES AND THE LOCAL  
MUNICIPALITY. WHILE THIS INFORMATION IS BELIEVED TO BE RELIABLE, ITS ACCURACY AND  
COMPLETENESS CANNOT BE GUARANTEED.



#### LEGEND:

- W --- PROPOSED WATER SERVICE
- SAN --- PROPOSED PRIVATE SANITARY SEWER
- ST --- PROPOSED STORM SEWER
- PROPOSED STORM INLET (A C403)
- PROPOSED STORM MANHOLE (B C403)
- ⊙ PROPOSED SANITARY MANHOLE (C C403)
- ⊕ PROPOSED WATER MAIN VALVE
- ⊗ PROPOSED WATER HYDRANT
- - - - - PROJECT PHASING LINE

## PRELIMINARY

#### GENERAL NOTES:

- THE UNDERGROUND UTILITY INFORMATION SHOWN ON THIS DRAWING IS BASED ON FIELD LOCATIONS AND/OR RECORDS FURNISHED BY MUNICIPALITIES AND UTILITY COMPANIES. THE LOCATION AND ACCURACY OF WHICH CANNOT BE GUARANTEED. THERE MAY BE ADDITIONAL UNDERGROUND UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.
- VERIFY ACTUAL LOCATIONS AND INVERTS IN THE FIELD. ANY POTENTIAL ERRORS, OMISSIONS, OR DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION.
- WORK TO BE COMPLETED IS INDICATED IN BOLD TYPE LINES AND EXISTING CONDITIONS ARE INDICATED BY LIGHT TYPE LINES.
- ELECTRONIC CIVIL FILES ARE AVAILABLE UPON WRITTEN REQUEST. DO NOT USE ELECTRONIC CIVIL FILES TO LAYOUT FOUNDATIONS, COLUMN LINES, LIGHT POLES, OR OTHER NON CIVIL SITE WORK. REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS OF BUILDING AND ARCHITECTURAL FEATURES.
- ALL UTILITIES WITHIN 5 FEET OF PAVED AREAS SHALL REQUIRE GRANULAR BACKFILL. SLURRY BACKFILL IS REQUIRED FOR ALL WORK IN PUBLIC RIGHT OF WAY.
- PRIVATE STORM INLETS IN PAVEMENT SHALL REQUIRE DRAIN TILE STUBS OF 10 FEET IN TWO DIRECTIONS FOR SUBDRAINAGE. RIM GRADE FOR STORM INLETS IN CURB AND GUTTER ARE FLOW LINE GRADES.
- WORK IN PUBLIC RIGHT OF WAY SHALL FOLLOW MATERIAL AND INSTALLATION REQUIREMENTS PER MUNICIPAL AND/OR COUNTY.
- PRIVATE STORM SEWER 12-INCH DIAMETER OR LARGER SHALL BE HDPE. BELOW 12-INCH DIAMETER SHALL BE PVC SDR-35 ASTM D3034. PRIVATE WATER MAIN SHALL BE CLASS 150 DR 18 PVC CONFORMING TO AWWA C-900. PRIVATE SANITARY SEWER SHALL BE PVC SDR-35 ASTM D3034.
- COORDINATE FINAL LOCATION AND DESIGN OF PRIVATE UTILITY SERVICES (ELECTRIC, GAS, PHONE, CABLE) WITH UTILITY COMPANIES.

REFER TO SHEET C301 FOR  
STORM SEWER PLANS

# JLA

architects + planners

JLA PROJECT NUMBER: 15-0617

**Fiduciary**  
REAL ESTATE DEVELOPMENT, INC.

**SIGMA** GROUP  
Single Source. Sound Solutions.  
www.thissigmagroup.com  
1300 West Canal Street  
Milwaukee, WI 53233  
Phone: 414-643-4200  
Fax: 414-643-4210

Fiduciary Real Estate  
Development

PUD-SIP Submittal

22 SLATE

#### PROGRESS DOCUMENTS

These documents reflect progress and intent and may be subject to change, including additional detail. These are not final construction documents and should not be used for final bidding or construction-related purposes.

DATE OF ISSUANCE JANUARY 6, 2016

#### REVISION SCHEDULE

Mark	Description	Date
------	-------------	------

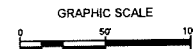
SHEET TITLE

UTILITY PLAN

SHEET NUMBER

C 300

PRELIMINARY



LEGEND:

- W --- PROPOSED WATER SERVICE
- SAN --- PROPOSED PRIVATE SANITARY SEWER
- ST --- PROPOSED STORM SEWER
- PROPOSED STORM INLET (A C403)
- PROPOSED STORM MANHOLE (B C403)
- ⊙ PROPOSED SANITARY MANHOLE (C C403)
- ⊕ PROPOSED WATER MAIN VALVE
- ⊗ PROPOSED WATER HYDRANT

GENERAL NOTES:

1. THE UNDERGROUND UTILITY INFORMATION SHOWN ON THIS DRAWING IS BASED ON FIELD LOCATIONS AND/OR RECORDS FURNISHED BY MUNICIPALITIES AND UTILITY COMPANIES. THE LOCATION AND ACCURACY OF WHICH CANNOT BE GUARANTEED. THERE MAY BE ADDITIONAL UNDERGROUND UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.
2. VERIFY ACTUAL LOCATIONS AND INVERTS IN THE FIELD. ANY POTENTIAL ERRORS, OMISSIONS, OR DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION.
3. WORK TO BE COMPLETED IS INDICATED IN BOLD TYPE LINES AND EXISTING CONDITIONS ARE INDICATED BY LIGHT TYPE LINES.
4. ELECTRONIC CIVIL FILES ARE AVAILABLE UPON WRITTEN REQUEST. DO NOT USE ELECTRONIC CIVIL FILES TO LAYOUT FOUNDATIONS, COLUMN LINES, LIGHT POLES, OR OTHER NON CIVIL SITE WORK. REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS OF BUILDING AND ARCHITECTURAL FEATURES.
5. ALL UTILITIES WITHIN 5 FEET OF PAVED AREAS SHALL REQUIRE GRANULAR BACKFILL. SLURRY BACKFILL IS REQUIRED FOR ALL WORK IN PUBLIC RIGHT OF WAY.
6. PRIVATE STORM INLETS IN PAVEMENT SHALL REQUIRE DRAIN TILE STUBS OF 10 FEET IN TWO DIRECTIONS FOR SUBDRAINAGE. RIM GRADE FOR STORM INLETS IN CURB AND GUTTER ARE FLOW LINE GRADES.
7. WORK IN PUBLIC RIGHT OF WAY SHALL FOLLOW MATERIAL AND INSTALLATION REQUIREMENTS PER MUNICIPAL AND/OR COUNTY.
8. PRIVATE STORM SEWER 12-INCH DIAMETER OR LARGER SHALL BE HDPE. BELOW 12-INCH DIAMETER SHALL BE PVC SDR-35 ASTM D3034. PRIVATE WATER MAIN SHALL BE CLASS 150 DR 18 PVC CONFORMING TO AWWA C-900. PRIVATE SANITARY SEWER SHALL BE PVC SDR-35 ASTM D3034.
9. COORDINATE FINAL LOCATION AND DESIGN OF PRIVATE UTILITY SERVICES (ELECTRIC, GAS, PHONE, CABLE) WITH UTILITY COMPANIES.

JLA  
architects + planners

JLA PROJECT NUMBER: 15-0617

Fiduciary  
REAL ESTATE DEVELOPMENT INC.

SIGMA GROUP  
Single Source. Sound Solutions.  
www.thesigmagroup.com  
1300 West Canal Street  
Milwaukee, WI 53233  
Phone: 414-643-4200  
Fax: 414-643-4210

Fiduciary Real Estate  
Development

PUD-SIP Submittal

22 SLATE

PROGRESS DOCUMENTS

These documents reflect progress and intent and may be subject to change, including additional detail. These are not final construction documents and should not be used for final bidding or construction-related purposes.

DATE OF ISSUANCE JANUARY 6, 2016

REVISION SCHEDULE

Mark	Description	Date
------	-------------	------

SHEET TITLE

UTILITY PLAN  
STORM SEWER

SHEET NUMBER

C 301

File: I:\Joseph Lee & Assoc\c15660 Tancho Drive\060 CAD\C - Civil Plans\06-Utility Plans\15660 UTILITY P.dwg



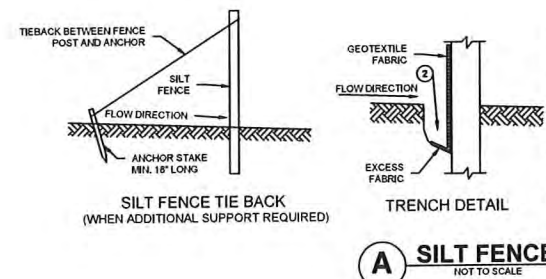
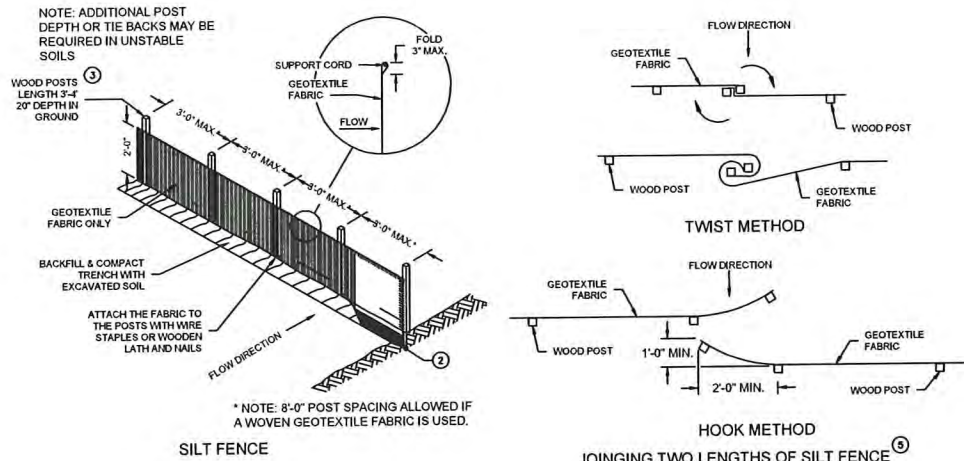
CALL OIGGERS HOTLINE  
1-800-242-8511

TOLL FREE  
SEE WHAT'S NEW IN THE  
MILW. AREA 259-1181

THE UNDERGROUND UTILITY INFORMATION SHOWN ON THIS MAP IS BASED ON FIELD MARKINGS AND INFORMATION FURNISHED BY UTILITY COMPANIES AND THE LOCAL MUNICIPALITY. WHILE THIS INFORMATION IS BELIEVED TO BE RELIABLE, ITS ACCURACY AND COMPLETENESS CANNOT BE GUARANTEED.



PRELIMINARY

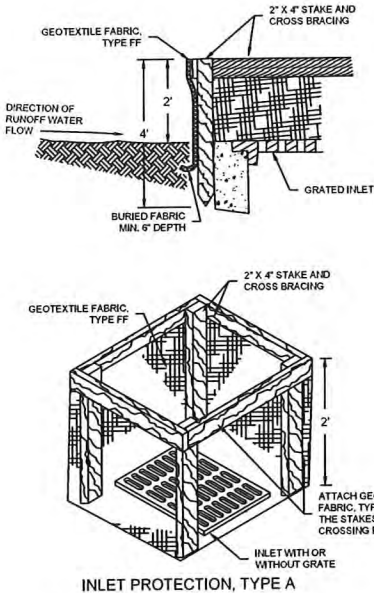


GENERAL NOTES  
1. HORIZONTAL BRACE REQUIRED WITH 2\"X4\" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.  
2. TRENCH SHALL BE A MINIMUM OF 4\" WIDE & 6\" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.  
3. WOOD POSTS SHALL BE A MINIMUM SIZE OF 1-1/2\" X 1-1/2\" OF OAK OR HICKORY.  
4. SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.  
5. CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ON THE FOLLOWING TWO METHODS: A) OVERLAP THE END POSTS AND TWIST OR ROTATE, AT LEAST 180 DEGREES. B) HOOK THE END OF EACH SILT FENCE LENGTHS.

GENERAL NOTES  
1. HORIZONTAL BRACE REQUIRED WITH 2\"X4\" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.  
2. TRENCH SHALL BE A MINIMUM OF 4\" WIDE & 6\" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.  
3. WOOD POSTS SHALL BE A MINIMUM SIZE OF 1-1/2\" X 1-1/2\" OF OAK OR HICKORY.  
4. SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.  
5. CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ON THE FOLLOWING TWO METHODS: A) OVERLAP THE END POSTS AND TWIST OR ROTATE, AT LEAST 180 DEGREES. B) HOOK THE END OF EACH SILT FENCE LENGTHS.

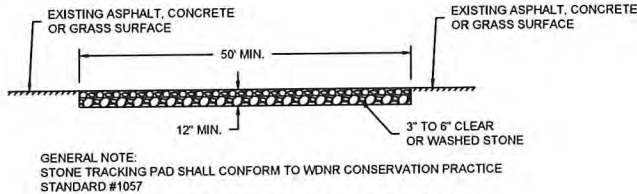
EROSION CONTROL NOTES:

- CONSTRUCTION SITE EROSION CONTROL AND SEDIMENTATION CONTROL SHALL COMPLY WITH THE REQUIREMENTS OF THE LOCAL MUNICIPALITY AND SHALL EMPLOY EROSION CONTROL METHODS AS SHOWN AND SPECIFIED IN THE WISCONSIN DEPARTMENT OF NATURAL RESOURCES TECHNICAL STANDARDS.
- ALL EROSION CONTROL MEASURES SHALL BE ADJUSTED TO MEET FIELD CONDITIONS AT THE TIME OF CONSTRUCTION AND SHALL BE INSTALLED PRIOR TO ANY GRADING OR DISTURBANCE OF EXISTING SURFACE MATERIAL ON THE SITE.
- EROSION AND SEDIMENT CONTROL MEASURES SHALL BE CHECKED FOR STABILITY AND OPERATION AFTER A RAINFALL OF 0.5 INCHES OR MORE, BUT NO LESS THAN ONCE EVERY WEEK. MAINTENANCE OF ALL EROSION CONTROL STRUCTURES SHALL BE PROVIDED TO INSURE INTENDED PURPOSE IS ACCOMPLISHED. CONTRACTOR SHALL BE RESPONSIBLE FOR CLEANUP AND REMOVAL OF ALL SEDIMENT WHEN LEAVING PROPERTY. EROSION CONTROL MEASURES MUST BE IN WORKING CONDITION AT END OF EACH WORK DAY. DOCUMENT AND MAINTAIN RECORDS OF INSPECTIONS IN ACCORDANCE WITH WDNR NR216 REQUIREMENTS.
- SILT FENCE SHALL BE INSTALLED IN THE LOCATIONS SHOWN ON THE CONSTRUCTION PLANS. SEDIMENT DEPOSITS SHALL BE REMOVED FROM BEHIND THE SILT FENCE WHEN DEPOSITS REACH A DEPTH OF 6 INCHES. THE SILT FENCE SHALL BE REPAIRED OR REPLACED AS NECESSARY TO MAINTAIN A BARRIER.
- FILTER FABRIC SHALL BE INSTALLED BENEATH INLET COVERS TO TRAP SEDIMENT PER INLET PROTECTION DETAIL IN THE LOCATIONS SHOWN ON THE CONSTRUCTION PLANS.
- EROSION CONTROL MEASURES SHALL BE MAINTAINED ON A CONTINUING BASIS UNTIL SITE IS FULLY STABILIZED.
- PERIODIC STREET SWEEPING SHALL BE COMPLETED TO MAINTAIN ADJACENT STREETS FREE OF DUST AND DIRT.
- SILT FENCE SHALL BE INSTALLED IN HORSESHOE FASHION AROUND ANY TOPSOIL AND FILL STOCKPILES.
- SITE DEWATERING. WATER PUMPED FROM THE SITE SHALL BE TREATED BY SEDIMENT BASINS OR OTHER APPROPRIATE MEASURES SPECIFIED IN THE WISCONSIN DEPARTMENT OF NATURAL RESOURCES TECHNICAL STANDARDS. WATER MAY NOT BE DISCHARGED IN A MANNER THAT CAUSES EROSION OF THE SITE, ADJACENT SITES, OR RECEIVING CHANNELS.
- WASTE AND MATERIAL DISPOSAL. ALL WASTE AND UNUSED BUILDING MATERIALS (INCLUDING GARBAGE, DEBRIS, CLEANING WASTES, WASTEWATER, TOXIC MATERIALS, OR HAZARDOUS MATERIALS) SHALL BE PROPERLY DISPOSED AND NOT ALLOWED TO BE CARRIED OFF-SITE BY RUNOFF OR WIND.
- TRACKING. EACH SITE SHALL HAVE GRAVELED ROADS, ACCESS DRIVES AND PARKING AREAS OF SUFFICIENT WIDTH AND LENGTH TO PREVENT SEDIMENT FROM BEING TRACKED ONTO PUBLIC OR PRIVATE ROADWAYS. ANY SEDIMENT REACHING A PUBLIC OR PRIVATE ROAD SHALL BE REMOVED BY STREET CLEANING, TO THE SATISFACTION OF THE MUNICIPALITY, BEFORE THE END OF EACH WORKDAY. FLUSHING MAY NOT BE USED UNLESS SEDIMENT WILL BE CONTROLLED BY A SEDIMENT BASIN OR PRACTICE SPECIFIED IN THE WISCONSIN DEPARTMENT OF NATURAL RESOURCES TECHNICAL STANDARDS. NOTIFY MUNICIPALITY OF ANY CHANGES IN STABILIZED CONSTRUCTION ENTRANCE LOCATION.
- SEDIMENT CLEANUP. ALL OFF-SITE SEDIMENT DEPOSITS OCCURRING AS A RESULT OF A STORM EVENT SHALL BE CLEANED UP BY THE END OF THE NEXT WORKDAY. ALL OTHER OFF-SITE SEDIMENT DEPOSITS OCCURRING AS A RESULT OF CONSTRUCTION ACTIVITIES SHALL BE CLEANED UP BY THE END OF THE WORKDAY.
- ALL DISTURBED GROUND LEFT INACTIVE FOR SEVEN OR MORE DAYS SHALL BE STABILIZED BY TEMPORARY OR PERMANENT SEEDING, MULCHING, SODDING, COVERING WITH TARPS, OR EQUIVALENT PRACTICE FOUND IN THE WISCONSIN DEPARTMENT OF NATURAL RESOURCES TECHNICAL STANDARD. IF TEMPORARY SEEDING IS USED, A PERMANENT COVER SHALL ALSO BE REQUIRED AS PART OF THE FINAL SITE STABILIZATION. SEEDING OR SODDING SHALL BE REQUIRED AS PART OF THE FINAL SITE STABILIZATION.
- SOIL OR DIRT STORAGE PILES SHALL BE LOCATED A MINIMUM OF TWENTY-FIVE FEET FROM ANY DOWNSLOPE ROAD, LAKE, STREAM, WETLAND, OR DRAINAGE CHANNEL. STRAW BALE OR FILTER FABRIC FENCES SHALL BE PLACED ON THE DOWN SLOPE SIDE OF THE PILES. IF REMAINING FOR MORE THAN THIRTY DAYS, PILES SHALL BE STABILIZED BY MULCHING, VEGETATIVE COVER, TARPS OR OTHER MEANS.
- WHEN THE DISTURBED AREA HAS BEEN STABILIZED BY PERMANENT VEGETATION OR OTHER MEANS, TEMPORARY PRACTICES, SUCH AS FILTER FABRIC FENCES, STRAW BALES, SEDIMENT AND SEDIMENT TRAPS, FOUND IN THE WISCONSIN DEPARTMENT OF NATURAL RESOURCES TECHNICAL STANDARDS SHALL BE REMOVED.
- NOTIFY THE LOCAL MUNICIPALITY HAVING JURISDICTION WITHIN TWO WORKING DAYS OF COMMENCING ANY LAND DEVELOPMENT OR LAND DISTURBING ACTIVITY.
- OBTAIN PERMISSION FROM THE LOCAL MUNICIPALITY HAVING JURISDICTION PRIOR TO MODIFYING THE EROSION CONTROL PLAN.
- REPAIR ANY SILTATION OR EROSION DAMAGE TO ADJOINING SURFACES AND DRAINAGE WAYS RESULTING FROM LAND DEVELOPMENT OR LAND DISTURBING ACTIVITIES.
- KEEP A COPY OF THE EROSION CONTROL PLAN ON SITE.
- CONTRACTOR SHALL, TO THE EXTENT POSSIBLE, MINIMIZE DISTURBANCE OF EXISTING VEGETATION DURING CONSTRUCTION.
- CONTRACTOR SHALL, TO THE EXTENT POSSIBLE, MINIMIZE COMPACTION OF TOPSOIL AND PRESERVE TOPSOIL IN GREENSPACE AREAS.
- WASH WATER FROM VEHICLES AND WHEEL WASHING SHALL BE CONTAINED AND TREATED PRIOR TO DISCHARGE.
- CONTRACTOR SHALL MAINTAIN SPILL KITS ON-SITE.
- PERMANENT TURF SEEDING OF DISTURBED AREA MUST OCCUR PRIOR TO SEPTEMBER 15TH. IF ADEQUATE TIME IS NOT AVAILABLE TO APPLY PERMANENT SEEDING PRIOR TO SEPTEMBER 15, THEN DISTURBED AREAS SHALL BE TEMPORARILY SEEDED WITH AN ANNUAL RYE GRASS PER WDNR TECHNICAL STANDARD 1059, WHERE THE TEMPORARY SEEDING MUST OCCUR PRIOR TO OCTOBER 15TH.
- IF TEMPORARY SEEDING IS NOT COMPLETED BY OCTOBER 15TH, APPLY SOIL STABILIZERS AND DORMANT SEED TO DISTURBED AREA PER WDNR TECHNICAL STANDARD 1050. INSPECT ANIONIC PAM APPLICATION AT A MINIMUM FREQUENCY OF EVERY TWO MONTHS AND REAPPLY AS NECESSARY.



- GENERAL NOTES
- MANUFACTURED ALTERNATIVES APPROVED AND LISTED ON THE DEPARTMENT'S EROSION CONTROL PRODUCT ACCEPTABILITY LIST MAY BE SUBSTITUTED.
  - WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.
  - FINISHED SIZE, INCLUDING FLAP POCKETS WHERE REQUIRED, SHALL EXTEND A MINIMUM OF 10\" AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.
  - FOR INLET PROTECTION, TYPE C (WITH CURB BOX), AN ADDITIONAL 18\" OF FABRIC IS WRAPPED AROUND THE WOOD AND SECURED WITH STAPLES. THE WOOD SHALL NOT BLOCK THE ENTIRE HEIGHT OF THE CURB BOX OPENING.
  - FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2X4.

B INLET PROTECTION TYPE A, B, C, AND D: WDNR TS-1060



C CONSTRUCTION ENTRANCE/EXIT DETAIL: WDNR TS-1057

CONSTRUCTION SEQUENCE FOR EROSION CONTROL INCLUDES:

- INSTALL STABILIZED CONSTRUCTION ENTRANCE.
- INSTALL SILT FENCING AND INLET PROTECTION.
- CLEAR AND GRUB SITE.
- STRIP AND STOCKPILE TOPSOIL. PLACE SILT FENCE AROUND STOCKPILE(S).
- INITIATE STOCKPILING OF IMPORTED MATERIAL. IF/AS REQUIRED, PLACE SILT FENCE AROUND STOCKPILE(S).
- PERFORM ROUGH SITE GRADING. STABILIZE FINISHED AREAS AS THE WORK PROGRESSES. USE EROSION MATTING WHERE CALLED FOR ON THE PLANS. PER WDNR TECHNICAL STANDARD 1059: AREAS THAT RECEIVE TEMPORARY SEEDING SHALL HAVE A MINIMUM TOPSOIL DEPTH OF 2 INCHES. AREAS THAT RECEIVE PERMANENT SEEDING SHALL HAVE A MINIMAL TOPSOIL DEPTH OF 4 INCHES.
- PREPARE BUILDING PAD AND BEGIN FOUNDATIONS WORK FOR BUILDING.
- COMPLETE GRADING FOR DRIVES, PARKING AND SITE.
- INSTALL UTILITIES. INSTALL ANY ADDITIONAL INLET PROTECTION ON NEW STORM SEWER INLETS AND INSTALL RIP-RAP AT NEW STORM SEWER OUTFALLS.
- PERFORM FINE SITE GRADING AND INSTALL AGGREGATE BASE COURSE FOR PAVEMENTS.
- POUR CURB AND GUTTER AND SIDEWALKS.
- INSTALL BINDER COURSE FOR ASPHALT PAVEMENT.
- PLACE TOPSOIL.
- SEED, MULCH, LANDSCAPE AND STABILIZE DISTURBED AREAS. PLACE EROSION CONTROL MATTING WHERE SHOWN ON PLANS.
- REMOVE EROSION CONTROL MEASURES ONLY WHEN SITE IS FULLY STABILIZED.

JLA  
ARCHITECTS & ENGINEERS

JLA PROJECT NUMBER: 15-0617

Fiduciary  
REAL ESTATE DEVELOPMENT, INC.

THE SIGMA GROUP  
Single Source. Sound Solutions.  
www.thesigmagroup.com  
1300 West Canal Street  
Milwaukee, WI 53233  
Phone: 414-643-4200  
Fax: 414-643-4210

Fiduciary Real Estate  
Development

PUD-SIP Submittal

22 SLATE

PROGRESS DOCUMENTS

These documents reflect progress and intent and may be subject to change, including additional detail. These are not final construction documents and should not be used for final bidding or construction-related purposes.

DATE OF ISSUANCE JANUARY 6, 2016

REVISION SCHEDULE

Mark	Description	Date
------	-------------	------

SHEET TITLE

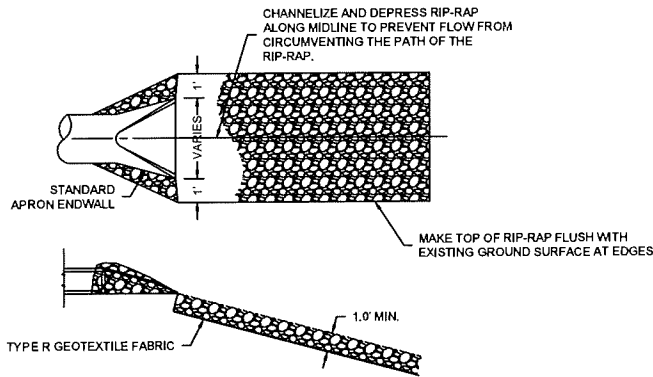
DETAILS

SHEET NUMBER

C 400

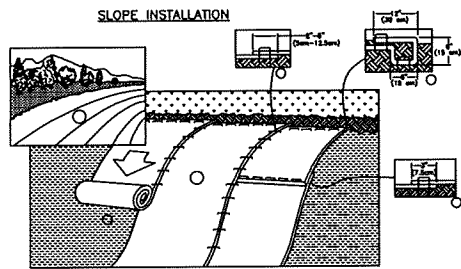


PRELIMINARY



- NOTES:
1. INSTALL RIPRAP WHERE SHOWN ON PLANS.
  2. FOR PERMANENT POOL (WET) DETENTION BASINS: EXTEND RIP-RAP FROM OUTFALL TO AT LEAST 5 FEET BEYOND THE NORMAL WATER LEVEL.
  3. INSTALL MEDIUM RIPRAP PER DOT STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION.
  4. INSTALL TYPE R GEOTEXTILE FABRIC PER DOT STANDARD SPECIFICATIONS PER HIGHWAY AND STRUCTURE CONSTRUCTION.
  5. WHERE RIP-RAP IS REQUIRED AT AN AREA PER PLAN, AND THERE IS NO OUTFALL PIPE, THE RIP-RAP SHALL BE PLACED A MINIMUM 6 FEET WIDE.

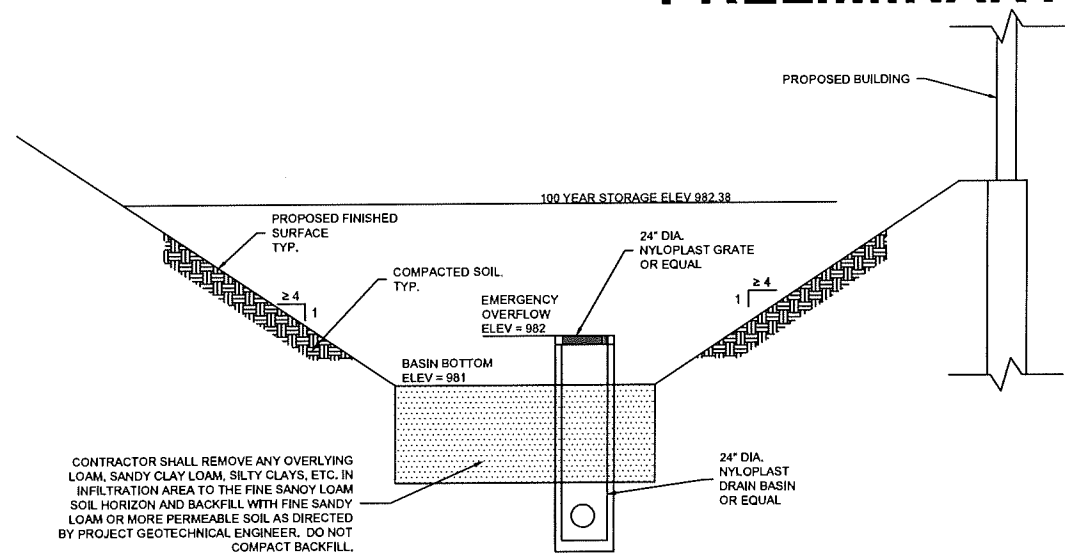
**A RIP-RAP DISCHARGE APRON**  
NOT TO SCALE



**B EMERGENCY SPILLWAY INFILTRATION BASIN "B"**  
NOT TO SCALE

INFILTRATION DEVICES ARE DESIGNED IN ACCORDANCE WITH THE SPECIFICATIONS OF THE WISCONSIN DEPARTMENT OF NATURAL RESOURCES (WDNR), COUNTY, MUNICIPALITY, AND ENGINEERING STANDARD CARE. ALL DESIGNATED INFILTRATION AREAS (e.g. RAIN GARDENS, INFILTRATION BASINS, BIOTENTION DEVICES) SHALL BE FENCED PRIOR TO CONSTRUCTION AND REMAIN UNDISTURBED AND PROTECTED DURING THE CONSTRUCTION OF PROPOSED SITE IMPROVEMENTS. PROPOSED INFILTRATION BASINS SHALL NOT BE CONSTRUCTED UNTIL THE CONTRIBUTING WATERSHED AREA MEETS REQUIREMENTS SET FORTH WITHIN THE RESPECTIVE WDNR TECHNICAL STANDARDS. IF THE LOCATION OF THE INFILTRATION AREA CONFLICTS WITH CONSTRUCTION STAGING AND/OR CONSTRUCTION TRAFFIC AND IS DISTURBED, COMPACTION MITIGATION WILL BE REQUIRED AT THE CONTRACTOR'S EXPENSE.

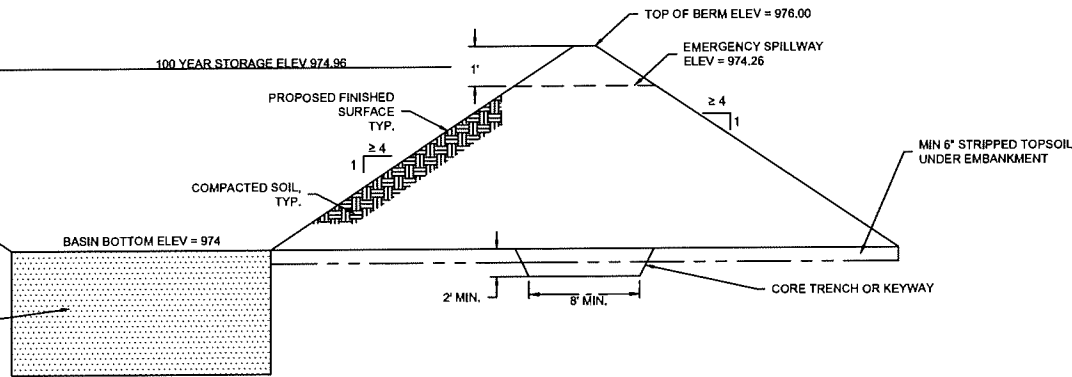
THE CONTRACTOR IS REQUIRED TO PROVIDE QUALIFIED STAFF FOR INSPECTION AND OBSERVATION OF THE CONSTRUCTION ACTIVITIES RELATING TO ALL JOB SITE REGULATORY COMPLIANCE INCLUDING THE PROTECTION AND CONSTRUCTION OF ALL STORMWATER MANAGEMENT FEATURES. ANY OBSERVATION OF PLAN OR SITE DISCREPANCIES SHALL BE REPORTED TO THE ENGINEER OF RECORD PRIOR TO CONSTRUCTION.



**C INFILTRATION BASIN "A"**  
NOT TO SCALE

CONTRACTOR SHALL REMOVE ANY OVERLYING LOAM, SANDY CLAY LOAM, SILTY CLAYS, ETC. IN INFILTRATION AREA TO THE FINE SANDY LOAM SOIL HORIZON AND BACKFILL WITH FINE SANDY LOAM OR MORE PERMEABLE SOIL AS DIRECTED BY PROJECT GEOTECHNICAL ENGINEER. DO NOT COMPACT BACKFILL.

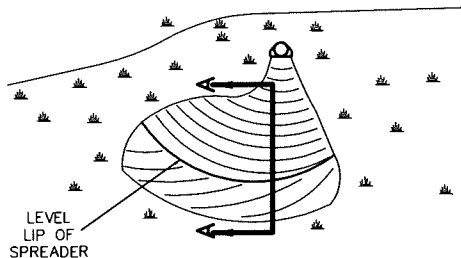
CONTRACTOR SHALL REMOVE OVERLYING LOAMS, SILTY CLAYS, ETC. IN INFILTRATION AREA TO THE VERY GRAVELLY SAND OR FINE SANDY LOAM SOIL HORIZON AND BACKFILL TO PROPOSED BASIN BOTTOM GRADES WITH FINE SANDY LOAM OR MORE PERMEABLE SOIL AS DIRECTED BY PROJECT GEOTECHNICAL ENGINEER. DO NOT COMPACT BACKFILL.



**D INFILTRATION BASIN "B"**  
NOT TO SCALE

**GENERAL NOTES:**  
**INFILTRATION BASIN CONSTRUCTION**

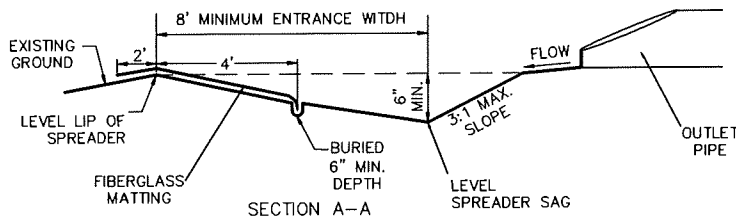
1. ALL CONSTRUCTION SHALL MEET THE SPECIFICATIONS OF "WDNR INFILTRATION BASIN TECHNICAL STANDARD 1004".
2. IF FOUND, ALL NON-SANDY SOIL SHALL BE REMOVED FROM THE BASIN AREA AND REPLACED WITH CLEAN SAND TO DESIGN ELEVATIONS.
3. CONSTRUCTION SHALL BE SUSPENDED DURING PERIODS OF RAINFALL OR SNOWMELT. CONSTRUCTION SHALL REMAIN SUSPENDED IF PONDED WATER IS SUSPENDED OR RESIDUAL SOIL MOISTURE CONTRIBUTES SIGNIFICANTLY TO THE POTENTIAL FOR SOIL SMEARING, CLUMPING OR OTHER FORMS OF COMPACTION.
4. CONSTRUCTION OF THE BASIN SHOULD NOT COMMENCE UNTIL ENTIRE SITE HAS BEEN STABILIZED.
5. DURING CONSTRUCTION ONE OF THE FOLLOWING METHODS SHALL BE USED:
  - 5.a. NO DISTURBANCE - THE INFILTRATION AREA SHALL BE FENCED OFF TO PREVENT HEAVY EQUIPMENT ACCESS DURING DEVELOPMENT. TRACKED VEHICLES SHOULD BE USED DURING INFILTRATION BASIN CONSTRUCTION TO LESSEN COMPACTION
  - 5.b. COMPACTION MITIGATION - IF THE ACTIVE INFILTRATION AREA IS GRADED THE EFFECTS OF COMPACTION SHALL BE MITIGATED USING THE FOLLOWING METHODS:
    - 5.b.1. INCORPORATE SOIL ADDITIVES CONSISTING OF TWO INCHES OF COMPOST MIXED INTO TWO INCHES OF TOPSOIL.
    - 5.b.1. THE SOIL MIX (V.C.3.B.1) SHALL BE INCORPORATED INTO THE EXISTING SOIL USING A CHISEL PLOW OR ROTARY DEVICE WITH THE CAPABILITY OF REACHING 12 INCHES BELOW EXISTING SURFACE.
    - 5.b.2. THE COMPOST COMPONENT SHALL MEET DNR SPECIFICATION S100 COMPOST.
6. THE BASIN SHALL BE CONSTRUCTED TO THE GRADES, ELEVATIONS, AND SPECIFICATIONS IN THE PLAN. AFTER GRADING AND TOP SOILING, THE ELEVATION OF THE BASIN SHALL BE SURVEYED FOR CONFORMANCE TO DESIGN SPECIFICATIONS.
7. RUNOFF MUST INFILTRATE WITHIN 48-HOURS. IF THE BASIN IS UNABLE TO MAINTAIN THESE RATES, IT MUST BE DEEP TILLED, REGRADED, AND IF NECESSARY REPLANTED BY OWNER TO RESTORE ORIGINAL INFILTRATION RATES.
8. ALL WORK TO BE CONDUCTED IN CONFORMANCE WITH THE STORMWATER MANAGEMENT PLAN FOR THE PROJECT SITE AS APPROVED BY THE REGULATORY ENGINEER.
9. LEVEL SPREADERS SHALL BE LOCATED AT ALL ENTRANCE POINTS WITH CONCENTRATED FLOW.
10. REFER TO LANDSCAPE PLAN FOR VEGETATION REQUIREMENTS.



**E EROSION MATTING: WDNR TS-1052**  
NOT TO SCALE

**LEVEL SPREADER CONSTRUCTION NOTES:**

1. FIBERGLASS MATTING, 6.5 FT. WIDE, SHOULD EXTEND 2" OVER THE LEVEL LIP AND BE BURIED 6" DEEP (MIN.) AT THE LOWER EDGE.
2. ENSURE THAT THE SPREADER LIP IS LEVEL THROUGHOUT ITS LENGTH.
3. CONSTRUCT THE LEVEL SPREADER ON DISTURBED SOIL (NOT ON FILL).
4. CONSTRUCT A TRANSITION SECTION FROM THE DISCHARGE PIPE TO BLEND SMOOTHLY TO THE WIDTH AND DEPTH OF SPREADER.
5. IMMEDIATELY AFTER CONSTRUCTION, APPROPRIATELY SEED AND MULCH THE ENTIRE DISTURBED AREA OF THE SPREADER AND TRANSITION. SEE VEGETATION PLAN.



**F LEVEL SPREADER**  
NOT TO SCALE

JLA  
architects + planners

JLA PROJECT NUMBER: 15-0617

Fiduciary  
REAL ESTATE DEVELOPMENT, INC.

THE SIGMA GROUP  
Single Source. Sound Solutions.  
www.thesigmagroup.com  
1300 West Canal Street  
Milwaukee, WI 53233  
Phone: 414-643-4200  
Fax: 414-643-4210

Fiduciary Real Estate  
Development

PUD-SIP Submittal

22 SLATE

**PROGRESS DOCUMENTS**

These documents reflect progress and intent and may be subject to change, including additional detail. These are not final construction documents and should not be used for final bidding or construction-related purposes.

DATE OF ISSUANCE JANUARY 6, 2016

**REVISION SCHEDULE**

Mark Description Date

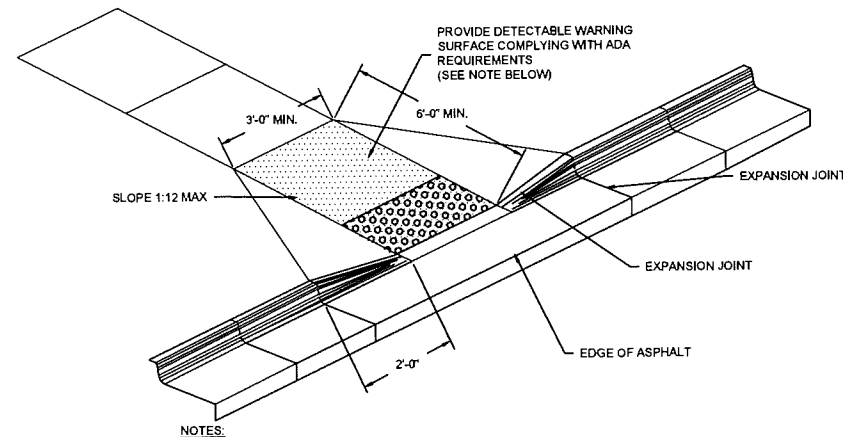
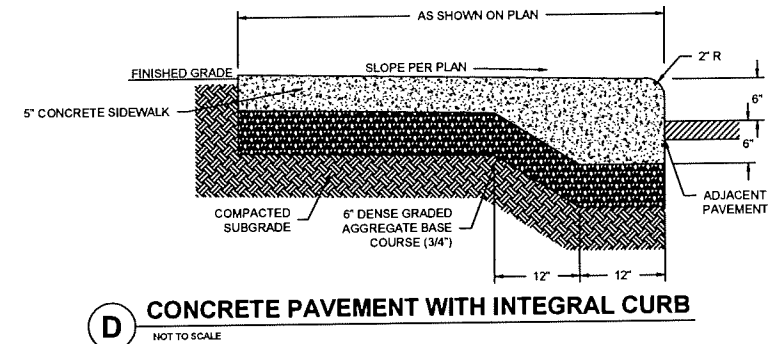
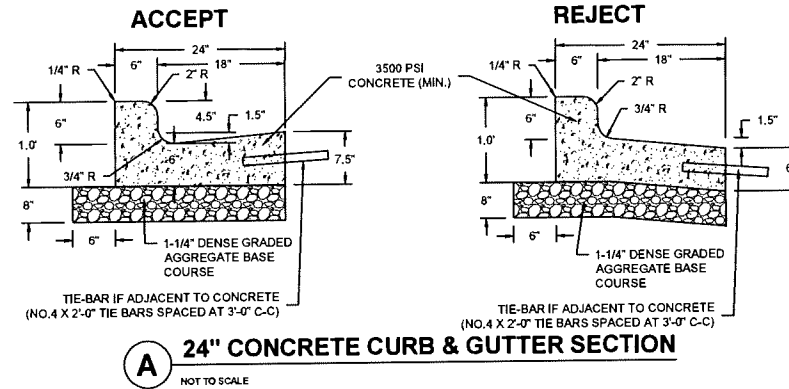
SHEET TITLE

DETAILS

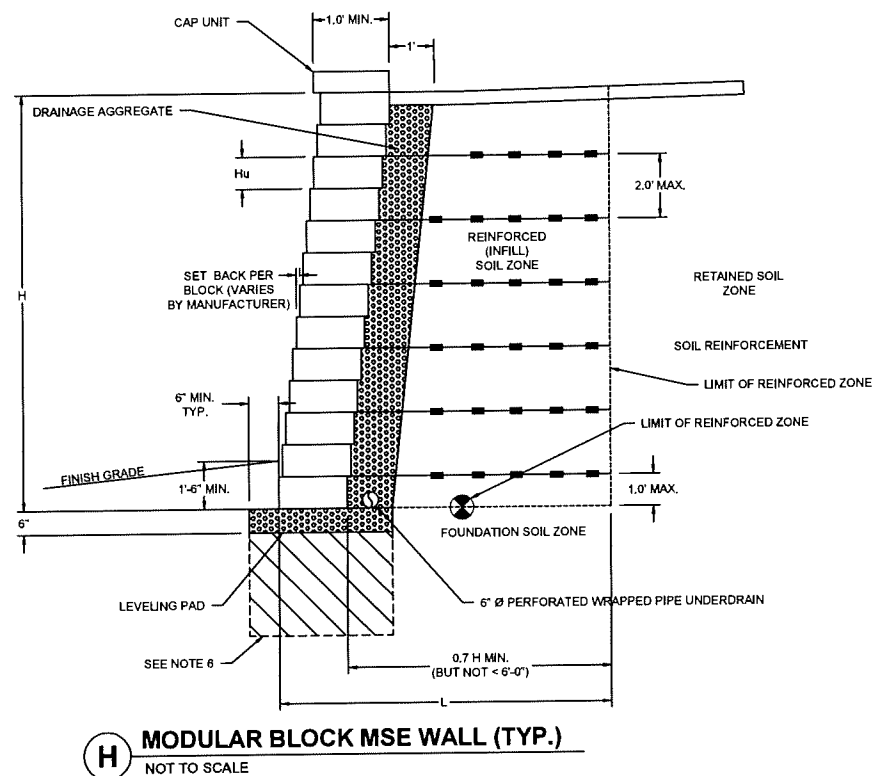
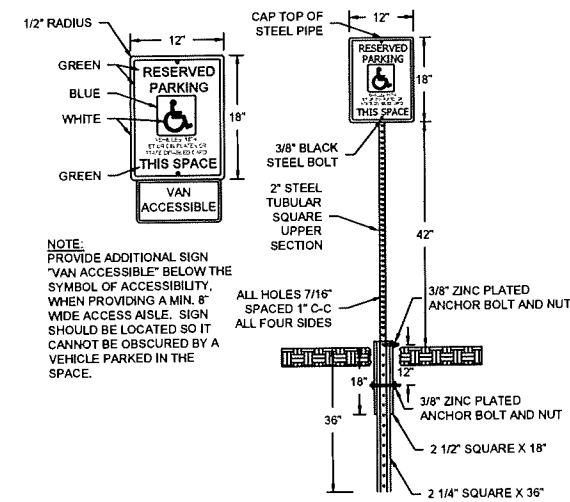
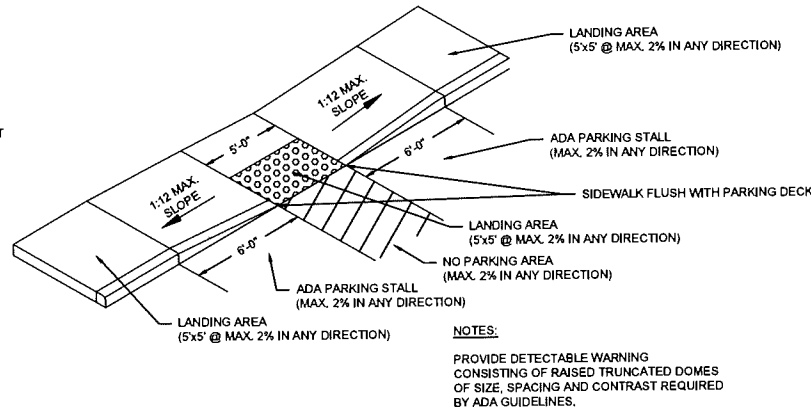
SHEET NUMBER

C 401

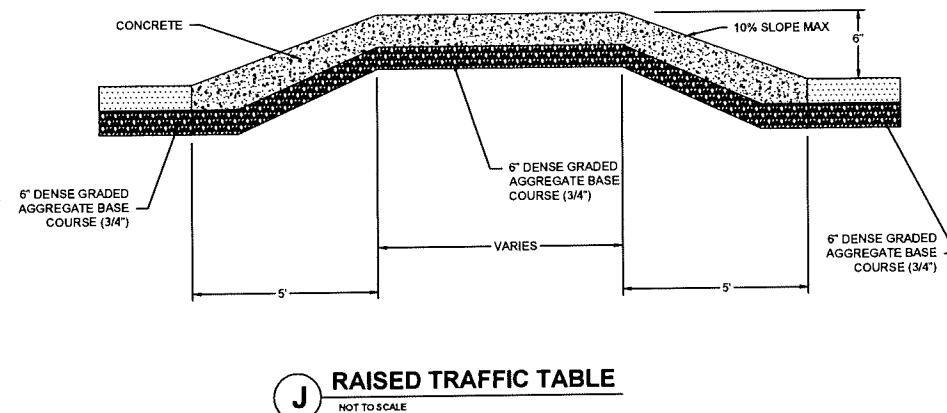
PRELIMINARY



- NOTES:
- PUBLIC ADA RAMP SHALL BE CONSTRUCTED PER CITY OF MILWAUKEE STANDARDS.
  - CONTRACTOR TO VERIFY ADA RAMP DETAIL WITH CITY AND ADJUST AS NEEDED.
  - PROVIDE DETECTABLE WARNING CONSISTING OF RAISED TRUNCATED DOMES OF SIZE, SPACING AND CONTRAST REQUIRED BY ADA GUIDELINES.
  - DETECTABLE WARNINGS SHALL BE PER CITY STANDARDS.



- NOTES:
- RETAINING WALL SYSTEM SHALL BE KEYSTONE, ROCKWOOD, OR APPROVED EQUAL.
  - TYPICAL SECTION IS FOR CONCEPTUAL DESIGN ONLY. DETAIL DESIGN SHALL BE BY A QUALIFIED PROFESSIONAL STRUCTURAL OR GEOTECHNICAL ENGINEER, SUPPORTING DESIGN CALCULATIONS AND DETAILS UNDER SEAL OF A REGISTERED WISCONSIN PROFESSIONAL ENGINEER SHALL BE PROVIDED AND SUBMITTED FOR EACH RETAINING WALL.
  - GEOGRID REINFORCEMENT SPACING AND LENGTH PER MANUFACTURER'S ENGINEER RECOMMENDATIONS.
  - GEOTECHNICAL ENGINEER MAY REQUIRE THAT ADDITIONAL DRAIN PIPING IS NEEDED DEPENDENT UPON SOILS ENCOUNTERED DURING WALL CONSTRUCTION.
  - WALL STRUCTURE TO BE VERIFIED WITH GEOTECHNICAL ENGINEER.
  - SOILS BELOW LEVELING PAD WHICH ARE SUBJECT TO FROST HEAVE SHALL BE REMOVED TO AN ELEVATION 3'-6" BELOW "FINISHED GRADE" AND REPLACED WITH GRANULAR BACKFILL.
  - THE CONTRACTOR SHALL PROVIDE COMPLETE DESIGN, PLANS, DETAILS, SPECIFICATIONS, AND STAMPED AND SEALED SHOP DRAWINGS FOR THE RETAINING WALLS TO THE ENGINEER AND MUNICIPALITY. THE RETAINING WALL MANUFACTURER SHALL PROVIDE TECHNICAL ASSISTANCE TO THE CONTRACTOR DURING CONSTRUCTION. THE COST OF THESE ITEMS SHALL BE INCLUDED IN THE BID ITEM "MECHANICALLY STABILIZED EARTH MODULAR BLOCK WALLS."
  - PLANS, ELEVATIONS, AND DETAILS SHOWN ON THESE DRAWINGS ARE INTENDED TO INDICATE WALL LOCATIONS, LENGTHS, HEIGHTS, AND DETAILS COMMON TO THE WALL SYSTEM SELECTED. THE CONTRACTOR SHALL VERIFY THAT THE WALL SYSTEM SELECTED WILL CONFORM TO THE REQUIRED ALIGNMENTS AND DETAILS.
  - THE RETAINING WALL IS TO BE DESIGNED USING THE ELEVATIONS GIVEN ON THIS SHEET AND GRADING PLAN SHEETS.
  - DESIGN FOR RETAINING WALL TO PROVIDE FOR FINISHED GRADE SLOPED BEHIND THE WALL AS SHOWN.
  - SEE FACE OF MODULAR BLOCK FOR AESTHETIC TREATMENT TO WALL.
  - PROTECTIVE RAILINGS/GUARD RAILS REQUIRED FOR ALL RETAINING WALLS ADJACENT TO PEDESTRIAN PATHS TO BE DETERMINED BY OWNER.



JLA

JLA PROJECT NUMBER: 15-0617

**Fiduciary**

REAL ESTATE DEVELOPMENT, INC.

**SIGMA** GROUP

Single Source. Sound Solutions.

www.thesigmagroup.com

1300 West Canal Street

Milwaukee, WI 53233

Phone: 414-643-4200

Fax: 414-643-4210

**Fiduciary Real Estate Development**

PUD-SIP Submittal

22 SLATE

**PROGRESS DOCUMENTS**

These documents reflect progress and intent and may be subject to change, including additional detail. These are not final construction documents and should not be used for final bidding or construction-related purposes.

DATE OF ISSUANCE JANUARY 6, 2016

**REVISION SCHEDULE**

Mark	Description	Date
------	-------------	------

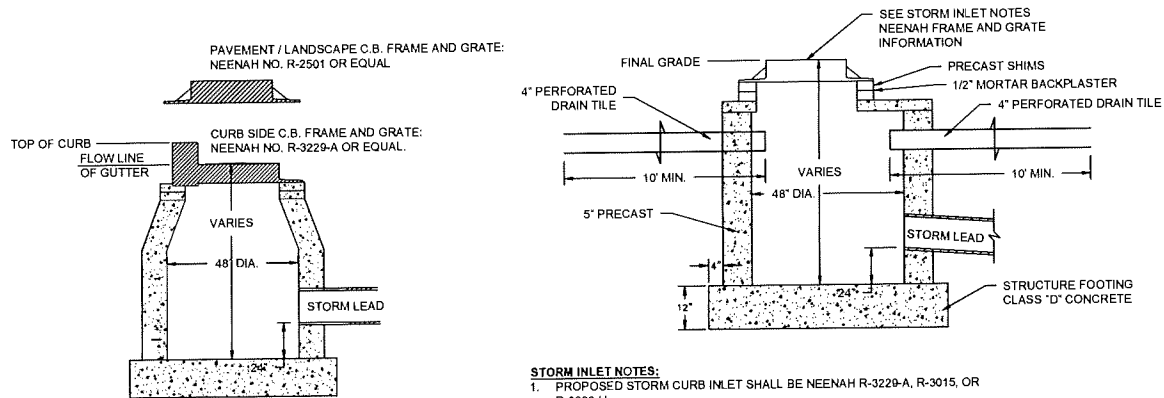
SHEET TITLE

**DETAILS**

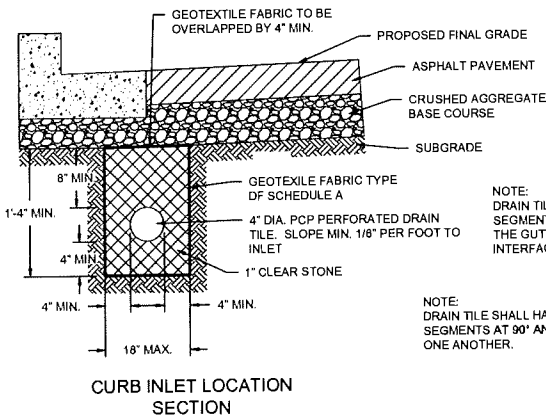
SHEET NUMBER

**C 402**

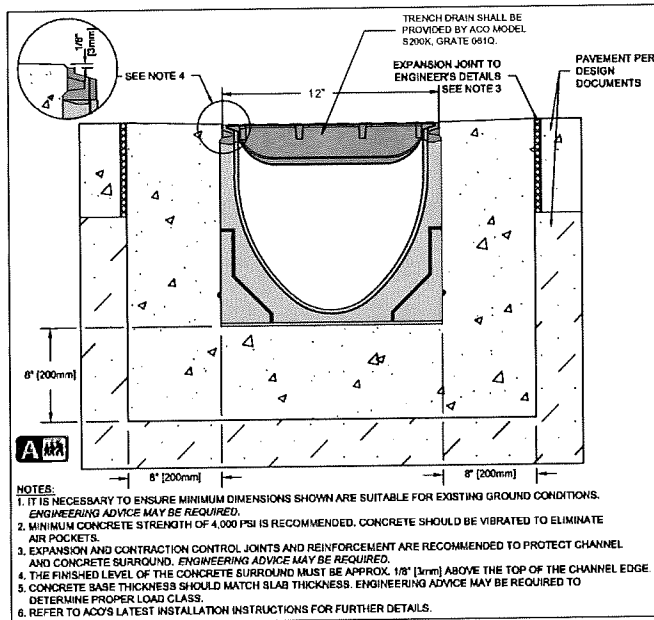
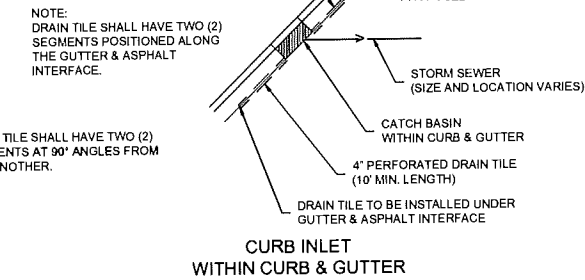
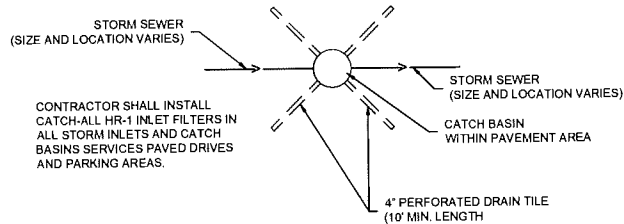
File: I:\Joseph Lee & Associates\15685 Trench Drain Detail.dwg - Civil Plans\507-Details\15685 Details and Specs.dwg



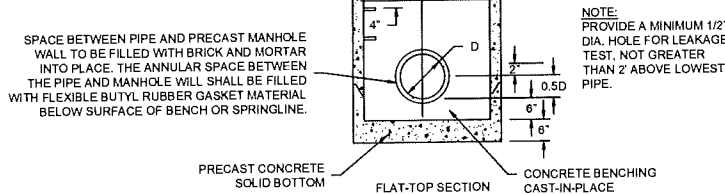
- NOTES:
1. ADJUST FRAME TO GRADE WITH CONCRETE RINGS OF VARIABLE THICKNESS. MAXIMUM RING HEIGHT = 6". MINIMUM RING HEIGHT = 2". CONCRETE RINGS SHALL BE REINFORCED WITH ONE LINE OF STEEL CENTERED WITHIN THE RING. WHERE NECESSARY RINGS SHALL BE GROOVED TO RECEIVE STEP.
  2. CONCRETE AND REINFORCEMENT STEEL SHALL CONFORM TO THE REQUIREMENTS OF ASTM DESIGNATION C-478.
  3. SPACE BETWEEN PIPE AND PRECAST MANHOLE WALL TO BE FILLED WITH BRICK MORTARED IN PLACE EXCEPT THAT AN APPROVED FLEXIBLE WATERTIGHT PIPE TO MANHOLE SEAL IS REQUIRED FOR ALL FLEXIBLE SANITARY SEWER CONNECTIONS. THE ANNULAR SPACE BETWEEN THE PIPE AND MANHOLE WALL SHALL BE FILLED WITH FLEXIBLE BUTYL RUBBER GASKET MATERIAL BELOW SURFACE OF BENCH OR SPRINGLINE.
  4. AREA OF CIRCUMFERENTIAL STEEL = 0.12 SQ. INCH PER LINEAL FOOT MIN.
  5. 3" BEDDING OF STONE UNDER BASE REQUIRED ON WET SUB-GRADE.



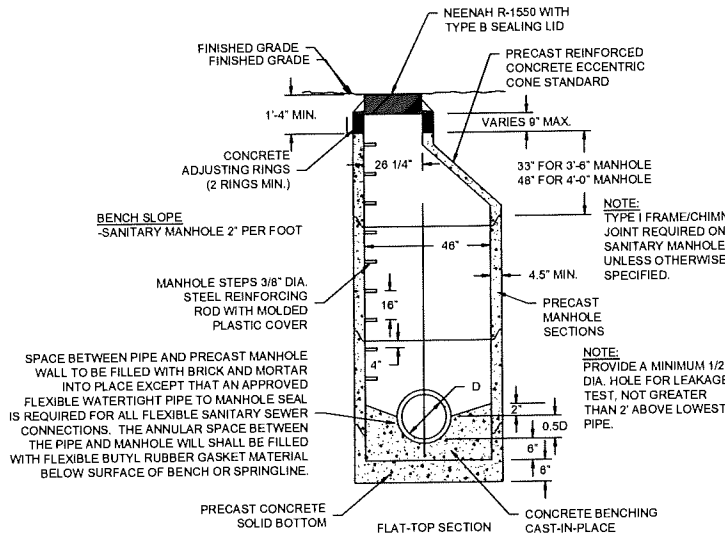
**A** CATCH BASIN  
NOT TO SCALE



**D** TRENCH DRAIN DETAIL  
NOT TO SCALE

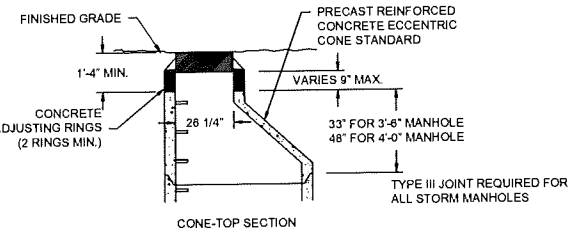


**B** PRECAST STORM MANHOLE  
NOT TO SCALE



**C** PRECAST SANITARY MANHOLE  
NOT TO SCALE

## PRELIMINARY



- NOTES:
1. CONSTRUCT MANHOLE IN ACCORDANCE WITH FILE NO. 12 OF THE STATE STANDARD SPECIFICATIONS FOR SEWER AND WATER.
  2. ADJUST FRAME TO GRADE WITH CONCRETE RINGS OF VARIABLE THICKNESS. MAXIMUM RING HEIGHT = 6". MINIMUM RING HEIGHT = 2". CONCRETE RINGS SHALL BE REINFORCED WITH ONE LINE OF STEEL CENTERED WITHIN THE RING. WHERE NECESSARY RINGS SHALL BE GROOVED TO RECEIVE STEP.
  3. CONCRETE AND REINFORCEMENT STEEL SHALL CONFORM TO THE REQUIREMENTS OF ASTM DESIGNATION C-478.
  4. JOINTS SHALL BE WATERTIGHT AND SHALL BE MADE USING MORTAR, FLEXIBLE PLASTIC GASKETS OR RUBBER TYPE GASKETS FOR STORM MANHOLES.
  5. AREA OF CIRCUMFERENTIAL STEEL = 0.12 SQ. INCH PER LINEAL FOOT MIN.
  6. 3" OF BEDDING STONE UNDER BASE REQUIRED ON WET SUB-GRADE.

MANHOLE SIZES (UNLESS OTHERWISE NOTED)

PIPE DIA. [D]	MANHOLE DIA.	WALL THICKNESS
8" THRU 27"	3'-6"	4 1/2"
30"	4'-0"	5"
36"	5'-0"	6"
42"	6'-0"	7"

\* ALL PUBLIC MANHOLES SHALL BE A MINIMUM OF 48" IN DIAMETER.

- NOTES:
1. CONSTRUCT MANHOLE IN ACCORDANCE WITH FILE NO. 12 OF THE STATE STANDARD SPECIFICATIONS FOR SEWER AND WATER.
  2. ADJUST FRAME TO GRADE WITH CONCRETE RINGS OF VARIABLE THICKNESS. MAXIMUM RING HEIGHT = 6". MINIMUM RING HEIGHT = 2". CONCRETE RINGS SHALL BE REINFORCED WITH ONE LINE OF STEEL CENTERED WITHIN THE RING. WHERE NECESSARY RINGS SHALL BE GROOVED TO RECEIVE STEP.
  3. CONCRETE AND REINFORCEMENT STEEL SHALL CONFORM TO THE REQUIREMENTS OF ASTM DESIGNATION C-478.
  4. JOINTS SHALL BE WATERTIGHT AND SHALL BE MADE USING MORTAR, FLEXIBLE PLASTIC GASKETS OR RUBBER TYPE GASKETS FOR STORM MANHOLES.
  5. AREA OF CIRCUMFERENTIAL STEEL = 0.12 SQ. INCH PER LINEAL FOOT MIN.
  6. 3" OF BEDDING STONE UNDER BASE REQUIRED ON WET SUB-GRADE.
  7. ALL SANITARY MANHOLES SHALL BE PROVIDED WITH EXTERNAL CHIMNEY SEALS AND SELF-SEALING LIDS WITH CONCEALED PICK HOLES.

MANHOLE SIZES (UNLESS OTHERWISE NOTED)

PIPE DIA. [D]	MANHOLE DIA.	WALL THICKNESS
8" THRU 27"	3'-6"	4 1/2"
30"	4'-0"	5"
36"	5'-0"	6"
42"	6'-0"	7"

\* ALL PUBLIC MANHOLES SHALL BE A MINIMUM OF 48" IN DIAMETER.

**JLA**  
ARCHITECTS & ENGINEERS

JLA PROJECT NUMBER: 15-0617

**Fiduciary**  
REAL ESTATE DEVELOPMENT, INC.

**THE SIGMA GROUP**  
Single Source. Sound Solutions.  
www.thesigmagroup.com  
1300 West Canal Street  
Milwaukee, WI 53233  
Phone: 414-643-4200  
Fax: 414-643-4210

Fiduciary Real Estate  
Development

PUD-SIP Submittal

22 SLATE

### PROGRESS DOCUMENTS

These documents reflect progress and intent and may be subject to change, including additional detail. These are not final construction documents and should not be used for final bidding or construction-related purposes.

DATE OF ISSUANCE JANUARY 6, 2016

REVISION SCHEDULE		
Mark	Description	Date

SHEET TITLE

DETAILS

SHEET NUMBER

C 403



# PRELIMINARY

## GENERAL:

- EXISTING UTILITIES ARE SHOWN FOR INFORMATIONAL PURPOSES ONLY, AND NO RESPONSIBILITY IS ASSUMED BY THE OWNER OR ENGINEER FOR THEIR ACCURACY OR COMPLETENESS.
- CONTRACTOR IS RESPONSIBLE FOR MAKING THEIR OWN DETERMINATION AS TO THE TYPE AND LOCATION OF UNDERGROUND UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO. CONTRACTOR SHALL HAVE SITE MARKED BY DIGGER'S HOTLINE AND SHALL HAVE PRIVATE UTILITIES MARKED BY A PRIVATE UTILITY LOCATOR PRIOR TO CONSTRUCTION. CONTRACTOR SHALL VERIFY ALL ELEVATIONS, LOCATIONS, AND SIZES OF EXISTING UTILITIES AND SHALL CHECK ALL UTILITY CROSSINGS AND PROPOSED CONNECTIONS FOR CONFLICTS/DISCREPANCIES PRIOR TO INITIATING CONSTRUCTION. REPORT ANY CONFLICTS OR DISCREPANCIES TO THE ENGINEER SO REDESIGN MAY OCCUR IF NEEDED.
- LENGTHS OF ALL UTILITIES ARE TO CENTER OF STRUCTURES OR FITTINGS AND MAY VARY SLIGHTLY FROM PLANS. LENGTHS SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR.

## SITE CLEARING:

- EXCEPT FOR STRIPPED TOPSOIL OR OTHER MATERIALS INDICATED TO REMAIN ON OWNER'S PROPERTY, CLEARED MATERIALS SHALL BECOME CONTRACTOR'S PROPERTY AND SHALL BE REMOVED FROM PROJECT SITE.
- MINIMIZE INTERFERENCE WITH ADJOINING ROADS, STREETS, WALKS, AND OTHER ADJACENT OCCUPIED OR USED FACILITIES DURING SITE-CLEARING OPERATIONS.
- SALVAGE IMPROVEMENTS: CAREFULLY REMOVE ITEMS INDICATED TO BE SALVAGED AND STORE ON OWNER'S PREMISES WHERE INDICATED.
- UTILITY LOCATOR SERVICE: NOTIFY UTILITY LOCATOR SERVICE FOR AREA WHERE PROJECT IS LOCATED BEFORE SITE CLEARING.
- DO NOT COMMENCE SITE CLEARING OPERATIONS UNTIL TEMPORARY EROSION AND SEDIMENTATION CONTROL MEASURES ARE IN PLACE.
- PROTECT AND MAINTAIN BENCHMARKS AND SURVEY CONTROL POINTS FROM DISTURBANCE DURING CONSTRUCTION.
- LOCATE AND CLEARLY FLAG TREES AND VEGETATION TO REMAIN OR TO BE RELOCATED.
- PROTECT EXISTING SITE IMPROVEMENTS TO REMAIN FROM DAMAGE DURING CONSTRUCTION; RESTORE DAMAGED IMPROVEMENTS TO THEIR ORIGINAL CONDITION, AS ACCEPTABLE TO OWNER.
- LOCATE, IDENTIFY, DISCONNECT, AND SEAL OR CAP OFF UTILITIES INDICATED TO BE REMOVED; ARRANGE WITH UTILITY COMPANIES TO SHUT OFF INDICATED UTILITIES.
- EXISTING UTILITIES: DO NOT INTERRUPT UTILITIES SERVING FACILITIES OCCUPIED BY OWNER OR OTHERS UNLESS PERMITTED BY THE OWNER AND THEN ONLY AFTER ARRANGING TO PROVIDE TEMPORARY UTILITY SERVICES.
- FILL DEPRESSIONS CAUSED BY CLEARING AND GRUBBING OPERATIONS WITH SATISFACTORY SOIL MATERIAL UNLESS FURTHER EXCAVATION OR EARTHWORK IS INDICATED; PLACE FILL MATERIAL IN HORIZONTAL LAYERS NOT EXCEEDING A LOOSE DEPTH OF 8 INCHES, AND COMPACT EACH LAYER TO A DENSITY EQUAL TO ADJACENT ORIGINAL GROUND.
- REMOVE SOD AND GRASS BEFORE STRIPPING TOPSOIL.
- STRIP TOPSOIL TO WHATEVER DEPTHS ARE ENCOUNTERED IN A MANNER TO PREVENT INTERMIXING WITH UNDERLYING SUBSOIL OR OTHER WASTE MATERIALS.
- STOCKPILE TOPSOIL MATERIALS AWAY FROM EDGE OF EXCAVATIONS WITHOUT INTERMIXING WITH SUBSOIL. GRADE AND SHAPE STOCKPILES TO DRAIN SURFACE WATER. COVER TO PREVENT WINDBLOWN DUST.
- REMOVE EXISTING ABOVE- AND BELOW-GRADE IMPROVEMENTS AS INDICATED AND AS NECESSARY TO FACILITATE NEW CONSTRUCTION.
- SAWCUT ALL PAVEMENTS FULL DEPTH PRIOR TO REMOVAL; SAWCUTS SHALL BE IN STRAIGHT LINES PERPENDICULAR AND/OR PARALLEL TO EXISTING PAVEMENT JOINTS AND PAVEMENT EDGES.
- REMOVE SURPLUS SOIL MATERIAL, UNSUITABLE TOPSOIL, OBSTRUCTIONS, DEMOLISHED MATERIALS, AND WASTE MATERIALS INCLUDING TRASH AND DEBRIS, AND LEGALLY DISPOSE OF THEM OFF OWNER'S PROPERTY.
- SEPARATE RECYCLABLE MATERIALS PRODUCED DURING SITE CLEARING FROM OTHER NONRECYCLABLE MATERIALS. STORE OR STOCKPILE WITHOUT INTERMIXING WITH OTHER MATERIALS AND TRANSPORT THEM TO RECYCLING FACILITIES.

## SITE WATER SERVICE:

- COMPLY WITH STANDARDS OF STATE PLUMBING CODE (SPS CH. 382, 384), LOCAL WATER UTILITY REQUIREMENTS AND STANDARDS OF AUTHORITIES HAVING JURISDICTION FOR FIRE-SUPPRESSION AND WATER SERVICE PIPING INCLUDING MATERIALS, FITTINGS, APPURTENANCES, INSTALLATION, TESTING, SERVICE TAPS, ETC. IN CASE OF CONFLICT BETWEEN THESE SPECIFICATIONS AND STATE PLUMBING CODE OR LOCAL JURISDICTIONAL AUTHORITY, STATE PLUMBING CODE AND LOCAL JURISDICTIONAL AUTHORITY REQUIREMENTS GOVERN.
- DO NOT INTERRUPT SERVICE TO FACILITIES OCCUPIED BY OWNER OR OTHERS UNLESS PERMITTED BY OWNERS OF SUCH FACILITIES AND THEN ONLY AFTER ARRANGING TO PROVIDE TEMPORARY WATER-DISTRIBUTION SERVICE.
- WATER SERVICE PIPING MAY BE EITHER DUCTILE IRON WATER PIPE OR PVC WATER PIPE AS ALLOWED BY THE LOCAL WATER UTILITY.
- DUCTILE IRON WATER PIPE CONFORMING TO THE REQUIREMENTS OF THE AMERICAN NATIONAL STANDARD FOR DUCTILE IRON PIPE, CENTRIFUGALLY CAST, AWWA C151/A21.51 - LATEST REVISION AND REQUIREMENTS OF CHAPTER 8.18.0 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, LATEST EDITION.
  - CLASS 52
  - CEMENT MORTAR LINING AND INTERNAL AND EXTERNAL BITUMINOUS COATS IN ACCORDANCE WITH SECTION 51.8 OF AWWA C151.
  - PUSH-ON GASKET PIPE
  - PLAIN RUBBER GASKETS
  - BONDING STRAPS TO PROVIDE ELECTRICAL CONDUCTIVITY WITHOUT FIELD TESTING
- JOINTS FOR DUCTILE IRON PIPE: JOINTS SHALL BE RUBBER GASKET JOINTS; CONFORM TO THE REQUIREMENTS OF AMERICAN NATIONAL STANDARD FOR RUBBER GASKET JOINTS FOR DUCTILE IRON PRESSURE PIPE AND FITTINGS (ANSI/AWWA C111/A21.11, LATEST EDITION)
- FITTINGS FOR DUCTILE IRON PIPE: CONFORM TO THE REQUIREMENTS OF AMERICAN NATIONAL STANDARD FOR DUCTILE IRON AND GRAY IRON FITTINGS, 3" THROUGH 48" FOR WATER ANSI/AWWA C110/A21.10, LATEST EDITION; CLASS 250 MECHANICAL JOINT PIPE FITTINGS; CEMENT UNED; ALL BELLS: ENTIRE FITTING TAPPED; CONDUCTIVE MECHANICAL JOINT (NO LEAD) RUBBER GASKETS, FLANGES, AND BOLTS.
- PVC AWWA PIPE: AWWA C900, CLASS 200 WITH BELL END WITH GASKET AND WITH SPIGOT END AND MEETING REQUIREMENTS OF CHAPTER 8.20.0 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN. FITTINGS SHALL BE IN ACCORDANCE WITH CHAPTER 8.22.0 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN. PUSH-ON-JOINT, DUCTILE IRON FITTINGS : AWWA C110 AND C111, MECHANICAL -JOINT, DUCTILE IRON FITTINGS: AWWA C151, DUCTILE-IRON COMPACT PATTERN, GLANDS, GASKETS AND BOLTS: AWWA C111, DUCTILE IRON GLANDS, RUBBER GASKETS AND STEEL BOLTS.
- GATE VALVES: CONFORM TO AWWA C-500 AND STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN SUITABLE FOR DIRECT BURY.
- VALVE BOXES: CAST IRON CONFORMING TO ASTM DESIGNATION A-48, CLASS 20 AND STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN.
- FIRE HYDRANTS: N/A
- WATER MAIN CONNECTION: TAP WATER MAIN WITH SIZE AND LOCATION INDICATED ON PLAN IN ACCORDANCE WITH LOCAL WATER UTILITY REQUIREMENTS. COORDINATE CONNECTION WITH LOCAL WATER UTILITY.
- GENERAL WATER PIPE INSTALLATION: IN ACCORDANCE WITH CHAPTER 4.3.0 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN.
- INSTALL DUCTILE-IRON, WATER-SERVICE PIPING ACCORDING TO AWWA C600 AND CHAPTER 4.4.0 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN.
- ALL DUCTILE IRON PIPE SHALL BE ENCASED IN POLYETHYLENE PER AWWA C105. LATEST EDITION AND IN ACCORDANCE WITH CHAPTER 4.4.4 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN. ALL JOINTS AND FITTINGS SHALL HAVE POLYETHYLENE ENCASEMENT INSTALLED PER MANUFACTURER'S REQUIREMENTS AND PROCEDURES.
- INSTALL PVC AWWA PIPE ACCORDING TO ASTM F445 AND AWWA M23 AND CHAPTER 4.6.0 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN.
- INSTALL THRUST RESTRAINT AT ALL OFFSET FITTINGS USING MECHANICAL JOINT RESTRAINTS. CONCRETE THRUST BLOCKS MAY ONLY BE USED IF ALLOWED BY LOCAL WATER UTILITY.
- INSTALL WATER SERVICE PIPING SUCH THAT THERE IS A MINIMUM OF 6' OF COVER OVER THE TOP OF THE WATER SERVICE PIPING.
- BEDDING AND COVER FOR WATER SERVICE PIPING SHALL BE IN ACCORDANCE WITH SECTION 4.3.3 AND FILE NO. 36 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, LATEST EDITION. TRENCH BACKFILL SHALL BE GRANULAR BACKFILL IN ACCORDANCE WITH SECTION 8.43.4 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, LATEST EDITION ON-SITE.

## SITE WATER SERVICE CONT.:

- INSTALL TRACER WIRE FOR NON-METALLIC WATER SERVICES IN ACCORDANCE WITH SPS SECTION 382.40(9)(K). TRACER WIRE INSULATION COLOR SHALL BE BLUE FOR POTABLE WATER SERVICE PIPING.
- DUCTILE-IRON PIPING, RUBBER GASKETED JOINTS IN ACCORDANCE WITH SECTION 4.4.2 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN.
- PVC PIPING GASKETED JOINTS: USING JOINING MATERIALS ACCORDING TO AWWA C900. CONSTRUCT JOINTS WITH ELASTOMERIC SEALS AND LUBRICANTS ACCORDING TO ASTM D2774 OR ASTM D3139 AND PIPE MANUFACTURER'S WRITTEN INSTRUCTIONS.
- CONDUCT HYDROSTATIC TESTS IN ACCORDANCE WITH CHAPTER 4.15.0 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN.
- CLEAN AND DISINFECT WATER SERVICE PIPING IN ACCORDANCE WITH SPS CHAPTER 82.40(8)(I) AND AWWA C651.

## SANITARY SEWERAGE:

- ALL PRIVATE SANITARY SEWER WORK SHALL BE IN ACCORDANCE WITH THE DEPARTMENT OF SAFETY AND PROFESSIONAL SERVICES (DPS) PLUMBING CODE - CHAPTERS SPS 382 AND SPS 384 AND LOCAL MUNICIPAL REQUIREMENTS.
- ALL PUBLIC SANITARY SEWER WORK SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, LATEST EDITION (STANDARD SPECIFICATIONS) AND LOCAL MUNICIPAL REQUIREMENTS.
- PVC SEWER PIPE AND FITTINGS: ASTM D 3034, SDR 35, WITH BELL-AND-SPIGOT ENDS WITH RUBBER GASKETED JOINTS IN ACCORDANCE WITH CHAPTER 8.10.0 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, LATEST EDITION. JOINTS SHALL CONFORM TO ASTM D-3212.
- MANHOLES: STANDARD PRECAST REINFORCED CONCRETE MANHOLES CONFORMING TO ASTM C478, SECTION 8.39.0 OF THE STANDARD SPECIFICATIONS AND CONFORMING TO FILE NOS. 12, 13 AND 15 OF THE STANDARD SPECIFICATIONS. DIAMETER AND DEPTH AS INDICATED ON PLANS. MANHOLE SIZES TO BE VERIFIED BY CONTRACTOR AND SHOP DRAWINGS SHALL BE PROVIDED TO THE ENGINEER FOR REVIEW PRIOR TO ORDERING STRUCTURES.
- MANHOLES DEEPER THAN FOUR FEET SHALL BE PROVIDED WITH MANHOLE STEPS CONFORMING TO SECTION 8.40.0 OF THE STANDARD SPECIFICATIONS.
- SEWERS SHALL BE INSTALLED IN CONFORMANCE WITH SECTION 3.2.0 OF THE STANDARD SPECIFICATIONS. INSTALL PROPER SIZE INCREASERS, REDUCERS AND COUPLINGS WHERE DIFFERENT SIZES OR MATERIALS OF PIPES AND FITTINGS ARE CONNECTED. INSTALL TRACER PIPE OVER NON-METALLIC PIPING IN ACCORDANCE WITH SPS SECTION 382.30(11)(H) AND 382.36(7)(D).
- PIPE JOINT CONSTRUCTION: FOLLOW PIPING MANUFACTURER'S RECOMMENDATIONS. JOIN PVC SEWER PIPE ACCORDING TO ASTM D2321 AND ASTM D 3212 FOR ELASTOMERIC GASKET JOINTS. JOIN DISSIMILAR PIPE MATERIALS WITH NONPRESSURE-TYPE, FLEXIBLE COUPLINGS
- PROVIDE AND INSTALL CLEANOUTS IN ACCORDANCE WITH SPS CHAPTER 382.35. INSTALL CLEANOUTS AND RISER EXTENSIONS FORM SEWER PIPES TO PROPOSED GRADE. INSTALL PIPING SO CLEANOUTS OPEN IN DIRECTION OF FLOW IN SEWER PIPE. USE LIGHT DUTY, TOP LOADING CLASSIFICATION CLEANOUTS IN EARTH OR UNPAVED FOOT TRAFFIC AREAS; USE MEDIUM DUTY, TOP-LOADING CLASSIFICATION CLEANOUTS IN PAVED FOOT TRAFFIC AREAS; USE HEAVY DUTY, TOP-LOADING CLASSIFICATION CLEANOUTS IN VEHICULAR TRAFFIC AREAS. SET CLEANOUT FRAMES AND COVERS IN PAVEMENT AREAS FLUSH WITH PAVEMENT SURFACE.
- CLASS B COMPACTED TRENCH SECTION (FILE NO. NO. 4 OF STANDARD SPECIFICATIONS) SHALL BE UTILIZED. BEDDING AND COVER MATERIAL SHALL BE IN ACCORDANCE WITH SECTION 8.43.0 OF THE STANDARD SPECIFICATIONS.
- TRENCH BACKFILL MATERIAL SHALL BE GRANULAR BACKFILL IN ACCORDANCE WITH SECTION 8.43.4 OF THE STANDARD SPECIFICATIONS BENEATH AND WITHIN FIVE FEET OF PAVEMENT AREAS; COMPACTED SPOIL BACKFILL IN ACCORDANCE WITH SECTION 8.43.5 OF THE STANDARD SPECIFICATIONS MAY BE USED BENEATH LANDSCAPE AREAS.
- MANHOLE INSTALLATION SHALL BE IN ACCORDANCE WITH SECTION 3.5.0 OF THE STANDARD SPECIFICATIONS. SET MANHOLE RIMS TO ELEVATIONS INDICATED ON PLANS.
- AFTER INSTALLATION OF SEWER PIPE CLEAN ALL DEBRIS FROM SEWER AND INSPECT INTERIOR OF PIPING TO DETERMINE WHETHER LINE DISPLACEMENT OR OTHER DAMAGE HAS OCCURRED. CONDUCT DEFLECTION TESTING OF INSTALLED PIPE IN ACCORDANCE WITH SECTION 3.2.6(I)(4) OF THE STANDARD SPECIFICATIONS; REPLACE ANY PIPE SECTION NOT PASSING THE DEFLECTION TESTING USING NEW PIPE MATERIALS. TEST NEW BUILDING SEWER IN ACCORDANCE WITH SECTION 5.4.0 OF THE STANDARD SPECIFICATIONS. REPLACE LEAKING PIPE USING NEW PIPE MATERIALS AND REPEAT TESTING UNTIL LEAKAGE IS WITHIN ALLOWANCES SPECIFIED.

## STORM DRAINAGE:

- ALL PRIVATE STORM SEWER WORK SHALL BE IN ACCORDANCE WITH THE DEPARTMENT OF SAFETY AND PROFESSIONAL SERVICES (DPS) PLUMBING CODE - CHAPTERS SPS 382 AND SPS 384 AND LOCAL MUNICIPAL REQUIREMENTS.
- ALL PUBLIC STORM SEWER WORK SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, LATEST EDITION (STANDARD SPECIFICATIONS) AND LOCAL MUNICIPAL REQUIREMENTS.
- PVC SEWER PIPE AND FITTINGS: ASTM D 3034, SDR 35, WITH BELL-AND-SPIGOT ENDS WITH RUBBER GASKETED JOINTS IN ACCORDANCE WITH CHAPTER 8.10.0 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, LATEST EDITION. JOINTS SHALL CONFORM TO ASTM D-3212.
- REINFORCED CONCRETE PIPE: ASTM C76 WITH BELL AND SPIGOT ENDS AND GASKETED JOINTS WITH ASTM C443 RUBBER GASKETS IN ACCORDANCE WITH CHAPTER 8.6.0 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, LATEST EDITION.
- HDPE PIPE: ADS N12 PIPE AS APPROVED ON THE DEPARTMENT OF SAFETY AND PROFESSIONAL SERVICES PLUMBING PRODUCT REGISTER.
- CATCH BASINS: STANDARD PRECAST CONCRETE CATCH BASINS CONFORMING TO CHAPTER 3.6.0 OF THE STANDARD SPECIFICATIONS AND IN GENERAL CONFORMANCE WITH FILE NO. 26 OF THE STANDARD SPECIFICATIONS. DEPTH AND DIAMETER AS INDICATED ON PLANS. CATCH BASIN SIZES TO BE VERIFIED BY CONTRACTOR AND SHOP DRAWINGS SHALL BE PROVIDED TO THE ENGINEER FOR REVIEW PRIOR TO ORDERING STRUCTURES.
- FRAMES AND GRATES: AS INDICATED ON PLANS. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING SPECIFIED FRAME/GRATE IS COMPATIBLE WITH STRUCTURE; IF NOT, NOTIFY ENGINEER.
- MANHOLES: STANDARD PRECAST REINFORCED CONCRETE MANHOLES CONFORMING TO ASTM C478, SECTION 8.39.0 OF THE STANDARD SPECIFICATIONS AND CONFORMING TO FILE NOS. 12, 13 AND 15 OF THE STANDARD SPECIFICATIONS. DIAMETER AND DEPTH AS INDICATED ON PLANS. MANHOLE SIZES TO BE VERIFIED BY CONTRACTOR AND SHOP DRAWINGS SHALL BE PROVIDED TO THE ENGINEER FOR REVIEW PRIOR TO ORDERING STRUCTURES.
- MANHOLES AND CATCH BASINS DEEPER THAN FOUR FEET SHALL BE PROVIDED WITH MANHOLE STEPS CONFORMING TO SECTION 8.40.0 OF THE STANDARD SPECIFICATIONS.
- SEWERS SHALL BE INSTALLED IN CONFORMANCE WITH SECTION 3.2.0 OF THE STANDARD SPECIFICATIONS. INSTALL PROPER SIZE INCREASERS, REDUCERS AND COUPLINGS WHERE DIFFERENT SIZES OR MATERIALS OF PIPES AND FITTINGS ARE CONNECTED. INSTALL TRACER PIPE OVER NON-METALLIC PIPING IN ACCORDANCE WITH SPS SECTION 382.30(11)(H) AND 382.36(7)(D).
- PROVIDE AND INSTALL CLEANOUTS IN ACCORDANCE WITH SPS CHAPTER 382.35. INSTALL CLEANOUTS AND RISER EXTENSIONS FORM SEWER PIPES TO PROPOSED GRADE. INSTALL PIPING SO CLEANOUTS OPEN IN DIRECTION OF FLOW IN SEWER PIPE. USE LIGHT DUTY, TOP LOADING CLASSIFICATION CLEANOUTS IN EARTH OR UNPAVED FOOT TRAFFIC AREAS; USE MEDIUM DUTY, TOP-LOADING CLASSIFICATION CLEANOUTS IN PAVED FOOT TRAFFIC AREAS; USE HEAVY DUTY, TOP-LOADING CLASSIFICATION CLEANOUTS IN VEHICULAR TRAFFIC AREAS. SET CLEANOUT FRAMES AND COVERS IN PAVEMENT AREAS FLUSH WITH PAVEMENT SURFACE.
- CLASS B COMPACTED TRENCH SECTION (FILE NO. NO. 4 OF STANDARD SPECIFICATIONS) SHALL BE UTILIZED. BEDDING AND COVER MATERIAL SHALL BE IN ACCORDANCE WITH SECTION 8.43.0 OF THE STANDARD SPECIFICATIONS.
- TRENCH BACKFILL MATERIAL SHALL BE GRANULAR BACKFILL IN ACCORDANCE WITH SECTION 8.43.4 OF THE STANDARD SPECIFICATIONS BENEATH AND WITHIN FIVE FEET OF PAVEMENT AREAS; COMPACTED SPOIL BACKFILL IN ACCORDANCE WITH SECTION 8.43.5 OF THE STANDARD SPECIFICATIONS MAY BE USED BENEATH LANDSCAPE AREAS.
- MANHOLE INSTALLATION SHALL BE IN ACCORDANCE WITH SECTION 3.5.0 OF THE STANDARD SPECIFICATIONS. SET MANHOLE RIMS TO ELEVATIONS INDICATED ON PLANS.
- CATCH BASIN INSTALLATION SHALL BE IN ACCORDANCE WITH SECTION 3.6 OF THE STANDARD SPECIFICATIONS. CATCH BASIN EXCAVATION AND PREPARATION SHALL BE IN ACCORDANCE WITH SECTION 3.5.4(A) AND (B) OF THE STANDARD SPECIFICATIONS. FRAMES AND GRATES SHALL BE SET TO THE ELEVATIONS SHOWN ON PLANS.
- AFTER INSTALLATION OF SEWER PIPE CLEAN ALL DEBRIS FROM SEWER AND INSPECT INTERIOR OF PIPING TO DETERMINE WHETHER LINE DISPLACEMENT OR OTHER DAMAGE HAS OCCURRED. CONDUCT DEFLECTION TESTING OF INSTALLED PIPE IN ACCORDANCE WITH SECTION 3.2.6(I)(4) OF THE STANDARD SPECIFICATIONS; REPLACE ANY PIPE SECTION NOT PASSING THE DEFLECTION TESTING USING NEW PIPE MATERIALS.

## EARTH MOVING:

- ALL EARTH WORK SHALL BE DONE IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEER AND PROVIDED REPORTS. IN THE FIELD AND THESE SPECIFICATIONS. IN CASE OF CONFLICT BETWEEN THESE SPECIFICATIONS AND THE RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEER, THE RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEER SHALL GOVERN.
- CONTRACTOR SHALL PROVIDE MATERIAL TEST REPORTS FROM A QUALIFIED TESTING AGENCY INDICATING TEST RESULTS FOR CLASSIFICATION ACCORDING TO ASTM D2487 AND LABORATORY COMPACTION CURVES ACCORDING TO ASTM D 1557 FOR EACH ON-SITE AND OFF-SITE SOIL MATERIAL PROPOSED FOR FILL AND BACKFILL.
- CONTRACTOR SHALL PROVIDE PREEXCAVATION PHOTOS OR VIDEOS SHOWING EXISTING CONDITIONS OF ADJOINING STRUCTURES AND SITE IMPROVEMENTS THAT MIGHT BE MISCONSTRUCTED AS DAMAGE CAUSED BY EARTHWORK OPERATIONS.
- OLD BUILDING FOUNDATIONS, BUILDING REMNANTS OR UNSUITABLE BACKFILL MATERIAL SHALL BE COMPLETELY REMOVED FROM WITHIN AND A MINIMUM OF 10 FEET BEYOND THE NEW BUILDING PAD AREAS. THE RESULTING EXCAVATION SHALL BE BACKFILLED WITH COMPACTED ENGINEERED FILL.
- FOUNDATIONS, FOUNDATION WALLS OR CONCRETE FLOOR SLABS SHALL BE REMOVED TO A MINIMUM OF TWO FEET BELOW PROPOSED SUBGRADE WITHIN PROPOSED PARKING AND GREENSPACE AREAS. BASEMENT SLABS LOCATED BELOW 2 FEET FROM PLANNED SUBGRADE ELEVATION MAY BE LEFT IN PLACE BUT SHALL BE BROKEN INTO MAXIMUM 6 INCH PIECES TO FACILITATE DRAINAGE.
- SATISFACTORY SOILS FOR FILL: ASTM D 2487 SOIL CLASSIFICATION GROUPS GW, GP, GM, SW, SP, AND SM OR A COMBINATION OF THESE GROUPS; FREE OF ROCK OR GRAVEL LARGER THAN 3 INCHES IN ANY DIMENSION, DEBRIS, WASTE, FROZEN MATERIALS, VEGETATION, AND OTHER DELETERIOUS MATTER OR ANY SOIL GROUP OR COMBINATION OF GROUPS APPROVED OF BY THE PROJECT GEOTECHNICAL ENGINEER.
- UNSATISFACTORY SOILS FOR FILL: SOIL CLASSIFICATION GROUPS GC, SC, CL, ML, OL, CH, MH, OH, AND PT ACCORDING TO ASTM D 2487 OR A COMBINATION OF THESE GROUPS UNLESS DEEMED SATISFACTORY BY THE PROJECT GEOTECHNICAL ENGINEER. UNSATISFACTORY SOILS ALSO INCLUDE SOILS NOT MAINTAINED WITHIN 3 PERCENT OF OPTIMUM SOIL MOISTURE CONTENT AT THE TIME OF COMPACTION.
- AGGREGATE BASE COURSE BENEATH PAVEMENTS: SHALL BE 1-1/4" DENSE GRADED BASE COURSE CONFORMING TO SECTION 305 OF THE STATE OF WISCONSIN STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION, LATEST EDITION.
- ENGINEERED FILL: NATURALLY OR ARTIFICIALLY GRADED MIXTURE OF NATURAL OR CRUSHED GRAVEL, CRUSHED STONE, AND NATURAL OR CRUSHED SAND; ASTM D 2940; WITH AT LEAST 90 PERCENT PASSING A 1-1/2-INCH (37.5-MM) SIEVE AND NOT MORE THAN 12 PERCENT PASSING A NO. 200 SIEVE OR ANY SOIL DEEMED ACCEPTABLE FOR ENGINEERED FILL BY THE PROJECT GEOTECHNICAL ENGINEER. ENGINEERED FILL SHALL BE FREE OF ORGANIC, FROZEN, OR OTHER DELETERIOUS MATERIAL AND HAVE A MAXIMUM PARTICLE SIZE LESS THAN 3 INCHES. CLAY FILLS SHALL HAVE A LIQUID LIMIT OF LESS THAN 45 AND PLASTICITY INDEX BETWEEN 11 AND 25.
- BEDDING COURSE FOR SEWERS AND WATER SERVICE: NATURALLY OR ARTIFICIALLY GRADED MIXTURE OF NATURAL OR CRUSHED GRAVEL, CRUSHED STONE, AND NATURAL OR CRUSHED SAND CONFORMING TO THE REQUIREMENTS OF SECTION 8.43.2 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, LATEST EDITION.
- DRAINAGE COURSE BENEATH BUILDING SLABS: NARROWLY GRADED MIXTURE OF WASHED, CRUSHED STONE, OR CRUSHED OR UNCRUSHED GRAVEL; ASTM D 448; COARSE-AGGREGATE GRADING SIZE 57, WITH 100 PERCENT PASSING A 1-1/2-INCH (37.5-MM) SIEVE AND 0 TO 5 PERCENT PASSING A NO. 8 SIEVE.
- TRENCH BACKFILL MATERIAL SHALL BE GRANULAR BACKFILL IN ACCORDANCE WITH SECTION 8.43.4 OF THE STANDARD SPECIFICATIONS BENEATH AND WITHIN FIVE FEET OF PAVEMENT AREAS; COMPACTED SPOIL BACKFILL IN ACCORDANCE WITH SECTION 8.43.5 OF THE STANDARD SPECIFICATIONS MAY BE USED BENEATH LANDSCAPE AREAS.
- PIPE COVER MATERIAL: CONFORM TO SECTION 8.43.3 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, LATEST EDITION.
- PREVENT SURFACE WATER AND GROUND WATER FROM ENTERING EXCAVATIONS, FROM PONDING ON PREPARED SUBGRADES, AND FROM FLOODING PROJECT SITE AND SURROUNDING AREA.
- SHORING, SHEETING AND BRACING: SHORE, BRACE OR SLOPE BANKS OF EXCAVATION TO PROTECT WORKMEN, BANKS, ADJACENT PAVING, STRUCTURES, AND UTILITIES TO MEET OSHA REQUIREMENTS. DESIGN OF TEMPORARY SUPPORT OF EXCAVATION IS THE RESPONSIBILITY OF THE CONTRACTOR.
- EXCAVATE TO SUBGRADE ELEVATIONS REGARDLESS OF THE CHARACTER OF SURFACE AND SUBSURFACE CONDITIONS ENCOUNTERED. UNCLASSIFIED EXCAVATED MATERIALS MAY INCLUDE ROCK, SOIL MATERIALS, AND OBSTRUCTIONS. NO CHANGES IN THE CONTRACT SUM OR THE CONTRACT TIME WILL BE AUTHORIZED FOR ROCK EXCAVATION OR REMOVAL OF OBSTRUCTIONS.
- PROOF-ROLL SUBGRADE BELOW THE BUILDING SLABS AND PAVEMENTS WITH FULLY LOADED TANDEM AXLE DUMP TRUCK OR RUBBER Tired VEHICLE OF SIMILAR SIZE AND WEIGHT, TYPICALLY 9 TONS/AXLE, WHERE COHESIVE SOILS ARE ENCOUNTERED OR WITH A SMOOTH DRUMMED VIBRATORY ROLLER WHERE GRANULAR SOILS ARE PRESENT. DO NOT PROOF-ROLL WET OR SATURATED SUBGRADES AND PROOFROLL IN DRY WEATHER. PROOF ROLL IN PRESENCE OF PROJECT GEOTECHNICAL ENGINEER OR TECHNICIAN. SOILS THAT ARE OBSERVED TO RUT OR DEFLECT EXCESSIVELY UNDER THE MOVING LOAD (TYPICALLY >1") SHALL BE UNDERCUT AND REPLACED WITH PROPERLY COMPACTED ENGINEERED FILL. IN PAVEMENT AREAS WHERE UNDERCUTS ARE PERFORMED, THE EDGES OF THE OVEREXCAVATIONS SHALL BE FEATHERED INTO THE SURROUNDING SUITABLE SOIL SO THAT EDGE FAILURE OF THE OVEREXCAVATED AREA DOES NOT OCCUR.
- DUE TO CLAYEY SOILS, IF UNDERCUTS OCCUR WITHIN PAVEMENT AREAS AND THEY ARE BACKFILLED WITH GRANULAR SOILS, THE BOTTOM OF THE OVEREXCAVATION SHALL BE SLOPED TO A DRAIN TILE THAT IS IN KIND SLOPED TOWARD THE NEAREST STORM SEWER. MINIMUM SLOPES OF SUCH DRAIN TILES SHALL BE 0.5%.
- CONVENTIONAL DISKING AND AERATION TECHNIQUES SHALL BE USED TO DRY SOILS BEFORE PROOF ROLLING. ALLOT FOR PROPER DRYING TIME IN PROJECT SCHEDULE.
- ENGINEERED FILL SHALL BE PLACED IN MAXIMUM LIFTS OF EIGHT INCHES OF LOOSE MATERIAL AND COMPACTED WITHIN 3% OF OPTIMUM SOIL MOISTURE CONTENT VALUE AND A MINIMUM OF 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY THE MODIFIED PROCTOR TEST ASTM D1557. EACH LIFT OF COMPACTED ENGINEERED FILL SHALL BE OBSERVED AND TESTED BY A QUALIFIED GEOTECHNICAL ENGINEER OR TECHNICIAN.
- EXISTING OLD FILL MATERIAL SHALL BE REMOVED BELOW FOOTINGS OR FOUNDATION SUPPORTING FILL. ENGINEERED FILL BELOW FOOTINGS SHOULD HAVE AN IN-PLACE DENSITY OF 95% OF THE MAXIMUM DRY DENSITY AND A MOISTURE CONTENT WITHIN 3% OF OPTIMUM AS DETERMINED BY ASTM D1557. ENGINEERED FILL BELOW FOOTINGS SHALL BE EVALUATED BY IN-FIELD DENSITY TESTS DURING CONSTRUCTION.
- WHERE UNSUITABLE BEARING SOILS ARE ENCOUNTERED IN A FOOTING EXCAVATION, THE EXCAVATION SHALL BE DEEPEENED TO COMPETENT BEARING SOIL AND THE FOOTING LOWERED OR AN OVEREXCAVATION AND BACKFILL PROCEDURE PERFORMED. OVEREXCAVATION AND BACKFILL TREATMENT REQUIRES WIDENING THE DEEPEENED EXCAVATION IN ALL DIRECTIONS AT LEAST 6 INCHES BEYOND THE EDGE OF THE FOOTING FOR EACH 12 INCHES OF OVEREXCAVATION DEPTH. THE OVEREXCAVATION SHALL BE BACKFILLED UP TO FOOTING BASE ELEVATION IN MAXIMUM 8 INCH LOOSE LIFTS WITH SUITABLE GRANULAR FILL MATERIAL AND COMPACTED TO 95% OF THE MAXIMUM DRY DENSITY AND A MOISTURE CONTENT WITHIN 3% OF OPTIMUM AS DETERMINED BY ASTM D1557. SOILS AT FOUNDATION BEARING ELEVATION IN THE FOOTING EXCAVATIONS SHALL BE OBSERVED AND TESTED BY A QUALIFIED GEOTECHNICAL ENGINEER OR TECHNICIAN.
- A MINIMUM OF FOUR INCHES OF DRAINAGE COURSE MAT SHALL BE PLACED BELOW BUILDING FLOOR SLABS. DRAINAGE COURSE SHALL BE COMPACTED TO A MINIMUM OF 95% COMPACTION WITH RESPECT TO THE MODIFIED PROCTOR (ASTM D1557)
- UTILITY TRENCHES FOR SEWER AND WATER SHALL CONFORM TO CLASS B COMPACTED TRENCH SECTION IN ACCORDANCE WITH FILE NO. 4 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, LATEST EDITION.
- BACKFILL UTILITY TRENCHES IN 4 TO 8 INCH LOOSE LIFTS COMPACTED TO 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D1557. BACKFILL SHALL BE MOISTURE CONDITIONED TO BE WITH 3% OF OPTIMUM MOISTURE CONTENT AS DETERMINED BY ASTM D1557.
- UTILITY BEDDING PLACEMENT: CONFORM TO SECTION 3.2.6 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, LATEST EDITION. BEDDING MATERIAL SHALL BE COMPACTED TO A MINIMUM OF 90% COMPACTION WITH RESPECT TO THE MODIFIED PROCTOR (ASTM D1557).
- COMPACTION TESTING OF UTILITY TRENCHES SHALL BE PERFORMED FOR EVERY 200 CUBIC YARDS OF BACKFILL PLACED OR EACH LIFT WITHIN 200 LINEAR FEET OF TRENCH, WHICHEVER IS LESS.
- AGGREGATE BASE COURSE BENEATH PAVEMENTS SHALL BE PLACED AND COMPACTED TO 95% OF THE MAXIMUM DRY DENSITY WITH A MOISTURE CONTENT WITHIN 3% OF OPTIMUM AS DETERMINED BY ASTM D1557. AGGREGATE BASE SHALL BE OBSERVED AND TESTED BY A QUALIFIED GEOTECHNICAL ENGINEER OR TECHNICIAN.
- GRADING GENERAL: UNIFORMLY GRADE AREAS TO A SMOOTH SURFACE. FREE OF IRREGULAR SURFACE CHANGES. COMPLY WITH COMPACTION REQUIREMENTS AND GRADE TO CROSS SECTIONS, LINES, AND ELEVATIONS INDICATED. SLOPE GRADES TO DIRECT WATER AWAY FROM BUILDINGS AND TO PREVENT PONDING.
- TESTING AGENCY: CONTRACTOR SHALL ENGAGE A QUALIFIED INDEPENDENT GEOTECHNICAL ENGINEERING TESTING AGENCY TO PERFORM FIELD QUALITY-CONTROL TESTING.
- FOOTING SUBGRADE TESTING: EACH ISOLATED FOOTING SHALL INCLUDE AT LEAST ONE TEST PROBE. TEST PROBES SHALL BE PERFORMED EVERY 20 LINEAR FEET IN CONTINUOUS FOOTINGS.
- BUILDING SLAB AREA TESTING: AT SUBGRADE AND AT EACH COMPACTED FILL AND BACKFILL LAYER, AT LEAST 1 TEST PER LIFT FOR EVERY 2500 SQ. FT. OR LESS OF BUILDING SLAB, BUT IN NO CASE FEWER THAN 3 TESTS.
- PAVEMENT AREA TESTING: AT SUBGRADE AND AT EACH COMPACTED FILL AND BACKFILL LAYER, AT LEAST ONE TEST FOR EVERY LIFT FOR EVERY 2,500 SQUARE FEET OF PAVEMENT AREA, BUT IN NO CASES FEWER THAN 3 TESTS.
- UTILITY TRENCH BACKFILL TESTING: ONE TEST FOR EACH 200 CUBIC YARDS OF FILL BACKFILL PLACED OR ONE TEST PER 200 LINEAR FEET OF TRENCH FOR EACH LIFT; WHICHEVER IS LESS.
- FOUNDATION WALL BACKFILL: AT EACH COMPACTED BACKFILL LAYER, AT LEAST 1 TEST PER LIFT FOR EACH 50 FEET OR LESS OF WALL LENGTH, BUT NO FEWER THAN 2 TESTS.
- WHEN TESTING AGENCY REPORTS THAT SUBGRADES, FILLS, OR BACKFILLS HAVE NOT ACHIEVED DEGREE OF COMPACTION SPECIFIED, SCARIFY AND MOISTEN OR AERATE, OR REMOVE AND REPLACE SOIL TO DEPTH REQUIRED; RECOMPACT AND RETEST UNTIL SPECIFIED COMPACTION IS OBTAINED.
- DISPOSAL: REMOVE SURPLUS SOIL AND WASTE MATERIAL, INCLUDING UNSATISFACTORY SOIL, TRASH, AND DEBRIS, AND LEGALLY DISPOSE OF IT OFF OWNER'S PROPERTY.

# JLA

ARCHITECTS • ENGINEERS

JLA PROJECT NUMBER: 15-0617



**THE SIGMA GROUP**  
Single Source. Sound Solutions.  
www.thesignmagroup.com  
1300 West Canal Street  
Milwaukee, WI 53233  
Phone: 414-643-4200  
Fax: 414-643-4210

## Fiduciary Real Estate Development

PUD-SIP Submittal

22 SLATE

## PROGRESS DOCUMENTS

These documents reflect progress and intent and may be subject to change, including additional detail. These are not final construction documents and should not be used for final bidding or construction-related purposes.

DATE OF ISSUANCE JANUARY 6, 2016

## REVISION SCHEDULE

Mark	Description	Date
------	-------------	------

SHEET TITLE

## SPECIFICATIONS

SHEET NUMBER

# C 500

CONCRETE PAVING:

1. THE COMPOSITION, PLACING AND CONSTRUCTION OF CONCRETE PAVEMENTS SHALL BE IN ACCORDANCE WITH THE APPLICABLE REQUIREMENTS OF SECTIONS 415, 416, 501, 601, AND 602 OF THE STATE OF WISCONSIN STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION, LATEST EDITION (WSDOT STANDARD SPECIFICATIONS) AND LOCAL MUNICIPAL REQUIREMENTS AND SPECIFICATIONS.
2. CONTRACTOR SHALL PROVIDE PRODUCT DATA FOR EACH TYPE OF PRODUCT INDICATED - INCLUDE TECHNICAL DATA AND TESTED PHYSICAL AND PERFORMANCE PROPERTIES, JOB-MIX DESIGNS: CERTIFICATION THAT MIX MEETS OR EXCEEDS WSDOT STANDARD SPECIFICATIONS, AND MATERIAL CERTIFICATES CERTIFYING COMPLIANCE WITH WSDOT STANDARD SPECIFICATIONS.
3. MANUFACTURER QUALIFICATIONS: MANUFACTURER OF READY-MIXED CONCRETE PRODUCTS WHO COMPLIES WITH ASTM C 94/C 94M REQUIREMENTS FOR PRODUCTION FACILITIES AND EQUIPMENT AND APPROVED BY THE WISCONSIN DEPARTMENT OF TRANSPORTATION.
4. CONCRETE GRADE: GRADE A OR GRADE A-2 CONFORMING TO SECTION 501.3.1.3 OF THE WSDOT STANDARD SPECIFICATIONS
5. AGGREGATES: CONFORM TO SECTION 501 OF THE WSDOT STANDARD SPECIFICATIONS. PROVIDE AGGREGATES FROM A SINGLE SOURCE.
6. WATER: ASTM C 94/C 94M AND SECTION 501 OF THE WSDOT STANDARD SPECIFICATIONS.
7. AIR-ENTRAINING ADMIXTURE: ASTM C 260 AND SECTION 501 OF THE WSDOT STANDARD SPECIFICATIONS.
8. CHEMICAL ADMIXTURES: PER SECTION 501 OF THE WSDOT STANDARD SPECIFICATIONS.
9. CURING MATERIALS IN ACCORDANCE WITH SECTION 415.3.12 OF THE WSDOT STANDARD SPECIFICATIONS.
10. EXPANSION JOINT MATERIAL: CONFORM TO SECTION 415.2.2 OF THE WSDOT STANDARD SPECIFICATIONS.
11. MEASURE, BATCH, AND MIX CONCRETE MATERIALS AND CONCRETE IN ACCORDANCE WITH SECTION 501 OF THE WSDOT STANDARD SPECIFICATIONS.
12. GENERAL EXECUTION: CONFORM TO SECTION 415 OF THE WSDOT STANDARD SPECIFICATIONS.
13. PROOFROLL SUBGRADE AND AGGREGATE BASE AS OUTLINED IN EARTH MOVING SPECIFICATION PRIOR TO PLACEMENT OF PAVEMENTS.
14. SET, BRACE, AND SECURE EDGE FORMS, BULKHEADS, AND INTERMEDIATE SCREED GUIDES FOR PAVEMENT TO REQUIRED LINES, GRADES, AND ELEVATIONS. INSTALL FORMS TO ALLOW CONTINUOUS PROGRESS OF WORK AND SO FORMS CAN REMAIN IN PLACE AT LEAST 24 HOURS AFTER CONCRETE PLACEMENT.
15. CLEAN FORMS AFTER EACH USE AND COAT WITH FORM-RELEASE AGENT TO ENSURE SEPARATION FROM CONCRETE WITHOUT DAMAGE.
16. JOINTS GENERAL: FORM CONSTRUCTION, ISOLATION, AND CONTRACTION JOINTS AND TOOL EDGINGS TRUE TO LINE WITH FACES PERPENDICULAR TO SURFACE PLANE OF CONCRETE. CONSTRUCT TRANSVERSE JOINTS AT RIGHT ANGLES TO CENTERLINE, UNLESS OTHERWISE INDICATED, CONFORM TO SECTION 415 OF THE WSDOT STANDARD SPECIFICATIONS
17. CONSTRUCTION JOINTS: SET CONSTRUCTION JOINTS AT SIDE AND END TERMINATIONS OF PAVEMENT AND AT LOCATIONS WHERE PAVEMENT OPERATIONS ARE STOPPED FOR MORE THAN ONE-HALF HOUR UNLESS PAVEMENT TERMINATES AT ISOLATION JOINTS.
18. ISOLATION JOINTS: FORM ISOLATION JOINTS OF PREFORMED JOINT-FILLER STRIPS ABUTTING CONCRETE CURBS, CATCH BASINS, MANHOLES, INLETS, STRUCTURES, WALKS, OTHER FIXED OBJECTS, AND WHERE INDICATED.
19. CONTRACTION JOINTS: FORM WEAKENED-PLANE CONTRACTION JOINTS, SECTIONING CONCRETE INTO AREAS AS INDICATED. CONSTRUCT CONTRACTION JOINTS FOR A DEPTH EQUAL TO AT LEAST ONE-FOURTH OF THE CONCRETE THICKNESS TO MATCH JOINTING OF EXISTING ADJACENT CONCRETE PAVEMENT.
20. EDGING: TOOL EDGES OF PAVEMENT, GUTTERS, CURBS, AND JOINTS IN CONCRETE AFTER INITIAL FLOATING WITH AN EDGING TOOL TO A 1/4-INCH RADIUS. REPEAT TOOLING OF EDGES AFTER APPLYING SURFACE FINISHES. ELIMINATE TOOL MARKS ON CONCRETE SURFACES.
21. CURBING: COMPLY WITH SECTION 601 OF THE WSDOT STANDARD SPECIFICATIONS.
22. SIDEWALKS: COMPLY WITH SECTION 602 OF THE WSDOT STANDARD SPECIFICATIONS.
23. MOISTEN AGGREGATE TO PROVIDE A UNIFORM DAMPENED CONDITION AT TIME CONCRETE IS PLACED.
24. FINISH CURBING IN ACCORDANCE WITH SECTION 601.3.5 OF THE WSDOT STANDARD SPECIFICATIONS.
25. FINISH SIDEWALK AND PATIO IN ACCORDANCE WITH SECTION 602.3.2.3 OF THE WSDOT STANDARD SPECIFICATIONS (LIGHT BROOM FINISH).
26. FINISH CONCRETE VEHICULAR PAVEMENTS AND PADS IN ACCORDANCE WITH SECTION 415.3.8 OF THE WSDOT STANDARD SPECIFICATIONS (ARTIFICIAL TURF DRAG FINISH).
27. PROTECT AND CURE SIDEWALK IN ACCORDANCE WITH SECTION 602.3.2.6 OF THE WSDOT STANDARD SPECIFICATIONS.
28. PROTECT AND CURE CURBING IN ACCORDANCE WITH SECTION 601.3.7 OF THE WSDOT STANDARD SPECIFICATIONS.
29. PROTECT AND CURE VEHICULAR CONCRETE PAVING IN ACCORDANCE WITH SECTION 415.3.12 OF THE WSDOT STANDARD SPECIFICATIONS.
30. REMOVE AND REPLACE CONCRETE PAVEMENT THAT IS BROKEN, DAMAGED, OR DEFECTIVE OR THAT DOES NOT COMPLY WITH REQUIREMENTS IN THIS SECTION.
31. PROTECT CONCRETE FROM DAMAGE. EXCLUDE TRAFFIC FROM PAVEMENT FOR AT LEAST 7 DAYS AFTER PLACEMENT.
32. MAINTAIN CONCRETE PAVEMENT FREE OF STAINS, DISCOLORATION, DIRT, AND OTHER FOREIGN MATERIAL. SWEEP CONCRETE PAVEMENT NOT MORE THAN TWO DAYS BEFORE DATE SCHEDULED FOR SUBSTANTIAL COMPLETION INSPECTIONS.

ASPHALTIC PAVING:

1. THE COMPOSITION, PLACING AND CONSTRUCTION OF ASPHALTIC PAVEMENTS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF SECTIONS 450, 455, 460, 465, AND 475 OF THE STATE OF WISCONSIN STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION, LATEST EDITION (WSDOT STANDARD SPECIFICATIONS).
2. CONTRACTOR SHALL PROVIDE PRODUCT DATA FOR EACH TYPE OF PRODUCT INDICATED - INCLUDE TECHNICAL DATA AND TESTED PHYSICAL AND PERFORMANCE PROPERTIES, JOB-MIX DESIGNS: CERTIFICATION THAT MIX MEETS OR EXCEEDS WSDOT STANDARD SPECIFICATIONS, AND MATERIAL CERTIFICATES CERTIFYING COMPLIANCE WITH WSDOT STANDARD SPECIFICATIONS.
3. MANUFACTURER QUALIFICATIONS: MANUFACTURER SHALL BE REGISTERED WITH AND APPROVED BY THE DOT OF THE STATE IN WHICH PROJECT IS LOCATED.
4. ENVIRONMENTAL LIMITATIONS: DO NOT APPLY ASPHALT MATERIALS IF BASE COURSE IS WET OR EXCESSIVELY DAMP OR IF THE FOLLOWING CONDITIONS ARE NOT MET: APPLY TACK COAT WHEN AMBIENT TEMPERATURE IS ABOVE 50 DEGREES FAHRENHEIT AND WHEN TEMPERATURE HAS NOT BEEN BELOW 35 DEGREES FAHRENHEIT FOR 12 HOURS IMMEDIATELY PRIOR TO APPLICATION; PLACE ASPHALTIC CONCRETE SURFACE COURSE WHEN TEMPERATURE IS ABOVE 40 DEGREES FAHRENHEIT; BASE COURSE MAY BE PLACED WHEN AIR TEMPERATURE IS ABOVE 30 DEGREES FAHRENHEIT AND RISING. PROCEED WITH PAVEMENT MARKING ONLY ON CLEAN, DRY SURFACES. DO NOT APPLY BELOW THE MINIMUM PAVEMENT TEMPERATURE AS RECOMMENDED BY THE MANUFACTURER.
5. AGGREGATES SHALL BE IN ACCORDANCE WITH SECTION 460.2.2 OF THE WSDOT STANDARD SPECIFICATIONS.
6. ASPHALT MATERIALS SHALL BE IN ACCORDANCE WITH CHAPTER 455 OF THE WSDOT STANDARD SPECIFICATIONS.
7. PAVEMENT MARKING PAINT: PROVIDE PAINT FROM THE WISCONSIN DEPARTMENT OF TRANSPORTATION'S APPROVED PRODUCTS LIST. COLOR SHALL BE WHITE UNLESS INDICATED OTHERWISE ON PLANS.
8. HOT-MIX ASPHALT: ASPHALTIC BINDER COURSE AND SURFACE COURSE SHALL BE MIXTURE E-1 FOR REGULAR DUTY PAVEMENT AND E3 FOR HEAVY DUTY PAVEMENT COMPLYING WITH THE WSDOT STANDARD SPECIFICATIONS.
9. AGGREGATE BASE COURSE BENEATH PAVEMENTS: SHALL BE 1-1/4" DENSE GRADED BASE COURSE CONFORMING TO SECTION 305 OF THE WSDOT STANDARD SPECIFICATIONS.
10. PAVEMENT PLACEMENT GENERAL: ASPHALT CONCRETE PAVING EQUIPMENT, WEATHER LIMITATIONS, JOB-MIX FORMULA, MIXING, CONSTRUCTION METHODS, COMPACTION, FINISHING, TOLERANCE AND PROTECTION SHALL CONFORM TO THE REQUIREMENTS OF THE APPROPRIATE SECTIONS OF THE WSDOT STANDARD SPECIFICATIONS.
11. PREPARE AND PROOFROLL SUBGRADES AND AGGREGATE BASE COURSE AS OUTLINED IN EARTH MOVING SPECIFICATIONS PRIOR TO PLACEMENT OF ASPHALT PAVEMENTS.
12. SWEEP LOOSE GRANULAR PARTICLES FROM SURFACE OF AGGREGATE BASE COURSE PRIOR TO PAVEMENT PLACEMENT. DO NOT DISLODGE OR DISTURB AGGREGATE EMBEDDED IN COMPACTED SURFACE OF BASE COURSE.
13. SPREAD AND FINISH ASPHALTIC MIXTURE IN ACCORDANCE WITH SECTION 450.3.2.5 OF THE WSDOT STANDARD SPECIFICATIONS. PAVEMENT THICKNESSES SHALL BE AS INDICATED ON THE PLANS.
14. PROMPTLY CORRECT SURFACE IRREGULARITIES IN PAVING COURSE BEHIND PAVER. USE SUITABLE HAND TOOLS TO REMOVE EXCESS MATERIAL FORMING HIGH SPOTS. FILL DEPRESSIONS WITH HOT-MIX ASPHALT TO PREVENT SEGREGATION OF MIX. USE SUITABLE HAND TOOLS TO SMOOTH SURFACE.
15. COMPACT ASPHALTIC PAVEMENT IN ACCORDANCE WITH SECTION 450.3.2.6 OF THE WSDOT STANDARD SPECIFICATIONS.
16. PROTECTION: AFTER FINAL ROLLING, DO NOT PERMIT VEHICULAR TRAFFIC ON PAVEMENT UNTIL IT HAS COOLED AND HARDENED. ERECT BARRICADES TO PROTECT PAVING FROM TRAFFIC UNTIL MIXTURE HAS COOLED ENOUGH NOT TO BECOME MARKED.
17. THICKNESS TOLERANCE: COMPACT EACH COURSE TO PRODUCE THE THICKNESS INDICATED WITHIN PLUS/MINUS 1/4 INCH FOR BINDER COURSE AND PLUS 1/4 INCH FOR SURFACE COURSE, NO MINUS.
18. SURFACE SMOOTHNESS TOLERANCE: COMPACT EACH COURSE TO PRODUCE A SURFACE SMOOTHNESS WITHIN THE FOLLOWING TOLERANCES AS DETERMINED BY USING A 10-FOOT STRAIGHTEDGE APPLIED TRANSVERSELY OR LONGITUDINALLY TO PAVED AREAS: BINDER COURSE: 1/4 INCH; SURFACE COURSE: 1/8 INCH. REMOVE AND REPLACE ALL HUMPS OR DEPRESSIONS EXCEEDING THE SPECIFIED TOLERANCES.
19. DO NOT APPLY PAVEMENT-MARKING PAINT UNTIL LAYOUT, COLORS, AND PLACEMENT HAVE BEEN VERIFIED WITH ENGINEER.
20. APPLY MARKINGS TO A DRY SURFACE FREE FROM FROST, REMOVE DUST, DIRT, OIL, GREASE, GRAVEL, DEBRIS OR OTHER MATERIAL THAT MAY PREVENT BONDING TO THE PAVEMENT.
21. APPLY PAINT AS THE MANUFACTURER SPECIFIES WITH MECHANICAL EQUIPMENT TO PRODUCE PAVEMENT MARKINGS, OF DIMENSIONS INDICATED, WITH UNIFORM, STRAIGHT EDGES. APPLY AT MANUFACTURER'S RECOMMENDED RATES AT A MINIMUM RATE OF 17.6 GALLONS/MILE FOR A CONTINUOUS 4" LINE.
22. TESTING AGENCY: CONTRACTOR SHALL ENGAGE A QUALIFIED INDEPENDENT TESTING AND INSPECTING AGENCY TO PERFORM FIELD TESTS AND INSPECTIONS AND TO PREPARE TEST REPORTS.

SEGMENTAL RETAINING WALL:

1. WORK SHALL CONSIST OF FURNISHING DETAILED DESIGN, MATERIALS, LABOR, EQUIPMENT AND SUPERVISION TO INSTALL A SEGMENTAL RETAINING WALL SYSTEM IN ACCORDANCE WITH PLANS AND SPECIFICATIONS AND IN REASONABLY CLOSE CONFORMITY WITH THE LINES, GRADES, DESIGNS AND DIMENSIONS SHOWN ON PLANS.
2. MATERIALS SUBMITTALS: THE CONTRACTOR SHALL SUBMIT MANUFACTURERS' CERTIFICATIONS TWO WEEKS PRIOR TO START OF WORK STATING THAT THE SRW UNITS AND GEOSYNTHETIC REINFORCEMENT MEET THE REQUIREMENTS OF SECTION 2 OF THIS SPECIFICATION.
3. DESIGN SUBMITTAL: THE CONTRACTOR SHALL SUBMIT TWO SETS OF DETAILED DESIGN CALCULATIONS AND FINAL RETAINING WALL PLANS FOR APPROVAL AT LEAST TWO WEEKS PRIOR TO THE BEGINNING OF WALL CONSTRUCTION. ALL CALCULATIONS AND DRAWINGS SHALL BE PREPARED AND SEALED BY A PROFESSIONAL CIVIL ENGINEER (P.E.) - (WALL DESIGN ENGINEER) EXPERIENCED IN SRW DESIGN AND LICENSED IN THE STATE WHERE THE WALL IS TO BE BUILT.
4. SEGMENTAL RETAINING WALL (SRW) UNITS SHALL BE MACHINE FORMED, PORTLAND CEMENT CONCRETE BLOCKS SPECIFICALLY DESIGNED FOR RETAINING WALL APPLICATIONS. SRW UNITS SHALL BE VERSA-LOK STANDARD RETAINING WALL UNITS, KEYSTONE RETAINING WALL UNITS, ROCKWOOD RETAINING WALL UNITS OR APPROVED EQUAL.
5. COLOR AND STYLE OF SRW UNITS SHALL BE AS SELECTED BY ARCHITECT AND OWNER FROM MANUFACTURER'S FULL RANGE.
6. SRW UNITS SHALL BE CAPABLE OF BEING ERECTED WITH THE HORIZONTAL GAP BETWEEN ADJACENT UNITS NOT EXCEEDING 1/8 INCH.
7. SRW UNITS SHALL BE SOUND AND FREE OF CRACKS OR OTHER DEFECTS THAT WOULD INTERFERE WITH THE PROPER PLACING OF THE UNIT OR SIGNIFICANTLY IMPAIR THE STRENGTH OR PERMANENCE OF THE STRUCTURE. ANY CRACKS OR CHIPS OBSERVED DURING CONSTRUCTION SHALL FALL WITHIN THE GUIDELINES OUTLINED IN ASTM C 1372.
8. CONCRETE SRW UNITS SHALL CONFORM TO THE REQUIREMENTS OF ASTM 1372 AND HAVE A MINIMUM NET AVERAGE 28 DAYS COMPRESSIVE STRENGTH OF 3000 PSI. COMPRESSIVE STRENGTH TEST SPECIMENS SHALL CONFORM TO THE SAW-CUT COUPON PROVISIONS OF ASTM C 140.
9. SRW UNITS' MOLDED DIMENSIONS SHALL NOT DIFFER MORE THAN ± 1/8 INCH FROM THAT SPECIFIED, AS MEASURED IN ACCORDANCE WITH ASTM C 140. THIS TOLERANCE DOES NOT APPLY TO ARCHITECTURAL SURFACES, SUCH AS SPLIT FACES.
10. SRW UNITS SHALL BE INTERLOCKED WITH CONNECTION PINS. THE PINS SHALL CONSIST OF GLASS-REINFORCED NYLON MADE FOR THE EXPRESSED USE WITH THE SRW UNITS SUPPLIED.
11. GEOSYNTHETIC REINFORCEMENT SHALL CONSIST OF HIGH-TENACITY PET GEOGRIDS, HDPE GEOGRIDS, OR GEOTEXTILES MANUFACTURED FOR SOIL REINFORCEMENT APPLICATIONS. THE TYPE, STRENGTH AND PLACEMENT OF THE GEOSYNTHETIC REINFORCEMENT SHALL BE DETERMINED BY PROCEDURES OUTLINED IN THIS SPECIFICATION AND THE NCMA DESIGN MANUAL FOR SEGMENTAL RETAINING WALLS (3RD EDITION 2009) AND MATERIALS SHALL BE SPECIFIED BY WALL DESIGN ENGINEER IN THEIR FINAL WALL PLANS AND SPECIFICATIONS. THE MANUFACTURERS/SUPPLIERS OF THE GEOSYNTHETIC REINFORCEMENT SHALL HAVE DEMONSTRATED CONSTRUCTION OF SIMILAR SIZE AND TYPES OF SEGMENTAL RETAINING WALLS ON PREVIOUS PROJECTS.
12. THE TYPE, STRENGTH AND PLACEMENT OF THE REINFORCING GEOSYNTHETIC SHALL BE AS DETERMINED BY THE WALL DESIGN ENGINEER, AS SHOWN ON THE FINAL, P.E.-STAMPED RETAINING WALL PLANS.
13. MATERIAL FOR LEVELING PAD SHALL CONSIST OF COMPACTED SAND, GRAVEL, OR COMBINATION THEREOF (USCS SOIL TYPES GP, GW, SP, & SW) AND SHALL BE A MINIMUM OF 6 INCHES IN DEPTH. LEAN CONCRETE WITH A STRENGTH OF 200-300 PSI AND 3 INCHES THICK MAXIMUM MAY ALSO BE USED AS A LEVELING PAD MATERIAL. THE LEVELING PAD SHOULD EXTEND Laterally AT LEAST A DISTANCE OF 6 INCHES FROM THE TOE AND HEEL OF THE LOWERMOST SRW UNIT.
14. DRAINAGE AGGREGATE SHALL BE ANGULAR, CLEAN STONE OR GRANULAR FILL MEETING THE FOLLOWING GRADATION AS DETERMINED IN ACCORDANCE WITH ASTM D422:

SIZE RANGE	PERCENT PASSING
1 INCH	100
3/4 INCH	75-100
NO. 4	0-60
NO. 40	0-50
NO. 200	0-5
15. THE DRAINAGE COLLECTION PIPE SHALL BE A PERFORATED OR SLOTTED PVC, OR CORRUGATED HDPE PIPE. THE DRAINAGE PIPE MAY BE WRAPPED WITH A GEOTEXTILE TO FUNCTION AS A FILTER. DRAINAGE PIPE SHALL BE MANUFACTURED IN ACCORDANCE WITH ASTM F 405 OR ASTM F 758.
16. THE REINFORCED SOIL MATERIAL SHALL BE FREE OF DEBRIS, UNLESS OTHERWISE NOTED ON THE FINAL, P.E.-SEALED, RETAINING WALL PLANS PREPARED BY THE WALL DESIGN ENGINEER. THE REINFORCED MATERIAL SHALL CONSIST OF THE INORGANIC USCS SOIL TYPES GP, GW, SW, SP, SM, MEETING THE FOLLOWING GRADATION, AS DETERMINED IN ACCORDANCE WITH ASTM D422:

SIZE RANGE	PERCENT PASSING
1 INCH	100
NO. 4	20-100
NO. 40	0-60
NO. 200	0-35
17. THE MAXIMUM PARTICLE SIZE OF POORLY-GRADED GRAVELS (GP) (NO FINES) SHOULD NOT EXCEED 3/4 INCH UNLESS EXPRESSLY APPROVED BY THE WALL DESIGN ENGINEER AND THE LONG-TERM DESIGN STRENGTH (LTDS) OF THE GEOSYNTHETIC IS REDUCED TO ACCOUNT FOR ADDITIONAL INSTALLATION DAMAGE FROM PARTICLES LARGER THAN THIS MAXIMUM.
18. THE PLASTICITY OF THE FINE FRACTION SHALL BE LESS THAN 20.
19. THE PH OF THE BACKFILL MATERIAL SHALL BE BETWEEN 3 AND 9 WHEN TESTED IN ACCORDANCE WITH ASTM G 51.
20. DRAINAGE GEOTEXTILE SHALL CONSIST OF GEOSYNTHETIC SPECIFICALLY MANUFACTURED FOR USE AS A PREAMBLE SOIL FILTER THAT RETAINS SOIL WHILE STILL ALLOWING WATER TO PASS THROUGHOUT THE LIFE OF THE STRUCTURE. THE TYPE AND PLACEMENT OF THE GEOTEXTILE FILTER MATERIAL SHALL BE AS REQUIRED BY THE WALL DESIGN ENGINEER IN THEIR FINAL WALL PLANS AND SPECIFICATIONS.
21. THE DESIGN ANALYSIS FOR THE FINAL, P.E.-STAMPED RETAINING WALL PLANS PREPARED BY THE WALL DESIGN ENGINEER SHALL CONSIDER THE EXTERNAL STABILITY AGAINST SLIDING AND OVERTURNING, INTERNAL STABILITY AND FACIAL STABILITY OF THE REINFORCED SOIL MASS, AND SHALL BE IN ACCORDANCE WITH ACCEPTABLE ENGINEERING PRACTICE AND THESE SPECIFICATIONS. THE INTERNAL AND EXTERNAL STABILITY ANALYSIS SHALL BE PERFORMED IN ACCORDANCE WITH THE "NCMA DESIGN MANUAL FOR SEGMENTAL RETAINING WALLS, 3RD EDITION" USING THE RECOMMENDED MINIMUM FACTORS OF SAFETY IN THIS MANUAL.
22. EXTERNAL STABILITY ANALYSIS FOR BEARING CAPACITY, GLOBAL STABILITY, AND TOTAL AND DIFFERENTIAL SETTLEMENT SHALL BE THE RESPONSIBILITY OF THE OWNER AND THE OWNER'S GEOTECHNICAL ENGINEER. THE GEOTECHNICAL ENGINEER SHALL PERFORM BEARING CAPACITY, SETTLEMENT ESTIMATES, AND GLOBAL STABILITY ANALYSIS BASED ON THE FINAL WALL DESIGN PROVIDED BY THE WALL DESIGN ENGINEER AND COORDINATE ANY REQUIRED CHANGES WITH THE WALL DESIGN ENGINEER.
23. THE GEOSYNTHETIC PLACEMENT IN THE WALL DESIGN SHALL HAVE 100% CONTINUOUS COVERAGE PARALLEL TO THE WALL FACE. GAPPING BETWEEN HORIZONTALLY ADJACENT LAYERS OF GEOSYNTHETIC (PARTIAL COVERAGE) WILL NOT BE ALLOWED.
24. CONTRACTOR'S FIELD CONSTRUCTION SUPERVISOR SHALL HAVE DEMONSTRATED EXPERIENCE AND BE QUALIFIED TO DIRECT ALL WORK AT THE SITE.
25. CONTRACTOR SHALL EXCAVATE TO THE LINES AND GRADES SHOWN ON THE PROJECT GRADING PLANS. CONTRACTOR SHALL TAKE PRECAUTIONS TO MINIMIZE OVER-EXCAVATION. OVER-EXCAVATION SHALL BE FILLED WITH COMPACTED INFILL MATERIAL, OR AS DIRECTED BY THE WALL DESIGN ENGINEER, AT THE CONTRACTOR'S EXPENSE.
26. CONTRACTOR SHALL VERIFY LOCATION OF EXISTING STRUCTURES AND UTILITIES PRIOR TO EXCAVATION. CONTRACTOR SHALL ENSURE ALL SURROUNDING STRUCTURES ARE PROTECTED FROM THE EFFECTS OF WALL EXCAVATION. EXCAVATION SUPPORT, IF REQUIRED, IS THE RESPONSIBILITY OF THE CONTRACTOR.
27. FOLLOWING THE EXCAVATION, THE FOUNDATION SOIL SHALL BE EXAMINED BY THE OWNER'S ENGINEER TO ASSURE ACTUAL FOUNDATION SOIL STRENGTH MEETS OR EXCEEDS THE ASSUMED DESIGN BEARING STRENGTH. SOILS NOT MEETING THE REQUIRED STRENGTH SHALL BE REMOVED AND REPLACED WITH INFILL SOILS, AS DIRECTED BY THE CONTRACTOR'S GEOTECHNICAL ENGINEER.
28. FOUNDATION SOIL SHALL BE PROOF-ROLLED AND COMPACTED TO 95% STANDARD PROCTOR DENSITY AND INSPECTED BY THE CONTRACTOR'S GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT OF LEVELING PAD MATERIALS.
29. LEVELING PAD SHALL BE PLACED AS SHOWN ON THE FINAL, P.E.-SEALED RETAINING WALL PLANS WITH A MINIMUM THICKNESS OF 6 INCHES. THE LEVELING PAD SHOULD EXTEND Laterally AT LEAST A DISTANCE OF 6 INCHES FROM THE TOE AND HEEL OF THE LOWERMOST SRW UNIT.
30. GRANULAR LEVELING PAD MATERIAL SHALL BE COMPACTED TO PROVIDE A FIRM, LEVEL BEARING SURFACE ON WHICH TO PLACE THE FIRST COURSE OF UNITS. WELL-GRADED SAND CAN BE USED TO SMOOTH THE TOP 1/4 INCH TO 1/2 INCH OF THE LEVELING PAD. COMPACTION WILL BE WITH MECHANICAL PLATE COMPACTORS TO ACHIEVE 95% OF MAXIMUM STANDARD PROCTOR DENSITY (ASTM D 698).
31. ALL SRW UNITS SHALL BE INSTALLED AT THE PROPER ELEVATION AND ORIENTATION AS SHOWN ON THE FINAL, P.E.-SEALED WALL PLANS AND DETAILS OR AS DIRECTED BY THE WALL DESIGN ENGINEER. THE SRW UNITS SHALL BE INSTALLED IN GENERAL ACCORDANCE WITH THE MANUFACTURERS' RECOMMENDATIONS. THE SPECIFICATIONS AND DRAWINGS SHALL GOVERN IN ANY CONFLICT BETWEEN THE TWO REQUIREMENTS.
32. FIRST COURSE OF SRW UNITS SHALL BE PLACED ON THE LEVELING PAD. THE UNITS SHALL BE LEVELLED SIDE-TO-SIDE, FRONT-TO-REAR AND WITH ADJACENT UNITS, AND ALIGNED TO ENSURE INTIMATE CONTACT WITH THE LEVELING PAD. THE FIRST COURSE IS THE MOST IMPORTANT TO ENSURE ACCURATE AND ACCEPTABLE RESULTS. NO GAPS SHALL BE LEFT BETWEEN THE FRONT OF ADJACENT UNITS. ALIGNMENT MAY BE DONE BY MEANS OF A STRING LINE OR OFFSET FROM BASE LINE TO THE BACK OF THE UNITS.
33. ALL EXCESS DEBRIS SHALL BE CLEANED FROM TOP OF UNITS AND THE NEXT COURSE OF UNITS INSTALLED ON TOP OF THE UNITS BELOW.

SEGMENTAL RETAINING WALL CONT.:

34. CONNECTION PINS SHALL BE INSERTED THROUGH THE PIN HOLES OF EACH UPPER-COURSE UNIT INTO RECEIVING SLOTS IN LOWER-COURSE UNITS. PINS SHALL BE FULLY SEATED IN THE PIN SLOT BELOW. UNITS SHALL BE PUSHED FORWARD TO REMOVE ANY LOOSENESS IN THE UNIT-TO-UNIT CONNECTION.
35. PRIOR TO PLACEMENT OF NEXT COURSE, THE LEVEL AND ALIGNMENT OF THE UNITS SHALL BE CHECKED AND CORRECTED WHERE NEEDED.
36. LAYOUT OF CURVES AND CORNERS SHALL BE INSTALLED IN ACCORDANCE WITH THE WALL PLAN DETAILS OR IN GENERAL ACCORDANCE WITH SRW MANUFACTURER'S INSTALLATION GUIDELINES. WALLS MEETING AT CORNERS SHALL BE INTERLOCKED BY OVERLAPPING SUCCESSIVE COURSES.
37. PROCEDURES ABOVE SHALL BE REPEATED UNTIL REACHING TOP OF WALL UNITS, JUST BELOW THE HEIGHT OF THE CAP UNITS. GEOSYNTHETIC REINFORCEMENT, DRAINAGE MATERIALS, AND REINFORCED BACKFILL SHALL BE PLACED IN SEQUENCE WITH UNIT INSTALLATION.
38. ALL GEOSYNTHETIC REINFORCEMENT SHALL BE INSTALLED AT THE PROPER ELEVATION AND ORIENTATION AS SHOWN ON THE FINAL P.E.-SEALED RETAINING WALL PLAN PROFILES AND DETAILS, OR AS DIRECTED BY THE WALL DESIGN ENGINEER.
39. AT THE ELEVATIONS SHOWN ON THE FINAL PLANS, (AFTER THE UNITS, DRAINAGE MATERIAL AND BACKFILL HAVE BEEN PLACED TO THIS ELEVATION) THE GEOSYNTHETIC REINFORCEMENT SHALL BE LAID HORIZONTALLY ON COMPACTED INFILL AND ON TOP OF THE CONCRETE SRW UNITS. TO WITHIN 1 INCH OF THE FRONT FACE OF THE UNIT BELOW, EMBEDMENT OF THE GEOSYNTHETIC IN THE SRW UNITS SHALL BE CONSISTENT WITH SRW MANUFACTURER'S RECOMMENDATIONS. CORRECT ORIENTATION OF THE GEOSYNTHETIC REINFORCEMENT SHALL BE VERIFIED BY THE CONTRACTOR TO BE IN ACCORDANCE WITH THE GEOSYNTHETIC MANUFACTURER'S RECOMMENDATIONS. THE HIGHEST-STRENGTH DIRECTION OF THE GEOSYNTHETIC MUST BE PERPENDICULAR TO THE WALL FACE.
40. GEOSYNTHETIC REINFORCEMENT LAYERS SHALL BE ONE CONTINUOUS PIECE FOR THEIR ENTIRE EMBEDMENT LENGTH. SPLICING OF THE GEOSYNTHETIC IN THE DESIGN-STRENGTH DIRECTION (PERPENDICULAR TO THE WALL FACE) SHALL NOT BE PERMITTED. ALONG THE LENGTH OF THE WALL, HORIZONTALLY ADJACENT SECTIONS OF GEOSYNTHETIC REINFORCEMENT SHALL BE BUTTED IN A MANNER TO ASSURE 100% COVERAGE PARALLEL TO THE WALL FACE.
41. TRACKED CONSTRUCTION EQUIPMENT SHALL NOT BE OPERATED DIRECTLY ON THE GEOSYNTHETIC REINFORCEMENT. A MINIMUM OF 6 INCHES OF BACKFILL IS REQUIRED PRIOR TO OPERATION OF TRACKED VEHICLES OVER THE GEOSYNTHETIC. TURNING SHOULD BE KEPT TO A MINIMUM. RUBBER-TIRED EQUIPMENT MAY PASS OVER THE GEOSYNTHETIC REINFORCEMENT AT SLOW SPEEDS (LESS THAN 5 MPH).
42. THE GEOSYNTHETIC REINFORCEMENT SHALL BE FREE OF WRINKLES PRIOR TO PLACEMENT OF SOIL FILL. THE NOMINAL TENSION SHALL BE APPLIED TO THE REINFORCEMENT AND SECURED IN PLACE WITH STAPLES, STAKES OR BY HAND TENSIONING UNTIL REINFORCEMENT IS COVERED BY 6 INCHES OF FILL.
43. DRAINAGE AGGREGATE SHALL BE INSTALLED TO THE LINE, GRADES AND SECTIONS SHOWN ON THE FINAL, P.E.-SEALED RETAINING WALL PLANS. DRAINAGE AGGREGATE SHALL BE PLACED TO THE MINIMUM THICKNESS SHOWN ON THE CONSTRUCTION PLANS BETWEEN AND BEHIND UNITS (A MINIMUM OF 1 CUBIC FOOT FOR EACH EXPOSED SQUARE FOOT OF WALL FACE UNLESS OTHERWISE NOTED ON THE FINAL WALL PLANS).
44. DRAINAGE COLLECTION PIPES SHALL BE INSTALLED TO MAINTAIN GRAVITY FLOW OF WATER OUTSIDE THE REINFORCED SOIL ZONE. THE DRAINAGE COLLECTION PIPE SHALL BE INSTALLED AT THE LOCATIONS SHOWN ON THE FINAL CONSTRUCTION DRAWINGS. THE DRAINAGE COLLECTION PIPE SHALL DAYLIGHT INTO A STORM SEWER OR ALONG A SLOPE, AT AN ELEVATION BELOW THE LOWEST POINT OF THE PIPE WITHIN THE AGGREGATE DRAIN. DRAINAGE LATERALS SHALL BE SPACED AT A MAXIMUM 50-FOOT SPACING ALONG THE WALL FACE.
45. THE REINFORCED BACKFILL SHALL BE PLACED AS SHOWN IN THE FINAL WALL PLANS IN THE MAXIMUM COMPACTED LIFT THICKNESS OF 8 INCHES AND SHALL BE COMPACTED TO A MINIMUM OF 95% OF STANDARD PROCTOR DENSITY (ASTM D 698) AT A MOISTURE CONTENT WITHIN -1% POINT TO +3% POINTS OF OPTIMUM. THE BACKFILL SHALL BE PLACED AND SPREAD IN SUCH A MANNER AS TO ELIMINATE WRINKLES OR MOVEMENT OF THE GEOSYNTHETIC REINFORCEMENT AND THE SRW UNITS.
46. ONLY HAND-OPERATED COMPACTION EQUIPMENT SHALL BE ALLOWED WITHIN 3 FEET OF THE BACK OF THE WALL UNITS. COMPACTION WITHIN THE 3 FEET BEHIND THE WALL UNITS SHALL BE ACHIEVED BY AT LEAST THREE PASSES OF A LIGHTWEIGHT MECHANICAL TAMPER, PLATE, OR ROLLER.
47. AT THE END OF EACH DAY'S OPERATION, THE CONTRACTOR SHALL SLOPE THE LAST LEVEL OF BACKFILL AWAY FROM THE WALL FACING AND REINFORCED BACKFILL TO DIRECT WATER RUNOFF AWAY FROM THE WALL FACE.
48. AT COMPLETION OF WALL CONSTRUCTION, BACKFILL SHALL BE PLACED LEVEL WITH FINAL TOP OF WALL ELEVATION. IF FINAL GRADING, PAVING, LANDSCAPING AND/OR STORM DRAINAGE INSTALLATION ADJACENT TO THE WALL IS NOT PLACED IMMEDIATELY AFTER WALL COMPLETION, TEMPORARY GRADING AND DRAINAGE SHALL BE PROVIDED TO ENSURE WATER RUNOFF IS NOT DIRECTED AT THE WALL NOR ALLOWED TO COLLECT OR POND BEHIND THE WALL UNTIL FINAL CONSTRUCTION ADJACENT TO THE WALL IS COMPLETED.
49. SRW CAPS SHALL BE PROPERLY ALIGNED AND GLUED TO UNDERLYING UNITS WITH VERSA-LOK ADHESIVE, A FLEXIBLE, HIGH-STRENGTH CONCRETE ADHESIVE. RIGID ADHESIVE OR MORTAR ARE NOT ACCEPTABLE.
50. CAPS SHALL OVERHANG THE TOP COURSE OF UNITS BY 3/4 INCH TO 1 INCH. SLIGHT VARIATION IN OVERHANG IS ALLOWED TO CORRECT ALIGNMENT AT THE TOP OF THE WALL.
51. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT CONSTRUCTION BY OTHERS ADJACENT TO THE WALL DOES NOT DISTURB THE WALL OR PLACE TEMPORARY CONSTRUCTION LOADS ON THE WALL THAT EXCEED DESIGN LOADS, INCLUDING LOADS SUCH AS WATER PRESSURE, TEMPORARY GRADES, OR EQUIPMENT LOADING. HEAVY PAVING OR GRADING EQUIPMENT SHALL BE KEPT A MINIMUM OF 3 FEET BEHIND THE BACK OF THE WALL FACE. EQUIPMENT WITH WHEEL LOADS IN EXCESS OF 150 PSF LIVE LOAD SHALL NOT BE OPERATED WITHIN 10 FEET OF THE FACE OF THE RETAINING WALL DURING CONSTRUCTION ADJACENT TO THE WALL. CARE SHOULD BE TAKEN BY THE GENERAL CONTRACTOR TO ENSURE WATER RUNOFF IS DIRECTED AWAY FROM THE WALL STRUCTURE UNTIL FINAL GRADING AND SURFACE DRAINAGE COLLECTION SYSTEMS ARE COMPLETED.

PRELIMINARY

JLA  
architects + planners

JLA PROJECT NUMBER: 15-0617



THE SIGMA GROUP  
Single Source, Sound Solutions.  
www.thesigmagroup.com  
1300 West Canal Street  
Milwaukee, WI 53233  
Phone: 414-643-4200  
Fax: 414-643-4210

Fiduciary Real Estate  
Development

PUD-SIP Submittal

22 SLATE

PROGRESS DOCUMENTS

These documents reflect progress and intent and may be subject to change, including additional detail. These are not final construction documents and should not be used for final bidding or construction-related purposes.

DATE OF ISSUANCE JANUARY 6, 2016

REVISION SCHEDULE

Mark	Description	Date
------	-------------	------

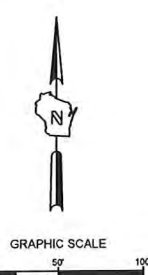
SHEET TITLE

SPECIFICATIONS

SHEET NUMBER

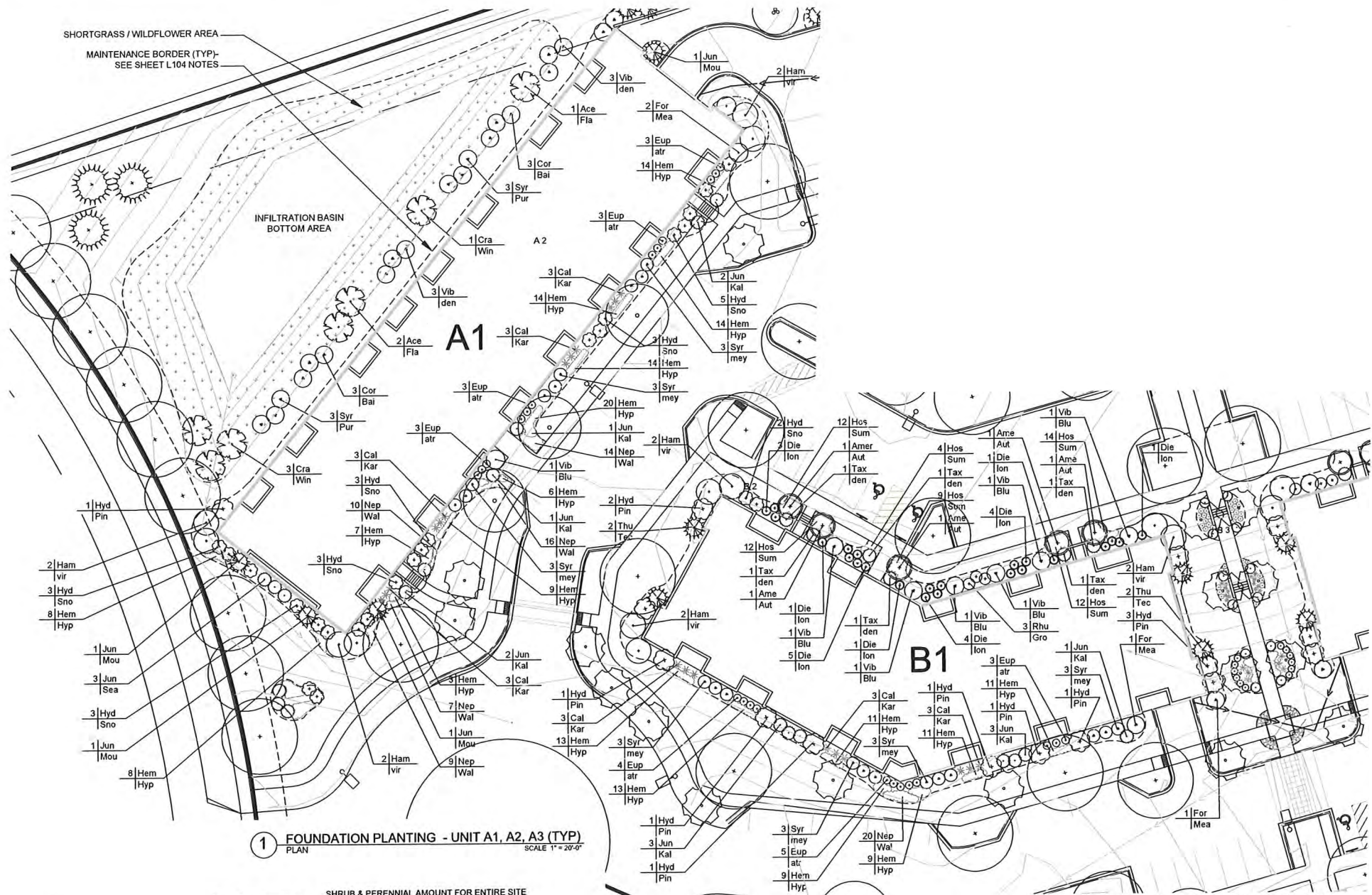
C 501





THE UNDERGROUND UTILITY INFORMATION SHOWN ON THIS MAP IS BASED ON FIELD MARKINGS AND INFORMATION FURNISHED BY UTILITY COMPANIES AND THE LOCAL MUNICIPALITY. WHILE THIS INFORMATION IS BELIEVED TO BE RELIABLE, ITS ACCURACY AND COMPLETENESS CANNOT BE GUARANTEED.





1 FOUNDATION PLANTING - UNIT A1, A2, A3 (TYP)  
PLAN SCALE 1" = 20'-0"

2 FOUNDATION PLANTING - UNIT B1, B2 (TYP)  
PLAN SCALE 1" = 20'-0"

City of Madison Landscape Worksheet  
Section 28.142 Madison General Ordinance

Project Location: 5401 Tanco Drive, Madison, WI  
Name of Project: 22 SLATE  
Owner / Contact: Fiduciary Real Estate Dev. - Marcel Scholz  
Contact Phone: 414.242.4212 Contact Email: mscholz@fiduc-inc.com

"Landscape plans for existing lots greater than ten thousand (10,000) sq. ft. in size MUST be prepared by a registered landscape architect."

**Applicability**  
The following standards apply to all exterior construction and development, including the expansion of existing buildings, structures and parking lots, except the construction of detached single-family and two-family dwellings and their accessory structures. The entire development site must be brought up to compliance with the section unless all of the following conditions apply, in which case only the affected areas need to be brought up to compliance:  
(a) The area of site disturbance is less than ten percent (10%) of the entire development site during any ten (10) year period.  
(b) Gross floor area is only increased by ten percent (10%) during any ten (10) year period.  
(c) No demolition of a principal building is involved.  
(d) Any displaced landscaping elements must be replaced on the site and shown on a revised landscaping plan.

**Landscaping Calculations and Distribution**  
Required landscaped areas shall be calculated based upon the total developed area of the property. Developed area is defined as that area within a single contiguous boundary which is made up of structures, parking, driveway and/or existing building footprints, but excluding the area of any building footprint at grade, land designated for open space uses such as athletic fields, and undeveloped land area on the same zoning lot. Methods for calculating landscape points depend on the size of the lot and zoning district.

For lots larger than five (5) acres, points shall be provided at five (5) points per three hundred (300) square feet for the first five (5) developed acres, and (1) point per one hundred (100) square feet for all additional acres.  
Total square footage of developed area: 265,064 sq. ft.  
Five (5) acres = 217,800 sq. ft.  
First five (5) acres = 3,630 points  
Remainder of developed area: 47,264 sq. ft.  
Remainder of points: 127 points  
Total landscape points required: 5,003 points

SHRUB & PERENNIAL AMOUNT FOR ENTIRE SITE  
TABLE 1: Calculation of Points and Credits  
Table indicates the quantity and points for all proposed and existing elements.

Plant Type	Minimum Size at Installation	Points	Quantity	Credits / New Proposed Points Achieved
Overstory deciduous tree	7-10 inch caliper measured diameter at breast height (DBH)	25	0	0
Totop evergreen tree	5-6 inch caliper	25	0	0
Overstory tree	1-10 inch caliper	15	0	0
Upright evergreen shrub	3-4 inch caliper	10	38	380
Shrub, deciduous	10 gallon container size Min. 12"-14"	3	408	1218
Shrub, evergreen	10 gallon container size Min. 12"-14"	4	77	308
Overstory ground/semi-deciduous	41 gallon container size Min. 8'-10'	2	132	264
Overstory / semi-deciduous	41 gallon container size Min. 8'-10'	4	168	672
Shrub, deciduous	Minimum size 2 1/2 inch caliper dbh. "Tree must be within developed area and can not comprise more than 25% of total required points."	6	0	0
Shrub, evergreen	Minimum size 2 1/2 inch caliper dbh. "Tree must be within developed area and can not comprise more than 25% of total required points."	6	0	0
Perennials	For plants that are not trees or shrubs, points shall be calculated based upon the total developed area of the property. Developed area is defined as that area within a single contiguous boundary which is made up of structures, parking, driveway and/or existing building footprints, but excluding the area of any building footprint at grade, land designated for open space uses such as athletic fields, and undeveloped land area on the same zoning lot. Methods for calculating landscape points depend on the size of the lot and zoning district.	5 points per "unit"	653	3,265
<b>Sub Total</b>				<b>Total Number of Points Provided: 5,273</b>

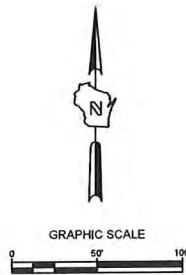
\*As determined by AIA/ASA. American standard for nursery stock. For each size, minimum plant size shall conform to the specifications as stated in the current American standard for nursery stock.

PLANT SCHEDULE - Building A1 (Typical for A1, A2, A3)

CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	NOTES
Om.Trees						
Ace/gin	3	Acer ginnala 'Flame'	Flame Amur Maple	5'-6'	BB	Shrub form
Cra/Win	4	Crataegus viridis 'Winter King'	Winter King Hawthorn	1 1/2'-2'	BB	Tree form
Evergreen						
Jun / Buf	3	Juniperus sabina 'Buffalo'	Buffalo Juniper	18"-24"	Cont.	
Jun/Kal	10	Juniperus chinensis 'Kallay's'	Kallay's Compact Juniper	18"-24"	Cont.	
Jun/Mou	4	Juniperus chinensis 'Moundbatten'	Moundbatten Juniper	4'-5'	BB	
Jun / Sea	3	Juniperus chinensis 'Sea Green'	Dense Yew	18"-24"	Cont.	
Shrubs						
Cor / Bai	2	Cornus alba 'Bailhale'	Ivory Halo Dogwood	18"-24"	Cont.	
For / Mea	6	Forsythia x Meadowlark	Meadowlark Forsythia	24"-30"	Cont.	
Ham / vir	1	Hamamelis virginiana	Common Witchhazel	4'-5'	Cont.	
Hyd / Pin	6	Hydrangea paniculata 'Pinky Winky'	Pinky Winky Hydrangea	18"-24"	Cont.	
Hyd / Sno	22	Hydrangea arborescens 'Grandiflora'	Snowhill Hydrangea	15'-18"	Cont.	
Syr / mey	9	Syringa meyeri 'Palibin'	Dwarf Korean Lilac	18"-24"	Cont.	
Syr / Pur	1	Syringa vulgaris	Common Purple Lilac	30"-36"	Cont.	
Vib / Blu	6	Viburnum dentatum 'Christom'	Blue Muffin Arrowwood Viburnum	30"-42"	Cont.	
Vib / den	6	Viburnum dentatum	Arrowwood Viburnum	3'-4'	BB	
Perennials						
Cal / Kar	9	Calamagrostis acutiflora 'Karl Foerster'	Karl Foerster Reed Grass			
Eup / atr	12	Eupatorium maculatum 'Gateway'	Gateway Joe-Pye Weed			
Hem / Hyp	117	Hemerocallis x Hyperion	Hyperion Daylily			
Nep / Wal	56	Nepeta x faassenii 'Walker's Low'	Walker's Low Catmint			

PLANT SCHEDULE - Building B1 (Typical for B1, B2, B3, B4)

CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	NOTES
Om.Trees						
Ame / Aut	5	Amelanchier grandiflora 'Autumn Brilliance'	Autumn Brilliance Serviceberry	5'-6'	BB	Shrub form
Cra/Win	4	Crataegus viridis 'Winter King'	Winter King Hawthorn	1 1/2'-2'	BB	Tree form
Evergreen						
Jun / Buf	3	Juniperus sabina 'Buffalo'	Buffalo Juniper	18"-24"	Cont.	
Jun/Kal	7	Juniperus chinensis 'Kallay's'	Kallay's Compact Juniper	18"-24"	Cont.	
Jun/Mou	4	Juniperus chinensis 'Moundbatten'	Moundbatten Juniper	4'-5'	BB	
Jun / Sea	3	Juniperus chinensis 'Sea Green'	Dense Yew	18"-24"	Cont.	
Tax / den	6	Taxus densiformis	Dense Yew	15'-18"	Cont.	
Thu / Tec	2	Thuja occidentalis 'Techny'	Techny Arborvitae	4'-5'	BB	
Shrubs						
Cor / Bai	6	Cornus alba 'Bailhale'	Ivory Halo Dogwood	18"-24"	Cont.	
Die / Ion	20	Diervilla lonicera 'Jewel'	Jewel Bush Honeysuckle	18"-24"	Cont.	
For / Mea	2	Forsythia x Meadowlark	Meadowlark Forsythia	24"-30"	Cont.	
Ham / vir	4	Hamamelis virginiana	Common Witchhazel	4'-5'	Cont.	
Hyd / Pin	9	Hydrangea paniculata 'Pinky Winky'	Pinky Winky Hydrangea	18"-24"	Cont.	
Hyd / Sno	2	Hydrangea arborescens 'Grandiflora'	Snowhill Hydrangea	15'-18"	Cont.	
Rhu / Gro	3	Rhus aromatica 'Gro Low'	Gro Low Sumac	15'-18"	Cont.	
Syr / Pur	6	Syringa vulgaris	Common Purple Lilac	30"-36"	Cont.	
Vib / Blu	6	Viburnum dentatum 'Christom'	Blue Muffin Arrowwood Viburnum	30"-42"	Cont.	
Perennials						
Cal / Kar	9	Calamagrostis acutiflora 'Karl Foerster'	Karl Foerster Reed Grass	1 gallon	Cont.	
Eup / atr	12	Eupatorium maculatum 'Gateway'	Gateway Joe-Pye Weed	1 gallon	Cont.	
Hem / Hyp	77	Hemerocallis x Hyperion	Hyperion Daylily	1 gallon	Cont.	
Hos / Sum	63	Hosta x Sum & Substance	Sum & Substance Hosta	1 gallon	Cont.	
Nep / Wal	20	Nepeta x faassenii 'Walker's Low'	Walker's Low Catmint	1 gallon	Cont.	



JLA  
ARCHITECTS PLANNERS

JLA PROJECT NUMBER: 15-0617

Fiduciary  
REAL ESTATE DEVELOPMENT, INC.

THE SIGMA GROUP  
Single Source. Sound Solutions.  
www.thesigmagroup.com  
1300 West Canal Street  
Milwaukee, WI 53233  
Phone: 414-643-4200  
Fax: 414-643-4210

new eden  
Landscape Architecture

PUD-SIP Submittal

22 SLATE  
APARTMENTS  
5401 TANCHE DRIVE  
MADISON, WI

PROGRESS DOCUMENTS

These documents reflect progress and intent and may be subject to change, including additional detail. These are not final construction documents and should not be used for final bidding or construction-related purposes.

DATE OF ISSUANCE: JANUARY 6, 2016

REVISION SCHEDULE

Mark	Description	Date
------	-------------	------

SHEET TITLE

LANDSCAPE PLANS  
TYPICAL BUILDING

SHEET NUMBER

L 101



CALL DIGGERS HOTLINE

1-800-242-8511

TOLL FREE

NO SHOWN INFORMATION

REQUIRE A 3 WIRE SAVE

NOTES: NO SHOWN INFORMATION

REQUIRE A 3 WIRE SAVE

NOTES: NO SHOWN INFORMATION

REQUIRE A 3 WIRE SAVE

NOTES: NO SHOWN INFORMATION

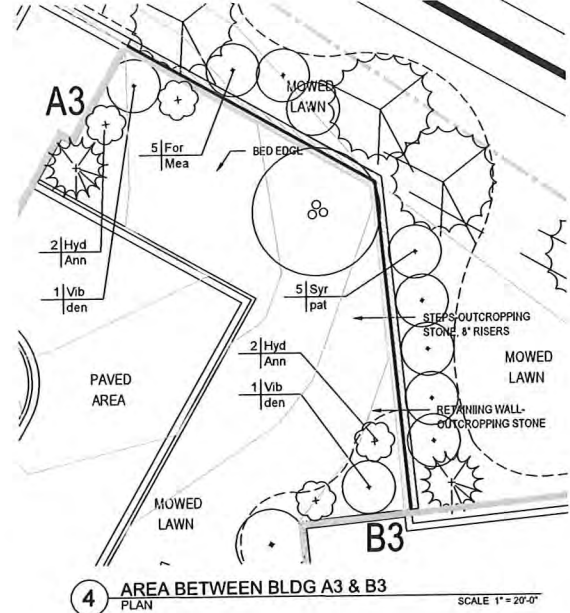
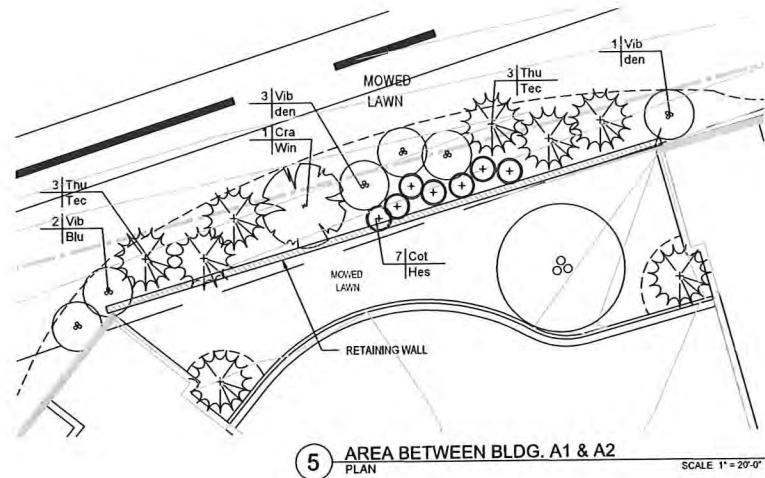
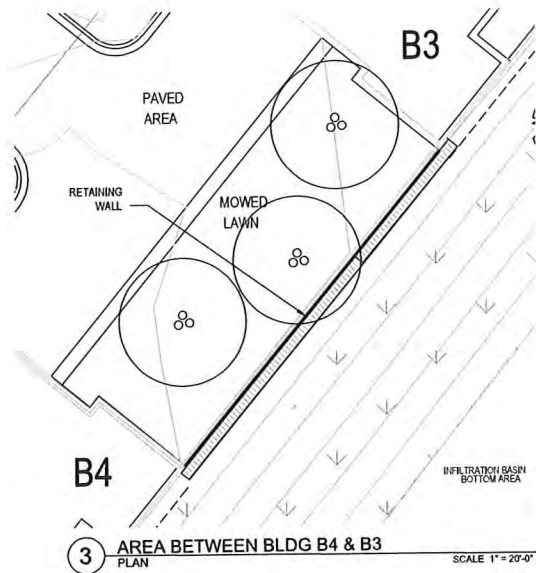
REQUIRE A 3 WIRE SAVE

THE UNDERGROUND UTILITY INFORMATION SHOWN ON THIS MAP IS BASED ON FIELD MARKINGS AND INFORMATION FURNISHED BY UTILITY COMPANIES AND THE LOCAL MUNICIPALITY. WHILE THIS INFORMATION IS BELIEVED TO BE RELIABLE, ITS ACCURACY AND COMPLETENESS CANNOT BE GUARANTEED.



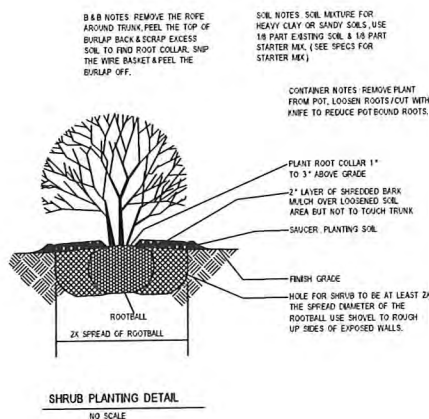
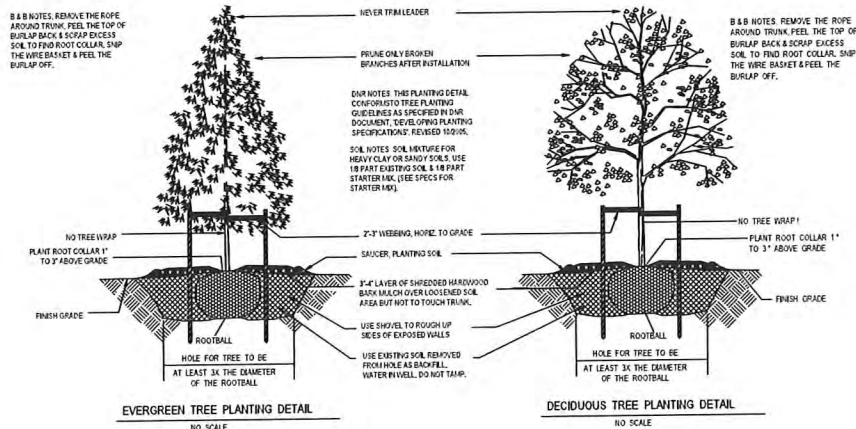






CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	NOTES
Evergreen Thu / Tec	6	Thuja occidentalis 'Techny'	Techny arbutive	18"-24"	Cont.	
Trees Cra / Wn	1	Crataegus crusgali 'Winter King'	Winter King Hawthorne	1 1/2"-2" caliper	B & B	
Shrubs Cot / Hes	7	Cotoneaster 'Hessei'	Hester Cotoneaster	15"-18"	Cont.	
Vib / Blu	2	Viburnum dentatum 'Blue Muffin'	Blue Muffin Viburnum	15"-18"	Cont.	
Vib / Den	4	Viburnum dentatum	Arrowwood Viburnum	3'-4'	Cont.	

CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	NOTES
Shrubs For / Mea	3	Forsythia x Meadowlark	Meadowlark Forsythia	30"-36"	Cont.	
Hyd / Ann	4	Hydrangea arborescens 'Annabelle'	Annabelle Hydrangea	15"-18"	Cont.	
Syr / pat	8	Syringa patula	Miss Kim Lilac	24"-30"	Cont.	
Vib / den	2	Viburnum dentatum	Arrowwood Viburnum	3'-4'	Cont.	



#### LANDSCAPE INSTALLATION NOTES

- The Landscaping Contractor shall verify location of all underground utilities and additional information prior to installation of all landscaping. Call Digger's Hotline.
- Rough grading and drainage shall be completed prior to Landscape Contractor's commencing work. Verify all existing site and grading conditions prior to construction.
- All landscape work shall be in conformance with all applicable local codes & ordinances.
- All areas disturbed by grading or site construction shall be fine graded, planted or seeded.
- Contractor shall verify plant quantities shown on plan and provide a list to the Architect identifying the species and size to be used throughout the project. The Landscape Architect reserves the right to reject any sub-standard planting material. Such rejected material shall be removed from the project site immediately.
- All planting beds shall receive a blended topsoil mix to a depth of 6" and turf areas a depth of 3". Contractor shall provide positive drainage away from all buildings for a minimum of 10'. Remove excessive clay, gravel & stones which would be detrimental to healthy plant growth. Roto-blend new topsoil into existing soil.
- All perennial and groundcover areas shall receive a blend of organic soil amendments prior to planting. Roto-blend the amendments into the new topsoil to a depth of 6". Avoid damage to existing tree roots where applicable by lightly working amendments into soil with pitch fork.

Add to beds:  
2 inch cover of plant starter soil mix  
1/2 lb. of 5-10-5 garden fertilizer (Osmocote or Milorganite)

- All perennial and groundcover areas shall receive a 1-2" layer of finely shredded bark mulch. Do not allow mulch to touch stems or leaves of perennials! All woody planting areas shall receive a 3" layer. Unless otherwise noted, no landscape fabric or weed barrier is to be installed.
- Unless otherwise shown, all perennials & shrubs shall be planted in a triangular arrangement. For plants not shown individually, refer to the spacing shown in the plant schedule.
- All areas indicated as Maintenance border beds shall be covered with a 2.5" cover of Mississippi aggregate (Source: Kafka Stone) over landscape fabric underlayment and aluminum edging. Color of Spardust to be approved by owner.
- All planting and maintenance beds shall be edged with aluminum edging - Permatoc Clean Line, Size: 1/8" x 4" x 16", Finish: mill or approved equal.

#### SEED MIXES (See plans for locations)

SEEDING MOWED TURF:  
"Delux 50 Lawn Seed Mix"  
Available from Reinders (800) 785-3301  
To be installed & maintained per supplier's specifications.

20% Kentucky Bluegrass 25% Creeping Red Fescue  
15% Bluebonnet Kentucky Bluegrass 15% Quebec Perennial Ryegrass  
15% Kenblue Kentucky Bluegrass 10% Wicked Perennial Ryegrass

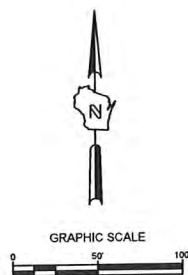
SHORT GRASS / WILDFLOWER AREA / DETENTION BASINS  
"Short Prairie Wildflower & Grass Mix"  
Available from Reinders - Sussex, WI  
Phone 1-800-785-3301 / Or approved equal.  
To be installed & maintained per supplier's specifications.

NATIVE WETLAND MIX - INFILTRATION BOTTOM  
"Native Wetland Mix"  
Available from Reinders - Sussex, WI  
Phone 1-800-785-3301 / Or approved equal.  
To be installed & maintained per supplier's specifications.



CALL DIGGERS HOTLINE  
1-800-242-8511  
TOLL FREE  
WE STAY IN THE HOTLINE  
REQUIRES MIN. 3 HOUR SALES  
NOTICE BEFORE YOU CALL  
MILW. AREA 259-1181

THE UNDERGROUND UTILITY INFORMATION SHOWN ON THIS MAP IS BASED ON FIELD MARKINGS AND INFORMATION FURNISHED BY UTILITY COMPANIES AND THE LOCAL MUNICIPALITY. WHILE THIS INFORMATION IS BELIEVED TO BE RELIABLE, ITS ACCURACY AND COMPLETENESS CANNOT BE GUARANTEED.



# JLA

JLA PROJECT NUMBER: 15-0617

**Fiduciary**  
REAL ESTATE DEVELOPMENT, INC.

**SIGMA** GROUP  
Single Source, Sound Solutions  
www.thesigmagroup.com  
1300 West Canal Street  
Milwaukee, WI 53233  
Phone: 414-643-4200  
Fax: 414-643-4210

**new eden**  
Landscape Architecture

PUD-SIP Submittal

**22 SLATE**  
**APARTMENTS**  
5401 TANCHE DRIVE  
MADISON, WI

#### PROGRESS DOCUMENTS

These documents reflect progress and intent and may be subject to change, including additional detail. These are not final construction documents and should not be used for final bidding or construction-related purposes.

DATE OF ISSUANCE JANUARY 6, 2016

#### REVISION SCHEDULE

Mark	Description	Date

SHEET TITLE

AREA BETWEEN BLDG  
NOTES & DETAILS

SHEET NUMBER

L 103

## PROGRESS DOCUMENTS

These documents reflect progress and intent and may be subject to change, including additional detail. These are not final construction documents and should not be used for final bidding or construction-related purposes.

DATE OF ISSUANCE JANUARY 6, 2016

## REVISION SCHEDULE

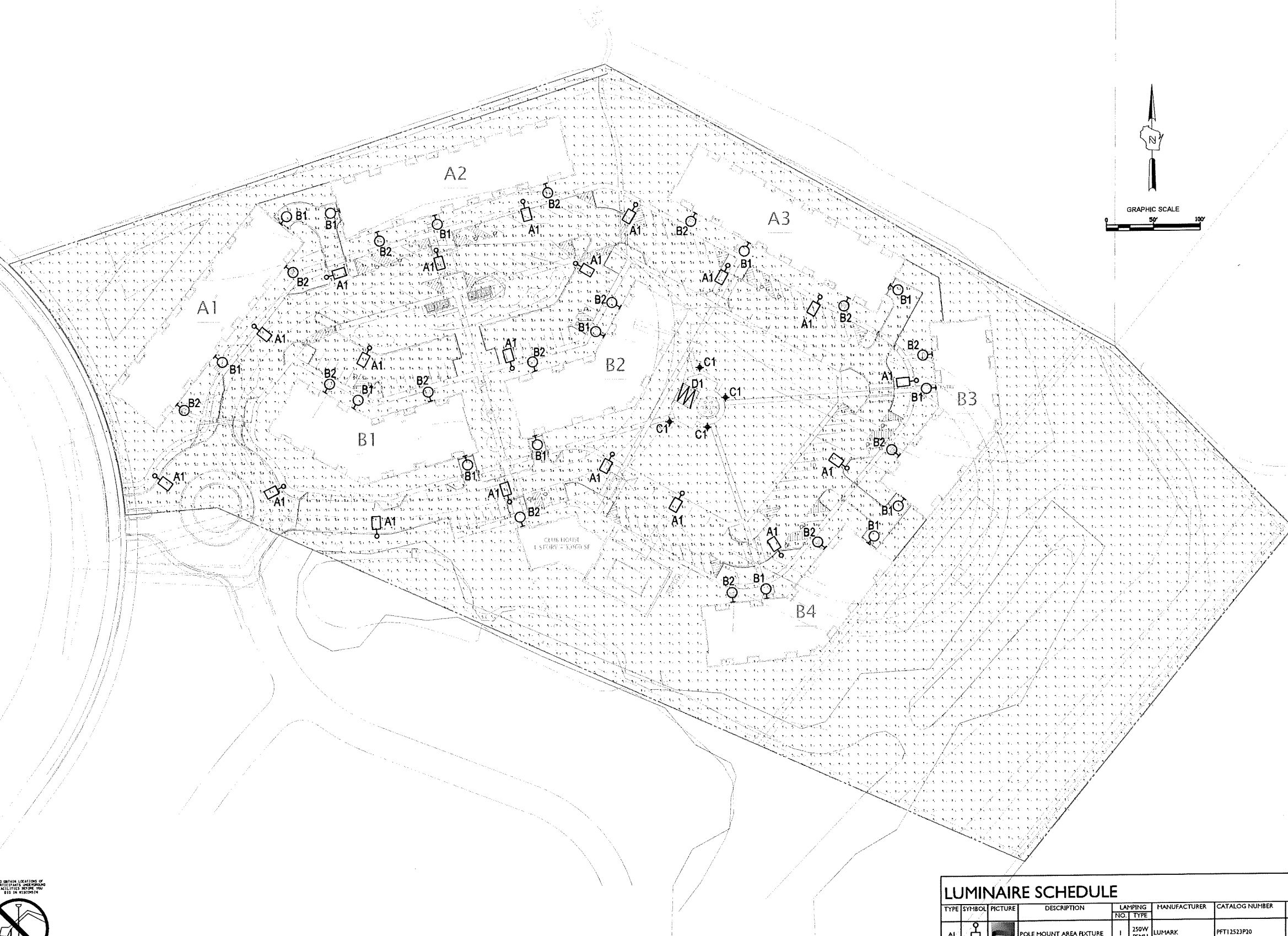
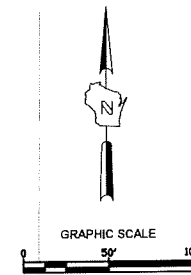
Mark	Description	Date

SHEET TITLE

**SITE LIGHTING PLAN**

SHEET NUMBER

**E 100**



**1 SITE LIGHTING PLAN**  
SCALE: 1" = 50'

## CALCULATION SUMMARY

Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
PARKING AND DRIVES	Illuminance	Fc	1.21	8.2	0.1	12.10	81.00
OVERALL SITE @ 4FT	Illuminance	Fc	0.27	17.8	0.0	N.A.	N.A.

## LUMINAIRE SCHEDULE

TYPE	SYMBOL	PICTURE	DESCRIPTION	LAMPING		MANUFACTURER	CATALOG NUMBER	HEIGHT
				NO.	TYPE			
A1			POLE MOUNT AREA FIXTURE	1	250W PSH	LUMARK	PFT12523P20	20'-0" POLE, 3'-0" BASE
B1			LED WALL PACK	-	26 W LED	LUMARK	XTOR3A	12'-0" AFG
B2			LED WALL PACK	-	26 W LED	LUMARK	XTOR3A	9'-0" AFG
C1			30" BOLLARD	-	39W PAR30 MH	LUMIERE	1900-OA-30-MH-PAR20	30" POLE
D1			HIGH OUTPUT 3000K LED STRING LIGHTS	-	LED	TIVOLI	LSL-12-WW-C-12	PAVILION STRUCTURE



CALL DIGGERS HOTLINE  
1-800-242-8511  
TOLL FREE  
WE SCHEDULE 24/7/365  
WHENEVER YOU DIGGERS  
MILWAUKEE AREA 259-1181

THE UNDERGROUND UTILITY INFORMATION SHOWN ON THIS MAP IS BASED ON FIELD MARKINGS AND INFORMATION FURNISHED BY UTILITY COMPANIES AND THE LOCAL MUNICIPALITY. WHILE THIS INFORMATION IS BELIEVED TO BE RELIABLE, ITS ACCURACY AND COMPLETENESS CANNOT BE GUARANTEED.



PUD-SIP SUBMITTAL

## 22-SLATE APARTMENTS

### PROGRESS DOCUMENTS

These documents reflect progress and intent and may be subject to change, including additional detail. These are not final construction documents and should not be used for final bidding or construction-related purposes.

DATE OF ISSUANCE JANUARY 6, 2016

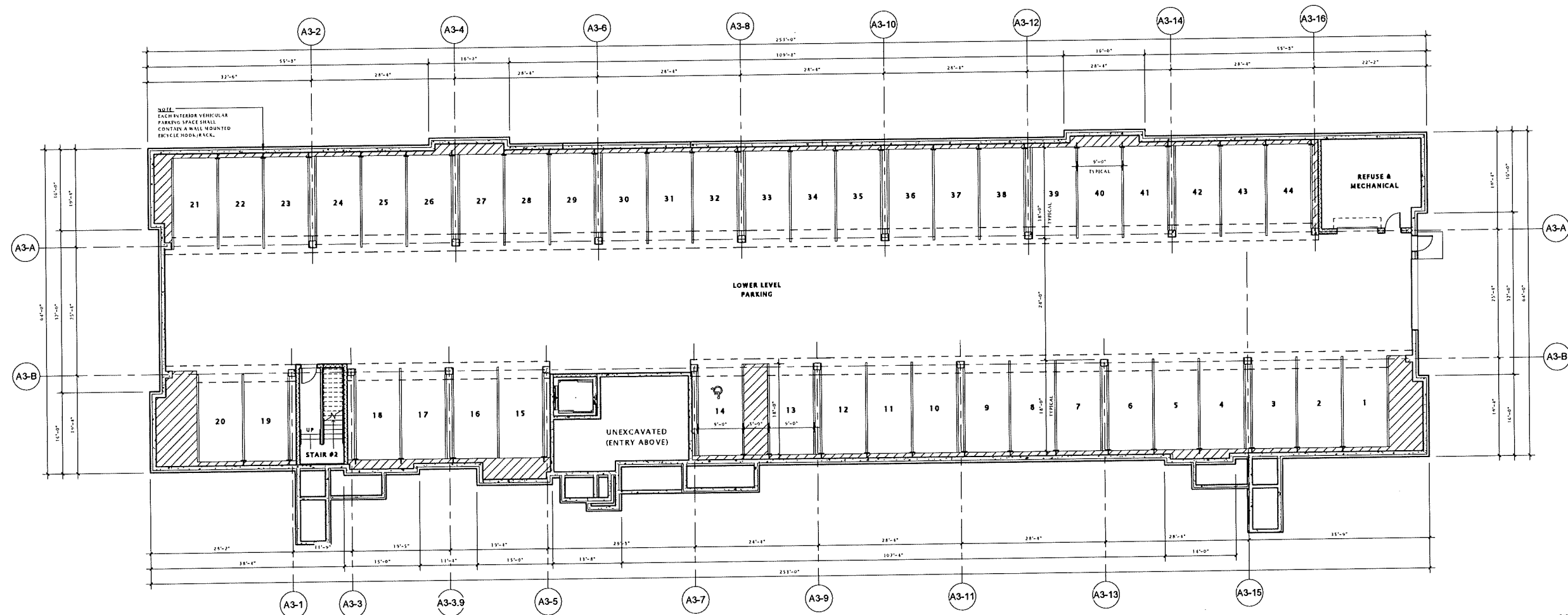
REVISION SCHEDULE		
Mark	Description	Date

SHEET TITLE

LOWER LEVEL PLAN

SHEET NUMBER

A100-A3





PUD-SIP SUBMITTAL

22-SLATE APARTMENTS

**PROGRESS DOCUMENTS**

These documents reflect progress and intent and may be subject to change, including additional detail. These are not final construction documents and should not be used for final bidding or construction-related purposes.

DATE OF ISSUANCE JANUARY 6, 2016

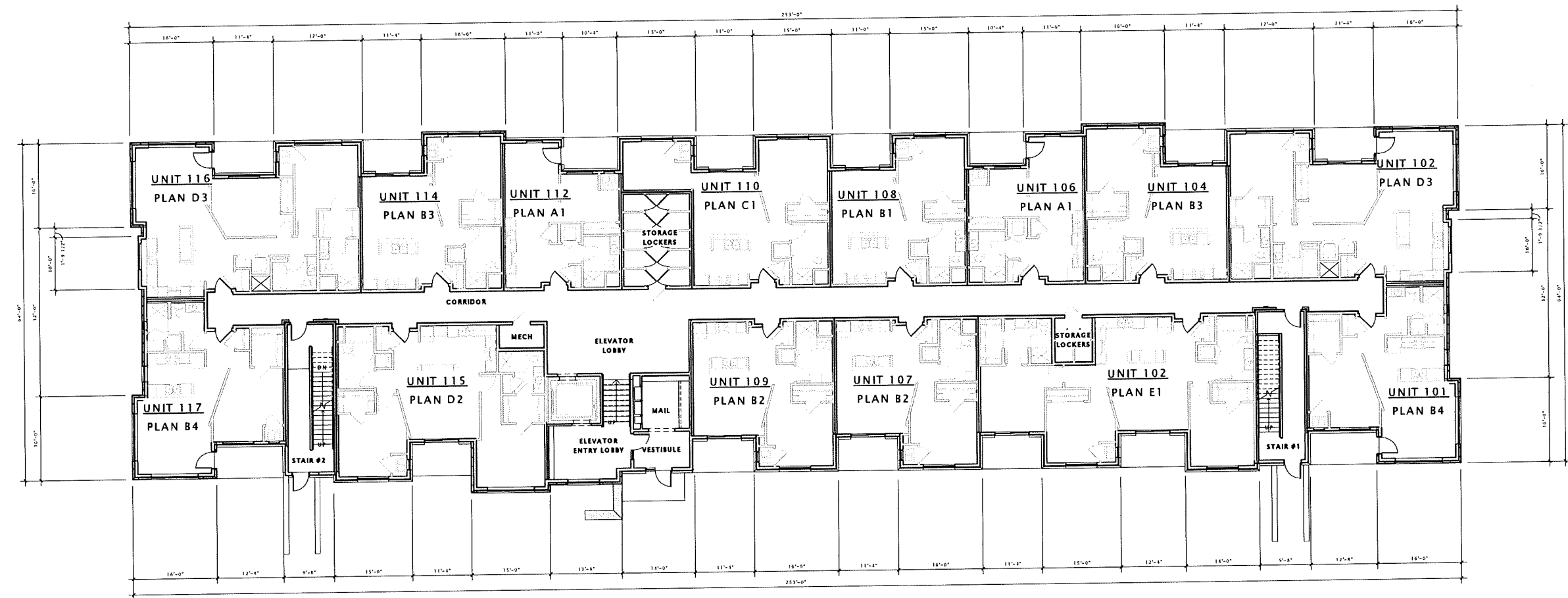
REVISION SCHEDULE		
Mark	Description	Date

SHEET TITLE

FIRST FLOOR PLAN

SHEET NUMBER

A101-A3



PUD-SIP SUBMITTAL

22-SLATE APARTMENTS

**PROGRESS DOCUMENTS**

These documents reflect progress and intent and may be subject to change, including additional detail. There are not final construction documents and should not be used for final bidding or construction-related purposes.

DATE OF ISSUANCE JANUARY 6, 2016

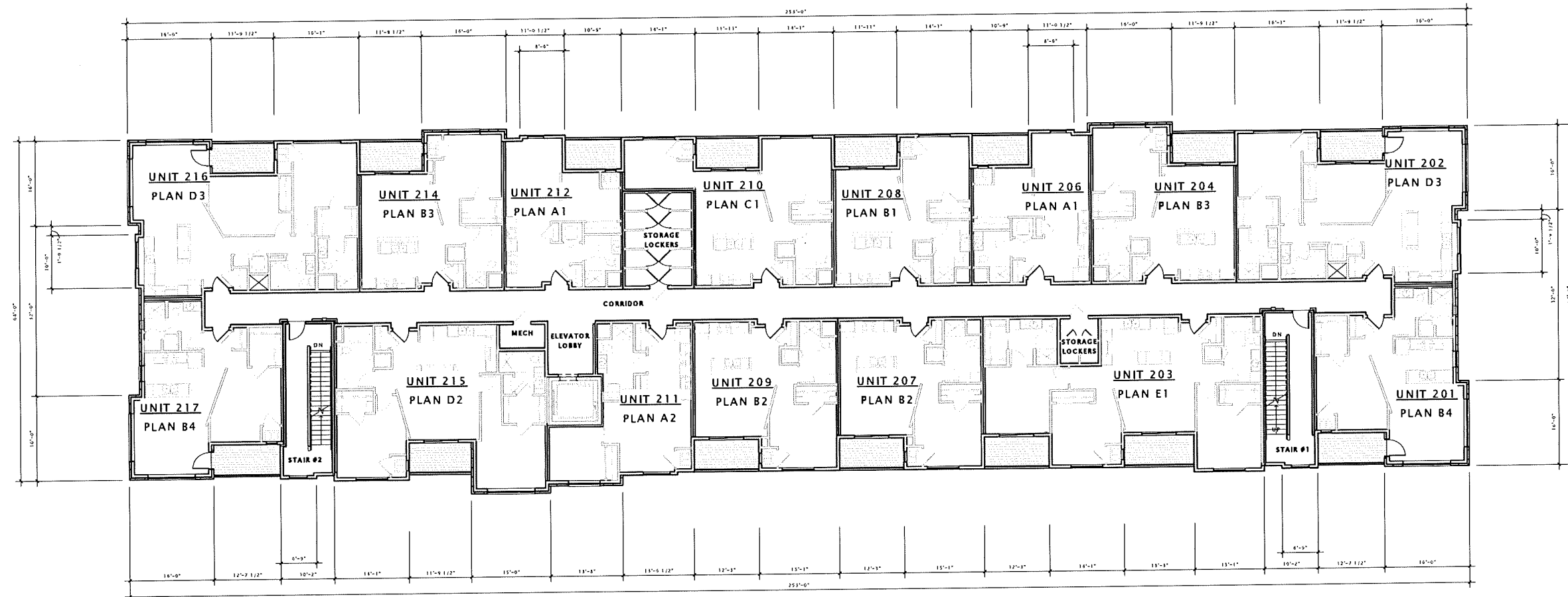
REVISION SCHEDULE		
Mark	Description	Date

SHEET TITLE

SECOND FLOOR PLAN

SHEET NUMBER

A102-A3



# JLA

JOSEPH LEE & ASSOCIATES  
2410 CROSSROADS DRIVE, SUITE 2100  
MILWAUKEE, WISCONSIN 53217  
414.437.9550

JLA PROJECT NUMBER: 15-0617-01



PUD-SIP SUBMITTAL

22-SLATE APARTMENTS

#### PROGRESS DOCUMENTS

These documents reflect progress and intent and may be subject to change, including additional detail. There are no final construction documents and should not be used for final bidding or construction-related purposes.

DATE OF ISSUANCE: JANUARY 6, 2016

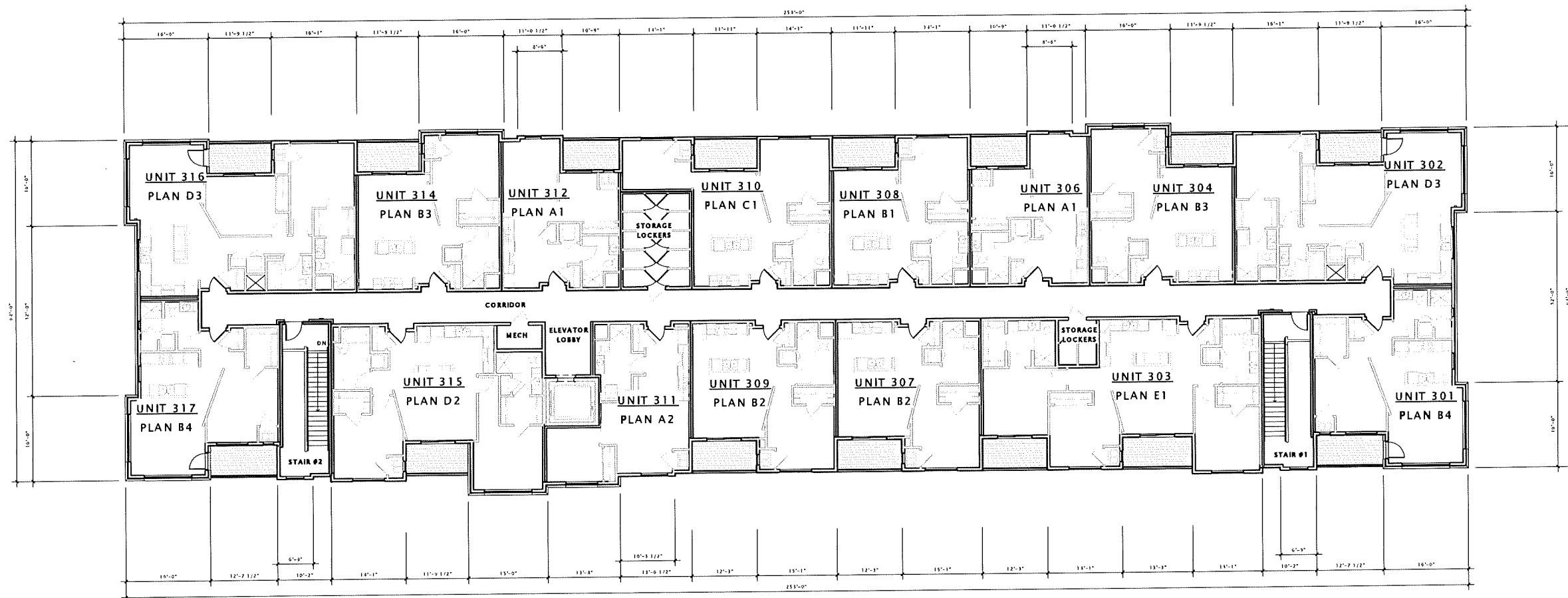
REVISION SCHEDULE		
Mark	Description	Date

SHEET TITLE

THIRD FLOOR PLAN

SHEET NUMBER

A103-A3





⑥ TYPICAL 'A' BUILDING - FRONT ELEVATION  
3/32" = 1'-0"



⑪ TYPICAL 'A' BUILDING - END ELEVATION  
3/32" = 1'-0"

**JLA**  
ARCHITECT PLANNERS

JOSEPH LEE & ASSOCIATES  
2418 CROSSROADS DRIVE - SUITE 2100  
MADISON, WISCONSIN 53718  
608.271.0540

JLA PROJECT NUMBER: 15-0617-01

**Fiduciary**  
REAL ESTATE DEVELOPMENT, INC.

PUD-SIP SUBMITTAL

22-SLATE APARTMENTS

**PROGRESS DOCUMENTS**

These documents reflect progress and intent and may be subject to change, including additional detail. These are not final construction documents and should not be used for final bidding or construction-related purposes.

DATE OF ISSUANCE JANUARY 6, 2016

**REVISION SCHEDULE**

Mark	Description	Date

SHEET TITLE

EXTERIOR ELEVATIONS

SHEET NUMBER

A200-A





⑥ TYPICAL 'A' BUILDING - REAR ELEVATION  
3/32" = 1'-0"



⑪ TYPICAL 'A' BUILDING - END ELEVATION (W/ GARAGE)  
3/32" = 1'-0"

**JLA**  
ARCHITECTS & PLANNERS

JOSEPH LEE & ASSOCIATES  
2415 CROSSROADS DRIVE, SUITE 2100  
MADISON, WISCONSIN 53718  
608.231.0500

JLA PROJECT NUMBER: 15-0617-01

**Fiduciary**  
REAL ESTATE DEVELOPMENT, INC.

PUD-SIP SUBMITTAL

22-SLATE APARTMENTS

**PROGRESS DOCUMENTS**

These documents reflect progress and intent and may be subject to change, including additional detail. These are not final construction documents and should not be used for final bidding or construction-related purposes.

DATE OF ISSUANCE JANUARY 6, 2016

**REVISION SCHEDULE**

Mark	Description	Date

SHEET TITLE

EXTERIOR ELEVATIONS

SHEET NUMBER

A201-A

PUD-SIP SUBMITTAL

22-SLATE APARTMENTS

#### PROGRESS DOCUMENTS

These documents reflect progress and intent and may be subject to change, including additional detail. These are not final construction documents and should not be used for final bidding or construction-related purposes.

DATE OF ISSUANCE JANUARY 6, 2016

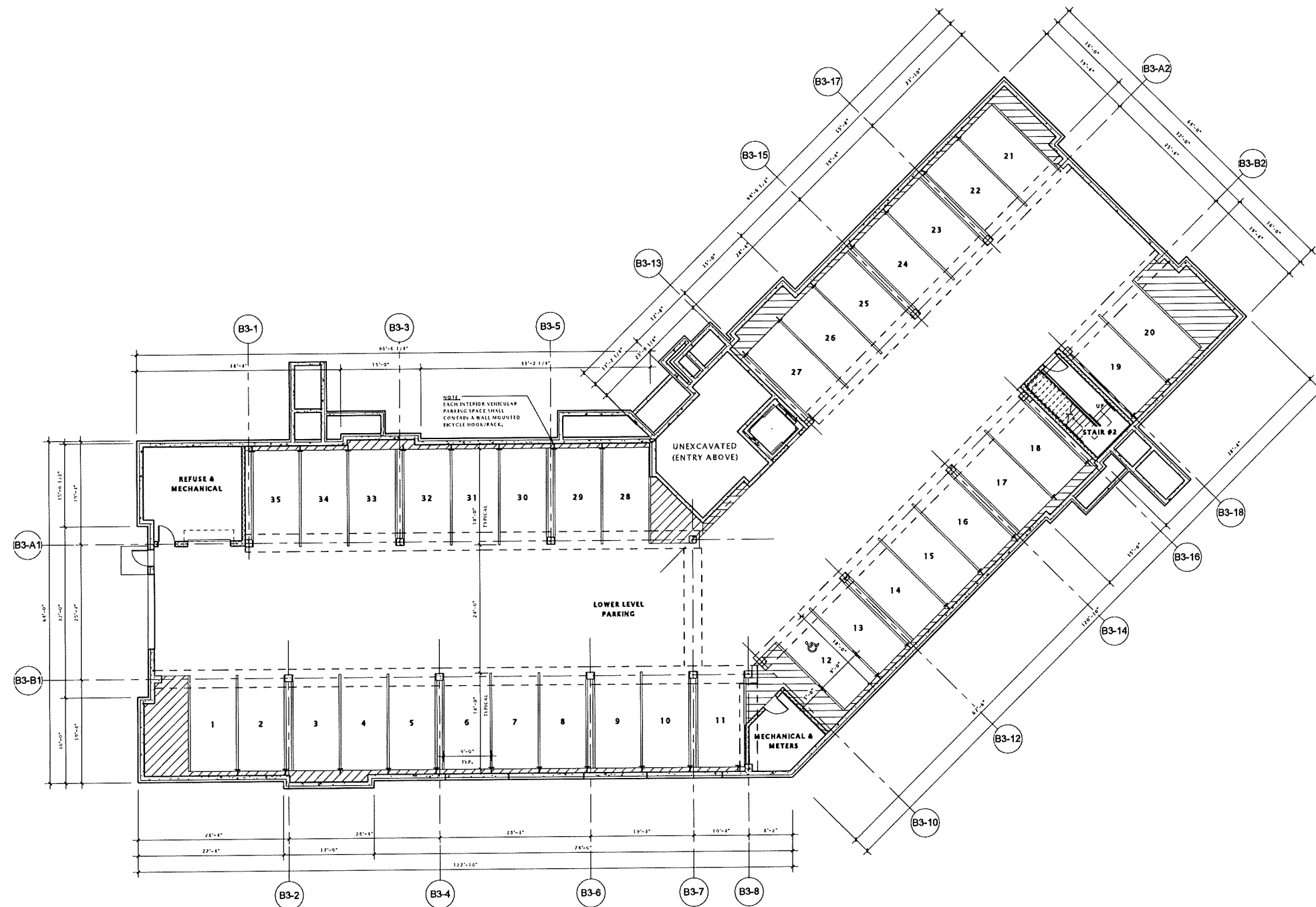
REVISION SCHEDULE		
Mark	Description	Date

SHEET TITLE

LOWER LEVEL PLAN

SHEET NUMBER

A100-B3



PUD-SIP SUBMITTAL

22-SLATE APARTMENTS

#### PROGRESS DOCUMENTS

These documents reflect progress and intent and may be subject to change, including additional detail. These are not final construction documents and should not be used for final bidding or construction-related purposes.

DATE OF ISSUANCE JANUARY 6, 2016

#### REVISION SCHEDULE

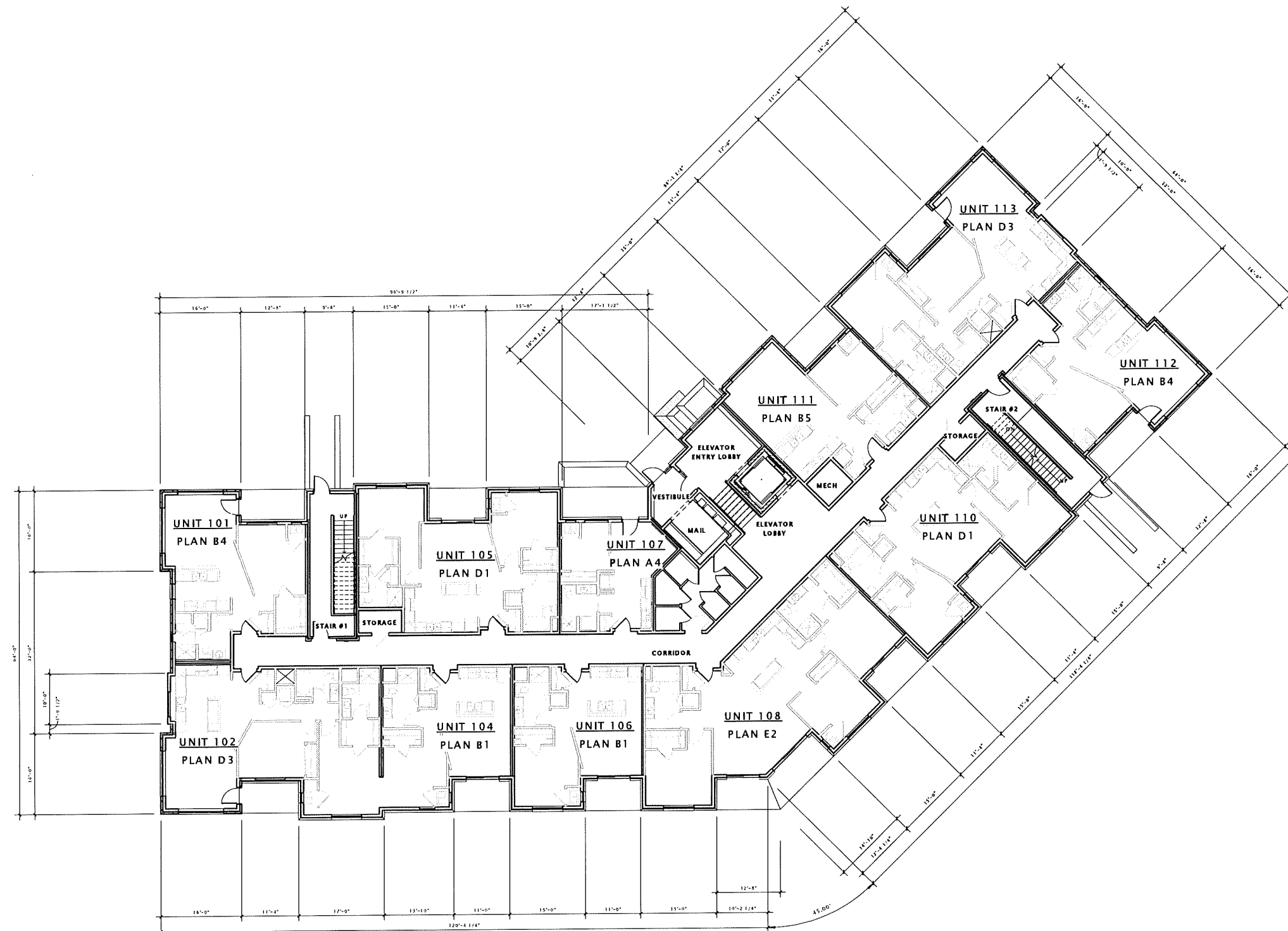
Mark	Description	Date

SHEET TITLE

FIRST FLOOR PLAN

SHEET NUMBER

A101-B3





PUD-SIP SUBMITTAL

22-SLATE APARTMENTS

**PROGRESS DOCUMENTS**

These documents reflect progress and intent and may be subject to change, including additional detail. These are not final construction documents and should not be used for final bidding or construction-related purposes.

DATE OF ISSUANCE JANUARY 6, 2016

**REVISION SCHEDULE**

Mark	Description	Date
------	-------------	------

**SHEET TITLE**

SECOND FLOOR PLAN

**SHEET NUMBER**

A102-B3



PUD-SIP SUBMITTAL

22-SLATE APARTMENTS

### PROGRESS DOCUMENTS

These documents reflect progress and intent and may be subject to change, including additional detail. These are not final construction documents and should not be used for final bidding or construction-related purposes.

DATE OF ISSUANCE: JANUARY 6, 2016

REVISION SCHEDULE		
Mark	Description	Date

SHEET TITLE

THIRD FLOOR PLAN

SHEET NUMBER

A103-B3







⑥ TYPICAL 'B' BUILDING - FRONT ELEVATION #1  
3/32" = 1'-0"



⑪ TYPICAL 'B' BUILDING - FRONT ELEVATION #2  
3/32" = 1'-0"



⑩ TYPICAL 'B' BUILDING - END ELEVATION  
3/32" = 1'-0"

# JLA

JOSEPH LEE & ASSOCIATES  
2415 CROSSROADS DRIVE - SUITE 2100  
MADISON, WISCONSIN 53718  
608.271.9260

JLA PROJECT NUMBER: 15-0617-01

**Fiduciary**  
REAL ESTATE DEVELOPMENT, INC.

PUD-SIP SUBMITTAL

22-SLATE APARTMENTS

#### PROGRESS DOCUMENTS

These documents reflect progress and intent and may be subject to change, including additional detail. These are not final construction documents and should not be used for final bidding or construction-related purposes.

DATE OF ISSUANCE JANUARY 6, 2016

#### REVISION SCHEDULE

Mark	Description	Date

SHEET TITLE

EXTERIOR ELEVATIONS

SHEET NUMBER

A200-B





⑥ TYPICAL 'B' BUILDING - REAR ELEVATION #1  
3/32" = 1'-0"



⑪ TYPICAL 'B' BUILDING - REAR ELEVATION #2  
3/32" = 1'-0"



⑯ TYPICAL 'B' BUILDING - END ELEVATION (W/ GARAGE)  
3/32" = 1'-0"

# JLA

JOSEPH LEE ASSOCIATES  
2410 CROSSROADS DRIVE, SUITE 210  
MADISON, WISCONSIN 53718  
608.211.0500

JLA PROJECT NUMBER: 15-0617-01

**Fiduciary**  
REAL ESTATE DEVELOPMENT, INC.

PUD-SIP SUBMITTAL

22-SLATE APARTMENTS

#### PROGRESS DOCUMENTS

These documents reflect progress and intent and may be subject to change, including additional detail. These are not final construction documents and should not be used for final bidding or construction-related purposes.

DATE OF ISSUANCE JANUARY 6, 2016

#### REVISION SCHEDULE

Mark	Description	Date

SHEET TITLE

EXTERIOR ELEVATIONS

SHEET NUMBER

A201-B