## **CITY OF MACKINAC ISLAND**

## AGENDA

## PLANNING COMMISSION SPECIAL MEETING

### Tuesday, October 31, 2023 at 9:00 AM City Hall – Council Chambers, 7358 Market St., Mackinac Island, Michigan

- I. Call to Order
- II. Roll Call
- III. Pledge of Allegiance
- IV. Adoption of Agenda
- V. Correspondence
- VI. Staff Report
- **VII.** Committee Reports
- VIII. Old Business
  - a. HB23-001-094 Grand Hotel Retaining Wall
- IX. New Business
- X. Public Comment
- XI. Adjournment

CITY OF MACKINAC ISLAND
PLANNING COMMISSION & BUILDING DEPARMENT
APPLICATION FOR ZONING ACTION

APPLICATION FOR	ZONING ACTION
www.cityofmi.org kep@cityofmi.org 906-847-6	190 PO Box 455 Mackinac Island 1497570CT 1 9 2023
APPLICANT NAME & CONTACT INFORMATION:	Please complete both sides of application
Michael McHale	The Fee and five (5) copies of the application, plans
286 Grand Avenue,	and all required documents must be submitted to
Mackinac Island, MI 49757	the Zoning Administrator fourteen (14) days prior to
(404) 295-3568 mmchale@davidsonhospitality.com Phone Number Email Address	the scheduled Planning Commission Meeting.
Property Owner & Mailing Address (If Different From Applicant)	
GHMI Resort Holdings, LLC	
dba Grand Hotel	
286 Grand Avenue Mackinac Island, MI 49757	
Machinac Island, IVII 49757	
Is The Proposed Project Part of a Condominium Associati	on? No
Is The Proposed Project Within a Historic Preservation Di	
Applicant's Interest in the Project (If not the Fee-Simple (	
is the Proposed Structure Within Any Area That The FAA	
Is a Variance Required?	No
Are REU's Required? How Many?	No/
Type of Action Requested: Standard Zoning Permit	Annual of Disputing Computation Destriction
Special Land Use	Appeal of Planning Commission Decision Ordinance Amendment/Rezoning
Planned Unit Development	Ordinance Interpretation
X_ Other:_Life Safety	or unance interpretation
Property Information:	
A. Property Number (From Tax Statement): 051-	
B.         Legal Description of Property:           C.         Address of Property:         286 0	
C. Address of Property:286 0	Grand Avenue, Mackinac Island, MI 49757
D. Zoning District:HB H	
E. Site Plan Checklist Completed & Attached:At F. Site Plan Attached: (Comply With Section 20.04 of the Zoning Ord	
Sketch Plan Attached:N/A	
H. Architectural Plan Attached:N/A	
Association Documents Attached (Approval of pro	ject, etc.): N/A
J. FAA Approval Documents Attached:	
	ttached:Attached
Proposed Construction/Use:	
A. Proposed Construction:	
	Alteration/Addition to Existing Building
X_Other, Specify:Retaining Wall	
B. Use of Existing and Proposed Structures and Land:	
Existing Use (If Non-conforming, explain nature	
Linetable Classe	
Proposed Use:Retaining Wall	
C. If Vacant:	File No. HB23. 001.094
Previous Use:	
Proposed Use:	
	Date /0.19.23
SGL 5400-	
94	Initials $\mathcal{KP}$

AB23.001.094 10.19.23 Check No. 171 KP

Section VIII, Itema.

EC

Length of Time Parcel Has Been Vacant:

)

) ss.

	0	FFICE USE ONLY	
FILE NUMBER:		FEE:	
DATE:	CHECK NO:	INITIALS:	Revised July 2023

STATE OF MICHIGAN COUNTY OF MACKINAC

AFFIDAVIT

The applicant agrees that the permit applied for, if granted, is issued on the representation made herein and that the permit issued may be revoked without further notice on any breach of representation or conditions.

The applicant further understands that any permit issued on this application will not grant any right of privilege to erect any structure or to use any premises described for any purposes or in any manner prohibited by the Zoning Ordinance, or by other codes or ordinances or regulations of the City of Mackinac Island.

The Applicant further agrees to furnish evidence of the following before a permit will be granted:

- A. Proof of ownership of the property; and/or other evidence establishing legal status to use the land in the manner indicated on the application.
- B. Proof that all required federal, state, county, and city licenses or permits have been either applied for or acquired.
- C. Other information with respect to the proposed structure, use, lot and adjoining property as may be required by the Zoning Administrator in accord with provisions of the Mackinac Island Zoning Ordinance.

The Applicant further agrees to notify the Zoning Administrator when construction reaches the stage of inspection stated on the permit, if granted. Upon completion of construction to the structure(s) or land the Zoning Administrator shall inspect the premises for compliance with the Mackinac Island Zoning Ordinance and the terms of this permit. Upon determination of compliance, an occupancy permit may be issued. It is further understood that pursuant to the City of Mackinac Island Zoning Ordinance, No. 479 and amendments, adopted November 2013, unless a substantial start on the construction is made within one year, unless construction is completed within one and one-half years from the date of issuance of the permit, this permit shall come under review by the Planning Commission and may either be extended or revoked.

The undersigned affirms that he/she or they is (are) the applicant and the <u>Owner</u> (specify: owner, Lessee, Architect/Engineer, Contractor or other type of Interest) involved in the application and that the answers and statements herein attached are in all respects true and correct to the best of his, her or their knowledge and belief. The applicant hereby further affirms that he/she or they has read the foregoing and understands the same. If the applicant is other than the owner, then a notarized affidavit from the owner, giving the applicant permission to seek the requested zoning action on their behalf, shall also be submitted with this application.

Signature

Please Print Name

SIGNATURES

**Please Print Name** 

Signature

Signed and sworn to before me on the  $\_18$ day of OCTO ber Mackinac County, Michigan

DANIELLE LEACH, Notary Public Mackinac County, State of Michigan My Commission Expires: 10-23-2023

FOR OFFICE USE ONLY

My commission expires: 10 - 23 - 23

Zoning Permit Issued:

Inspection Re						Section VIII, Itema.
	Inspection	Date	Inspector	Comments		
1.	-					
2.						
3.						
Occupancy P	ermit Issued				Revised July 2023	

#### City of Mackinac Island

7358 Market Street P.O. Box 455 Mackinac Island, MI 49757

### Site Plan Review Checklist Please Submit With The Application for Zoning Action

As a minimum, the following information shall be included on the site plan submitted for review and processing; more complex plans may require additional information as noted.

NOTE: The engineer, architect, planner and/or designer retained to develop the site plan shall be responsible for securing a copy of the City of Mackinac Island Zoning Ordinance (Ord. No. 479, effective November 12, 2013), which can be obtained via the City's website at www.cityofmi.org.

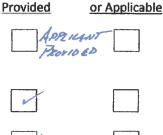
Site plan review requirements are primarily found within Article 4, General Provisions, and Article 20, Site Plan Review of the City Zoning Ordinance. References are provided whenever possible for the section of the Zoning Ordinance that deals with a particular item. When in doubt, refer to the Zoning Ordinance directly for required information.

For further information, contact Mr. Dennis Dombroski, City Building Official/Zoning Administrator, at (906) 847-4035.

#### **Optional Preliminary Plan Review** Informational Requirements (Section 20.03)

#### Item PP ILAN 1. Name and address of the applicant or developer, including the TorID ED names and addresses of any officers of a corporation or partners of a partnership 2. Legal description of the property

3. Sketch drawings showing tentative site plans, property boundaries, placement of structures on the site, and nature of development



Not Provided

#### Site Plan Informational Requirements (Section 20.04, B and C)

#### **General Information**

- Name and address of the applicant or developer, including the names and addresses of any officers of a corporation or partners of a partnership. For condominium subdivision project site plans, also include the name and address of the planner, design engineer or surveyor who designed the project layout and any interest he holds in the land.
- 2. Name and address of the individual or firm preparing the site plan
- Scale of not greater than one 1 in = 20 ft for a development of not more than three acres and a scale of not less than 1 in = 100 ft for a development in excess of three acres
- 4. Legend, north arrow, scale, and date of preparation
- 5. Legal description of the subject parcel of land
- 6. Lot lines and general location together with dimensions, angles, and size correlated with the legal description of the property
- 7. Area of the subject parcel of land
- 8. Present zoning classification of the subject parcel
- 9. Written description of the proposed development operations
- Written description of the effect, if any, upon adjoining lands and occupants, and any special features which are proposed to relieve any adverse effects to adjoining land and occupants
- A freight hauling plan shall be shown to demonstrate how the materials, equipment, construction debris, and any trash will be transported to and from the property, what, if any motor vehicles may be needed for the project. (Applicant is responsible for ensuring frost laws do not delay necessary actions of this plan).

Provided Ameri Bov	Not Provided or Applicable

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- 12. A construction staging plan shall be shown to demonstrate where and how materials, equipment, construction debris, trash, dumpsters and motor vehicles will be stored and secured during construction. This plan shall ensure the site is kept clean, show how construction debris and trash will be controlled, and how safety issues will be secured including any necessary fencing or barriers that will be needed.
- 13. Proposed construction start date and estimated duration of construction.
- 14. Other information pertinent to the proposed development, specifically required by the Zoning Ordinance, and/or as may be determined necessary by the City Planning Commission

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Not Provided

or Applicable

#### **Natural Features**

- 15. Location of natural features such as wood lots, streams, wetlands, unstable soils, bluff lines, rock outcroppings, and similar features (see also Section 4.26)
- 16. Topography of the site with at least two- to five-foot contour intervals
- 17. Proposed alterations to topography or other natural features
- 18. Earth-change plans, if any, as required by state law

#### **Physical Features**

- 19. Location of existing manmade features on the site and within 100 feet of the site
- 20. Location of existing and proposed principal and accessory buildings, including proposed finished floor and grade line elevations, height of buildings, size of buildings (square footage of floor space), and the relationship of buildings to one another and to any existing structures on the site
- 21. For multiple family residential development, a density schedule showing the number of dwelling units per acre, including a

Provided

Provided



Not Provided

or Applicable

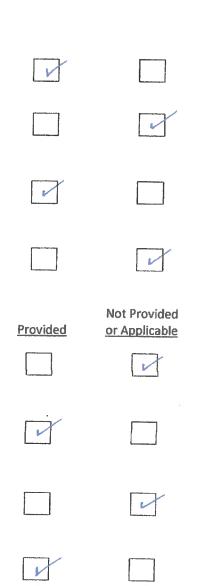
**Revised August 2023** 

dwelling schedule showing the unit type and number of each such units

- 22. Existing and proposed streets, driveways, sidewalks and other bicycle or pedestrian circulation features
- Location, size and number of on-site parking areas, service lanes, parking and delivery or loading areas (see also Section 4.16)
- 24. Location, use and size of open spaces together with landscaping, screening, fences, and walls (see also Section 4.09 and Section 4.21)
- 25. Description of Existing and proposed on-site lighting (see also Section 4.27)

#### **Utility Information**

- 26. Written description of the potential demand for future community services, together with any special features which will assist in satisfying such demand
- Proposed surface water drainage, sanitary sewage disposal, water supply and solid waste storage and disposal (see also Section 4.13)
- Location of other existing and proposed utility services (i.e., propane tanks, electrical service, transformers) and utility easements (see also Section 4.13)
- 29. Written description and location of stormwater management system to be shown on a grading plan, including pre- and postsite development runoff calculations used for determination of stormwater management, and location and design (slope) of any retention/detention features (see also Section 4.



**Revised August 2023** 

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#### Site Plan Informational (Demolition) Requirements (Section 20.04, D)

#### **Not Provided** Demolition Provided or Applicable 1. Site plan of property where demolition is going to take place. This plan shall include structure(s) being demolished, location of utilities, septic tanks, an itemized statement of valuation of demolition and restoration work to be performed, or other such items as may be required by the building official. 2. Copy of asbestos survey if required by EGLE or other state department. 3. Results of a pest inspection and, if necessary, a pest management plan. 4. Plans for restoring street frontage improvements (curb closure, sidewalk replacement, street patch, or other items as required by the building official). These items will not be required if building permits for redevelopment have been applied for or if redevelopment is planned within six months. In such case, the cash bond will be held until building permits for redevelopment are issued or improvements are complete. Completion shall not be deferred more than six months. Temporary erosion control and public protection shall be maintained during this time. 5. A written work schedule for the demolition project. Included in this may be, but are not limited to, street closures, building moving dates, right-of-way work, or other items as required by the building official.

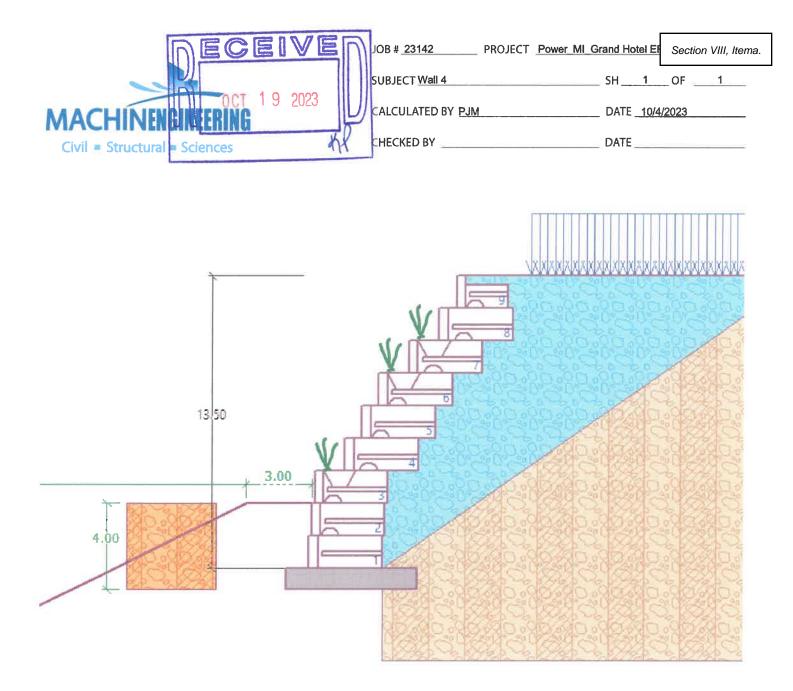
6. Acknowledgment that if any unknown historic or archeological remains discovered while accomplishing the activity authorized by a permit granted by the City, all work must immediately stop and notification of what was discovered must be made by the applicant to the City as well as any other required offices. The City will initiate the Federal and state coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

#### Architectural Review Informational Requirements (Section 18.05)

#### <u>Item</u>

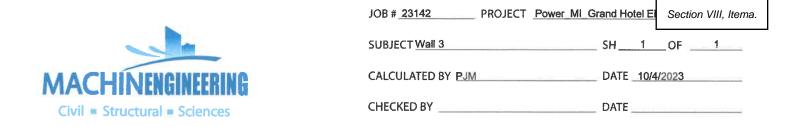
- 1. Name and address of the applicant or developer, including the names and addresses of any officers of a corporation or partners of a partnership
- 2. Legal description of the property
- 3. Drawings, sketches and plans showing the architectural exterior features, heights, appearance, color and texture of the materials of exterior construction and the placement of the structure on the lot, and any additional information determined necessary by the planning commission to determine compliance with the architectural standards (see also Section 18.06)
- 4. Photographs of existing site conditions, including site views, existing buildings on the site, streetscape views in all directions, and neighboring buildings within 150 feet of the site.

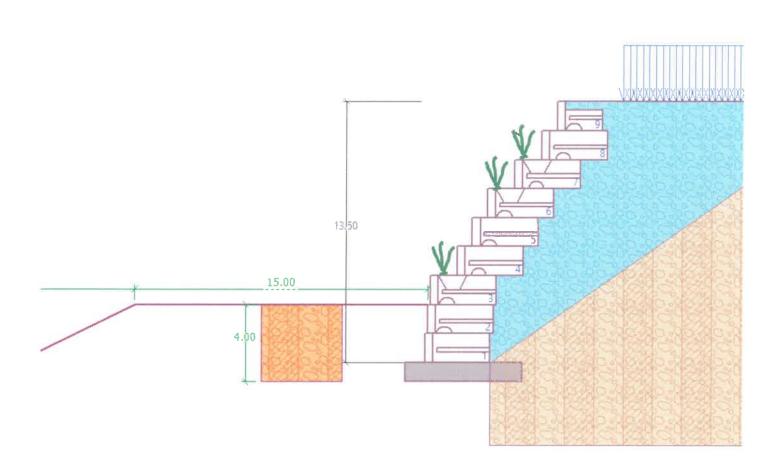
Provided Amica Provide	Not Provided or Applicable
$\checkmark$	



File No	4B23.001.094
Exhibit_	I
Date	10.19.23
Initials_	KP

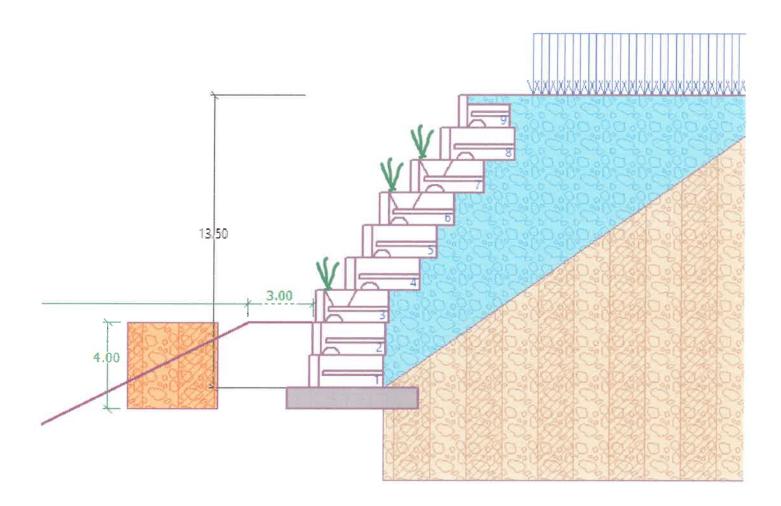
Structural Civil Sciences www.machinengineering.net





	JOB # 23142 PROJECT Powe	r_MI_Grand Hotel ER	Section VIII, Itema.
	SUBJECT Wall 4	SH1	_OF1
MACHINENGINEERING	CALCULATED BY PJM	DATE//////	2023
Civil = Structural = Sciences	CHECKED BY	DATE	

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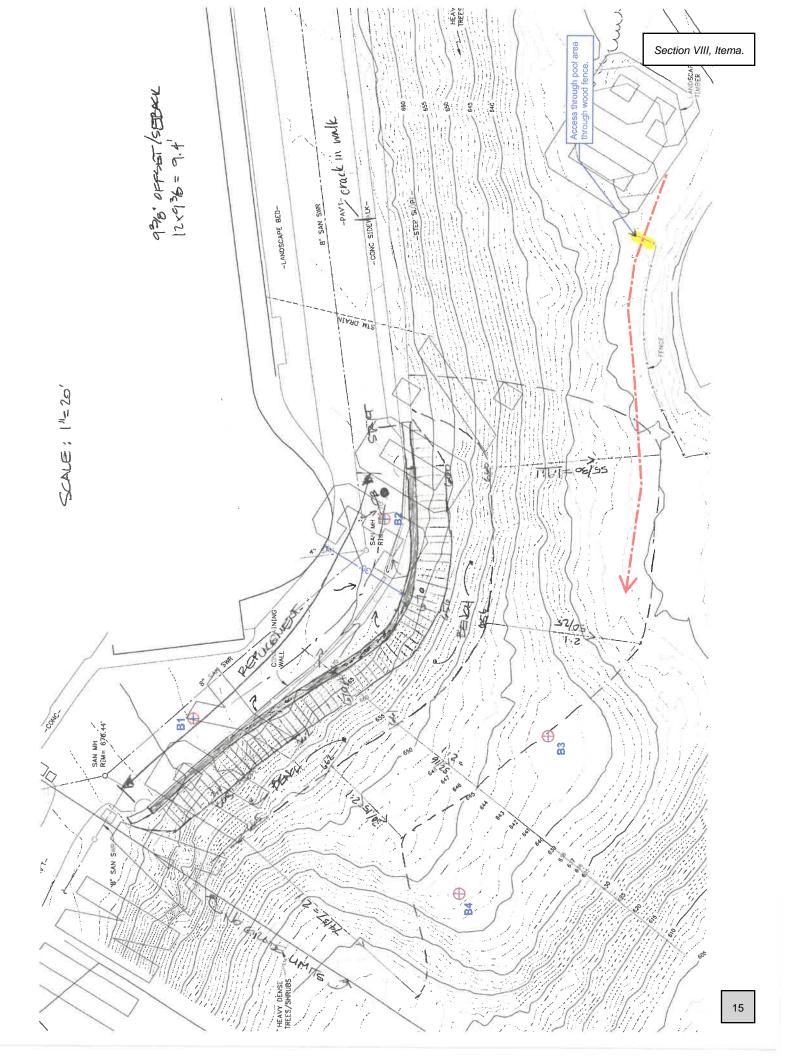


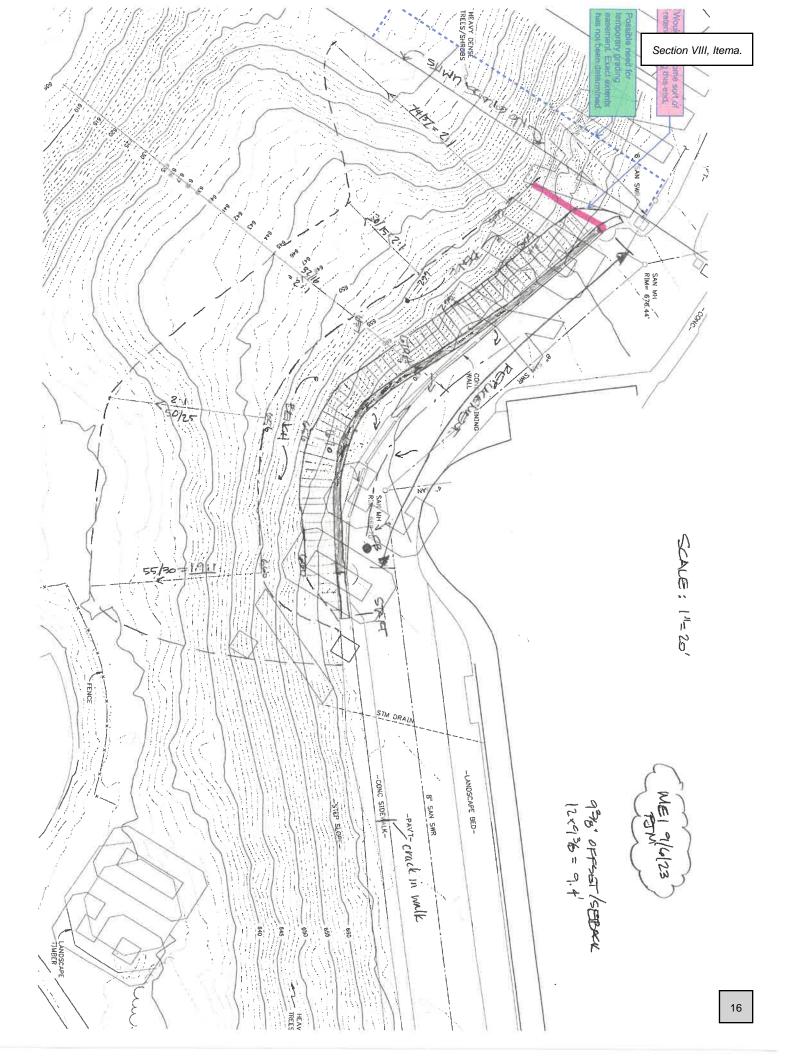
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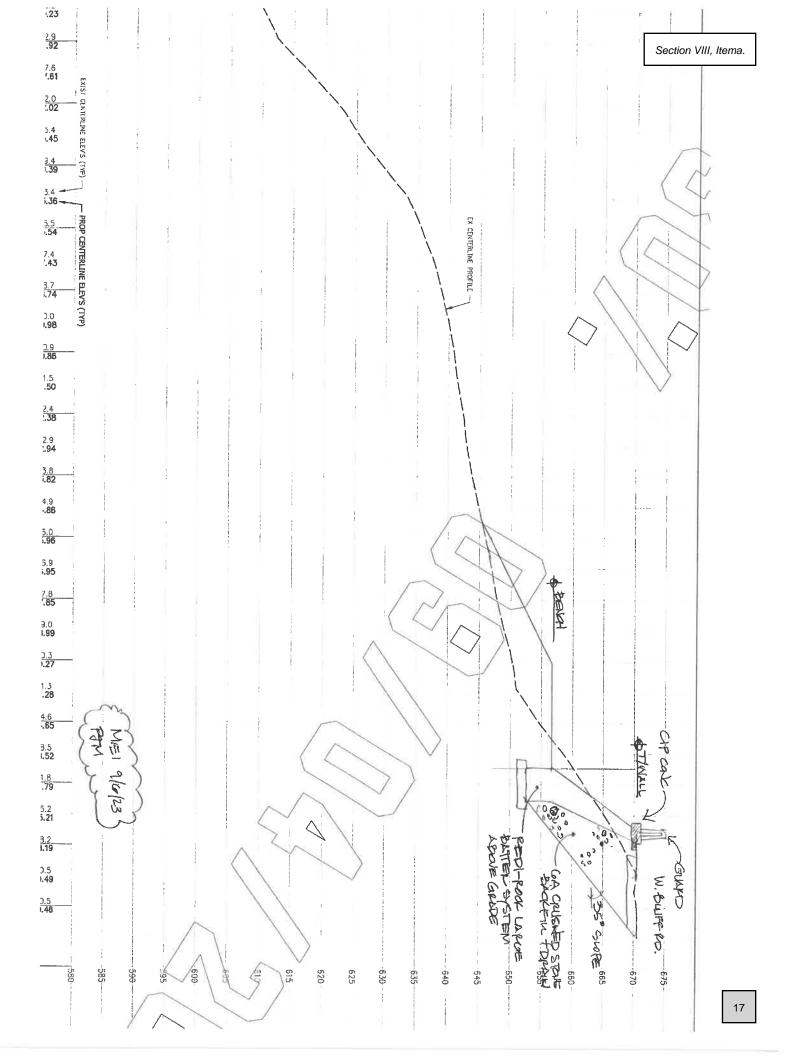


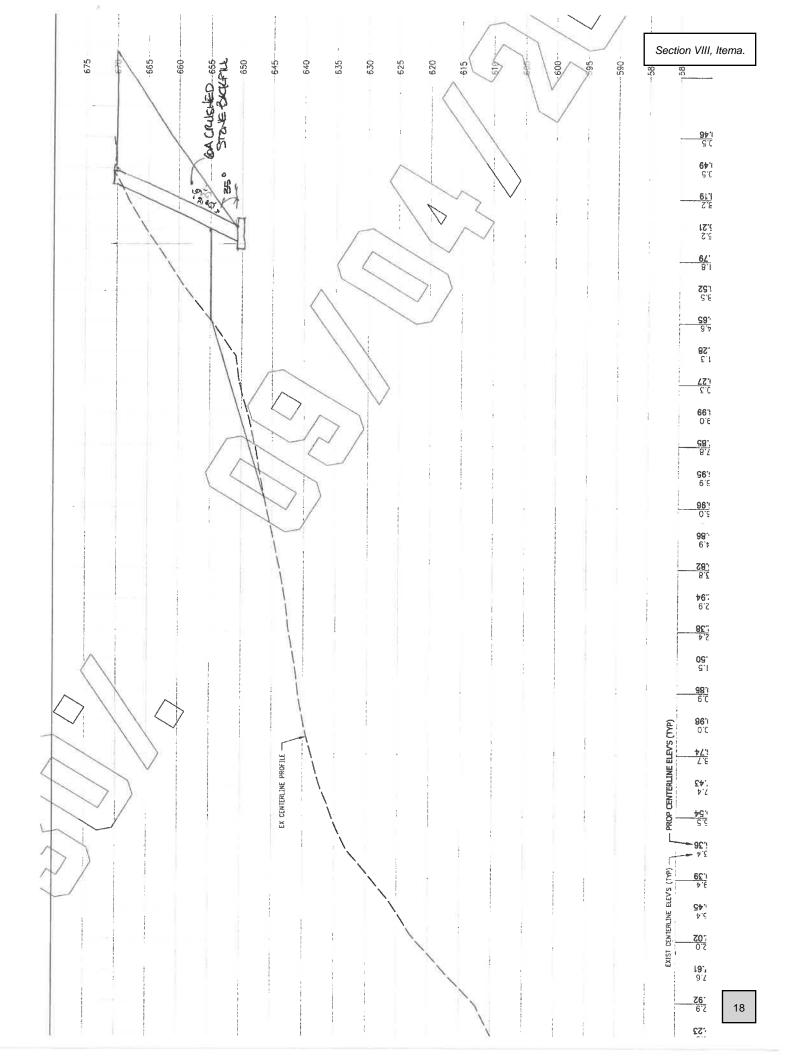
Imagery ©2023 Maxar Technologies, Map data ©2023 50 ft

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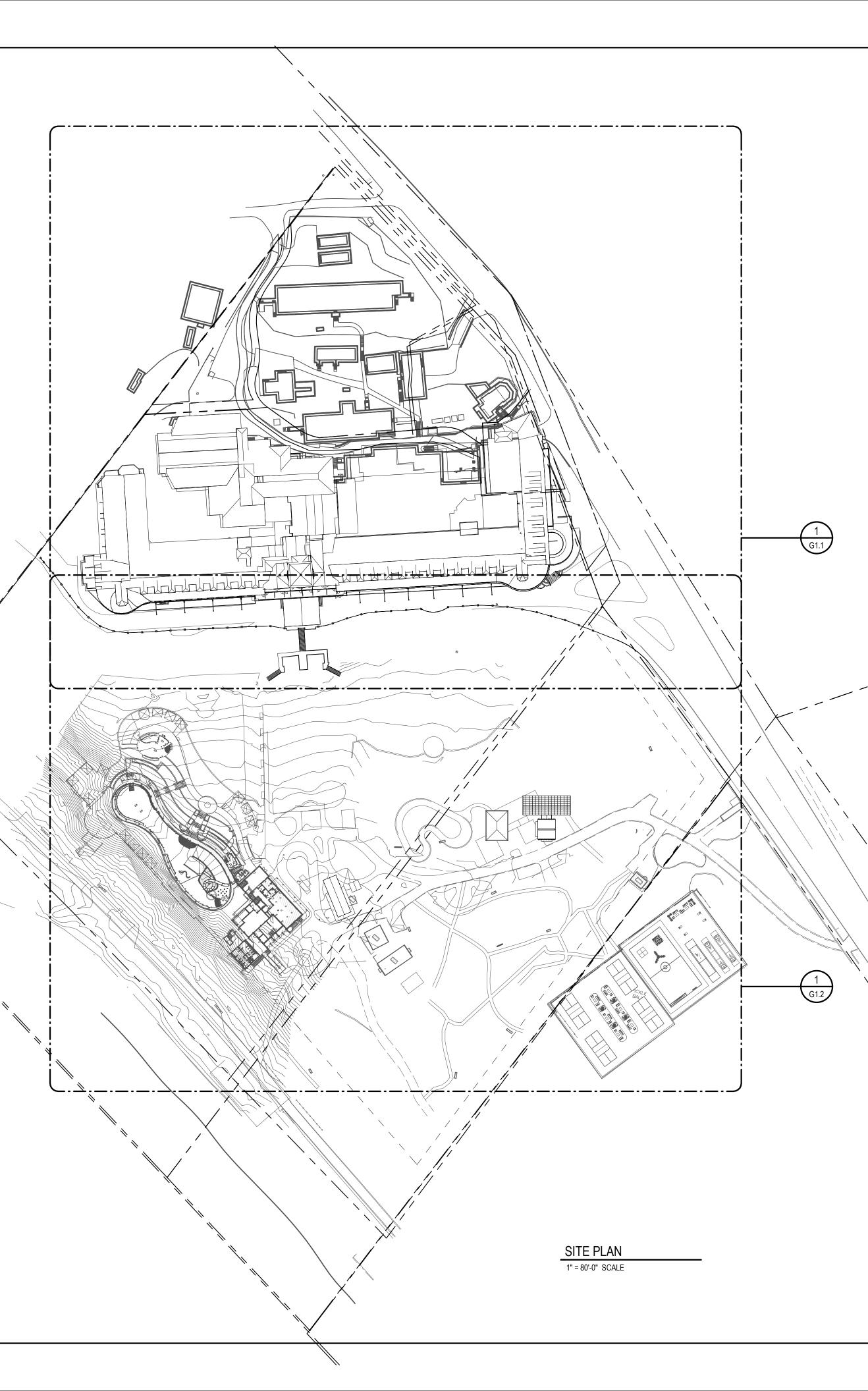


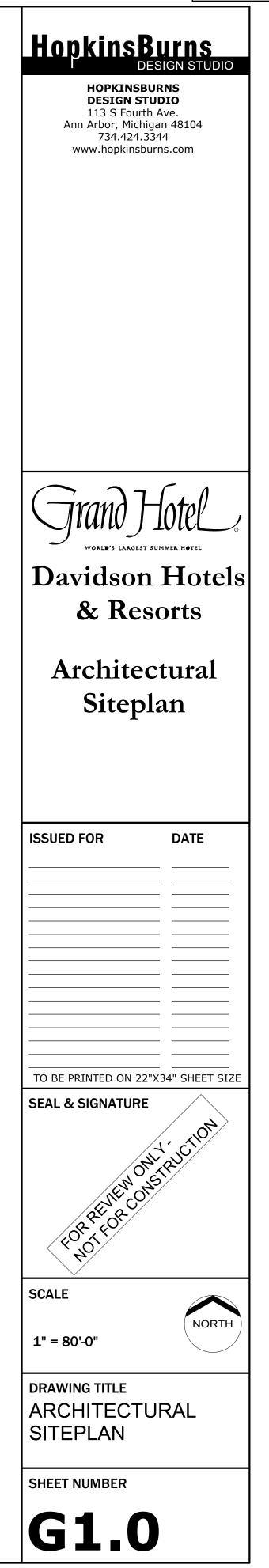


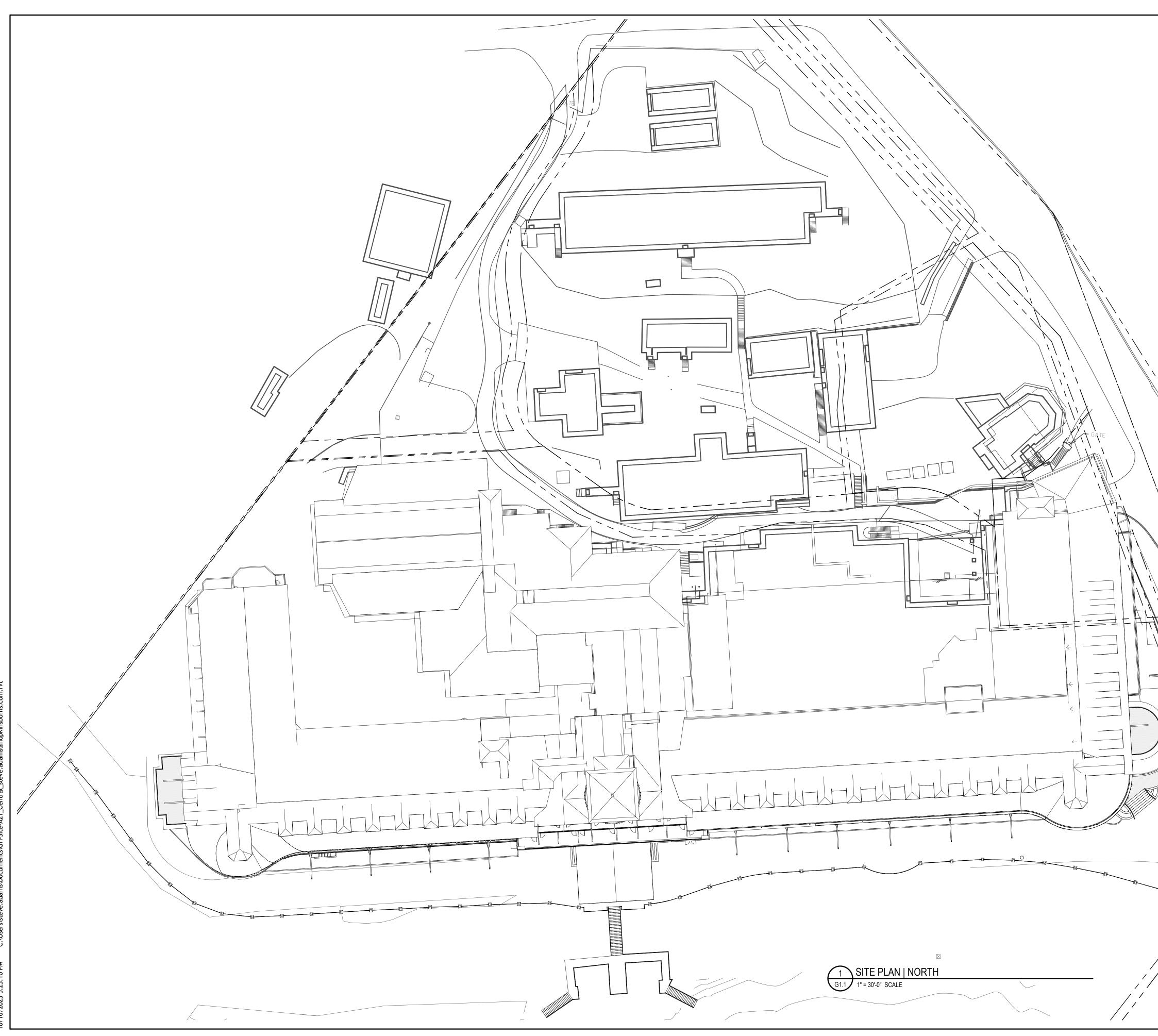




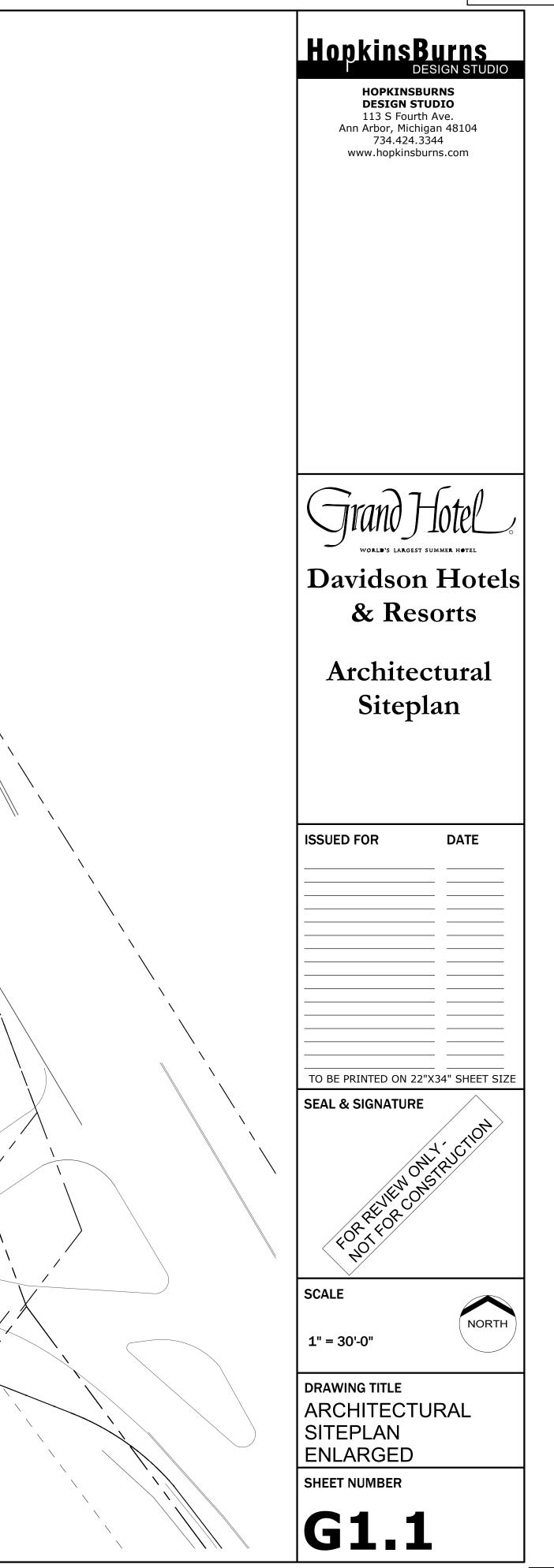
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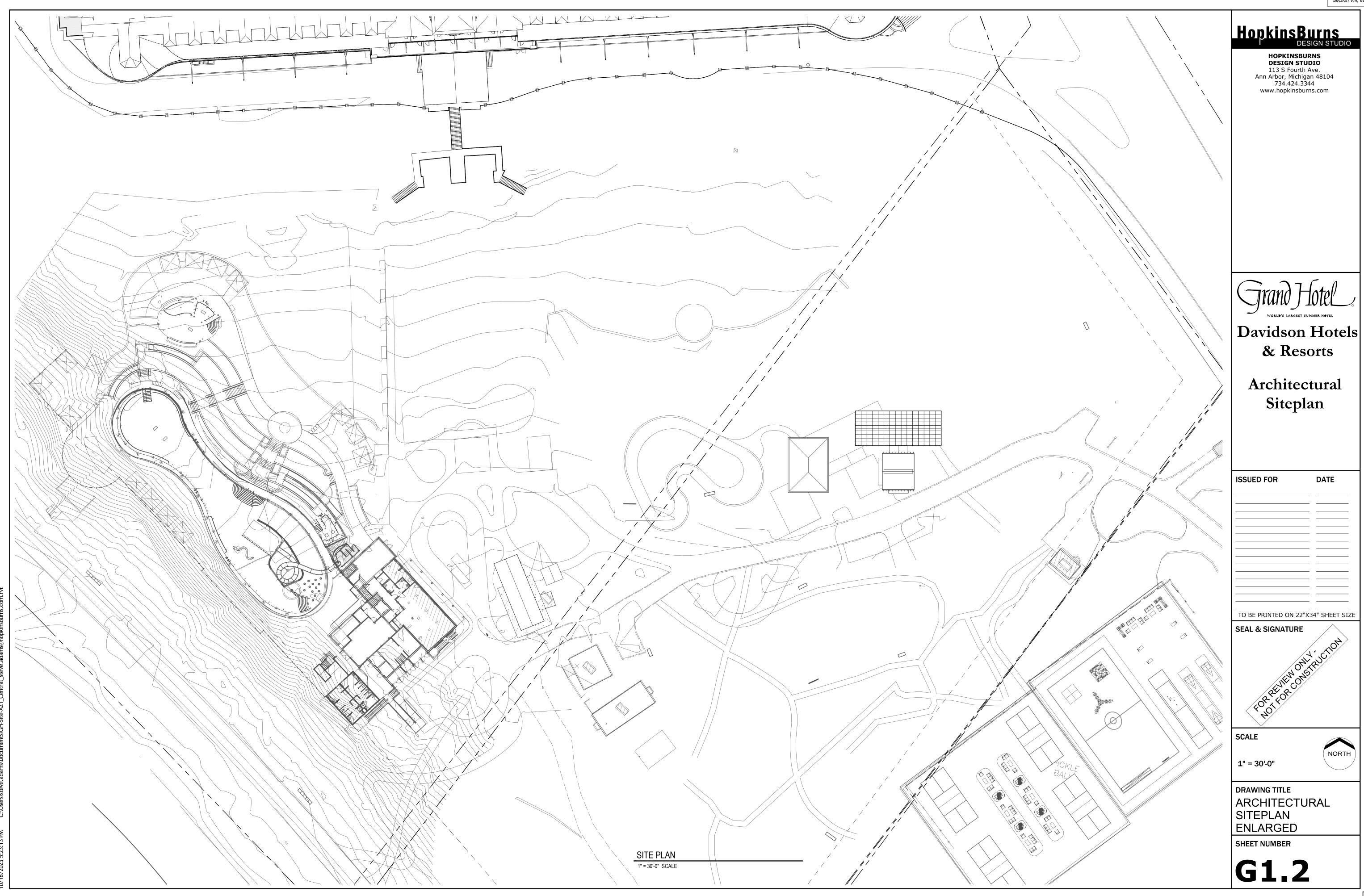






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# **POWER CONSTRUCTION GRAND HOTEL** EARTH RETENSION SYSTEM **CIVIL SITE PLAN**

# AGENCIES

## PLANNING/ZONING

CITY OF MACKINAC ISLAND 7358 MARKET STREET PO BOX 455 MACKINAC ISLAND, MI 49757 Contact: KATIE PERENY Phone: (906) 847-6190

## D.P.W.

CITY OF MACKINAC ISLAND 7358 MARKET STREET PO BOX 515 MACKINAC ISLAND, MI 49757 Contact: ALLEN BURT Phone: (906) 847-6130

## EGLE

ENVIRONMENT, GREAT LAKES & ENERGY 1504 WEST WASHINGTON STREET MARQUETTE, MI 49855 Contact: LINDA HANSEN Phone: (906) 228-4853

# SOIL AND EROSION

LMAS DISTRICT HEALTH DEPARTMENT 749 HOMBACH STREET ST IGNACE, MI 49781 Contact: . Phone: (906) 643-1100

# **ROADS AND STREETS**

MACKINAC COUNTY RD COMM 706 N STATE STREET ST IGNACE, MI 49781 Contact: Phone: (906) 643-7333

## FIRE CODE

CITY OF MACKINAC ISLAND 7366 MARKET STREET PO BOX 122 MACKINAC ISLAND, MI 49757 Contact: CHIEF JASON ST ONGE Phone: (906) 847-8159

## **BUILDING CODES**

CITY OF MACKINAC ISLAND 7358 MARKET STREET PO BOX 455 MACKINAC ISLAND, MI 49757 DENNIS DOMBROSKI Phone: (906) 847-4035

## ELECTRIC

CLOVERLAND ELECTRIC COOPERATIVE 2916 WEST M028 DRAFTER, MI 49724 Contact: Phone: (800) 562-4953

# CABLE TELEVISION

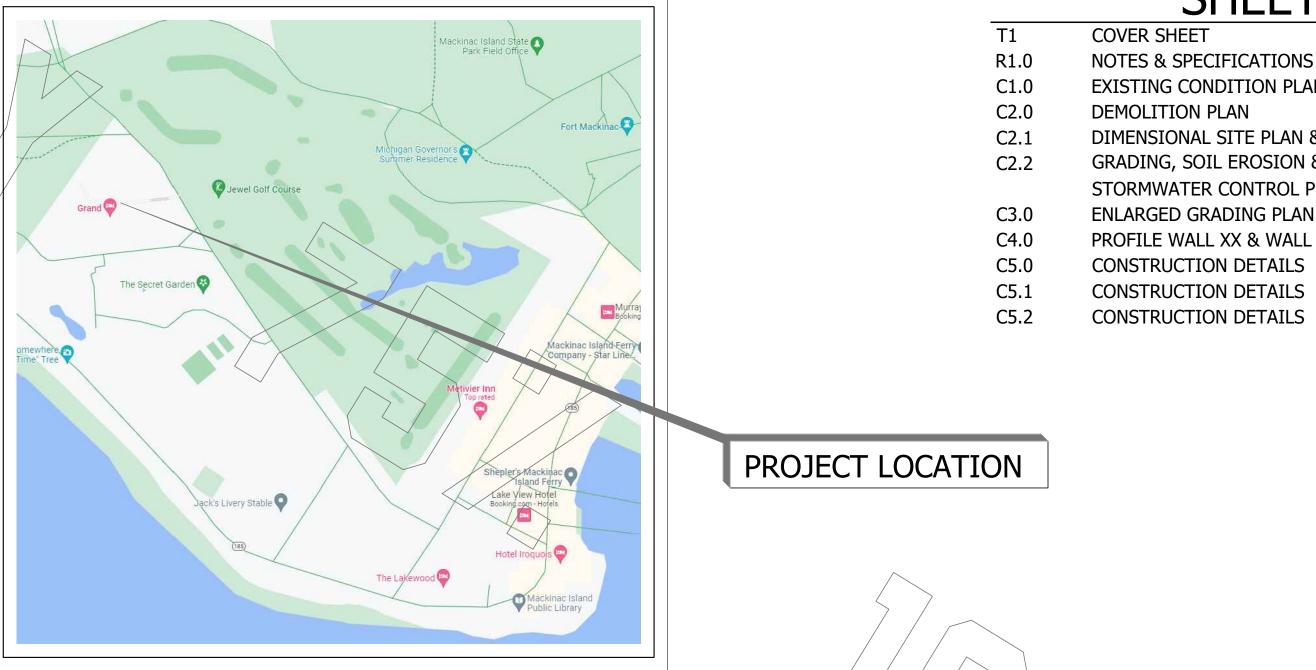
SPECTRUM 1392 TRADE CENTER DR TRAVERSE CITY, MI 49686 Contact: . Phone: .

# **TELEPHONE**

# NATURAL GAS

# **EMERGENCIES**

POLICE DEPARTMENT: 9-1-1 FIRE DEPARTMENTS: 9-1-1 AMBULANCE: 9-1-1



# LOCATION MAP

SECTION 23, T40N, R3W, MACKINAC COUNTY NO SCALE





# SHEET INDEX

EXISTING CONDITION PLAN DIMENSIONAL SITE PLAN & UTILITY PLAN **GRADING, SOIL EROSION &** STORMWATER CONTROL PLAN PROFILE WALL XX & WALL XX DESIGN

		ICANT
	ALL	

GRAND HOTEL COMPANY 286 GRAND AVE MACKINAC ISLAND, MI 49757



THE LOCATION OF THE EXISTING UTILITIES, AS SHOWN ON THIS PLAN, ARE APPROXIMATE ONLY. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY ACTUAL LOCATION AND DEPTH OF ALL EXISTING UTILITIES. THE OWNER AND THE SURVEYOR SHALL NOT BE RESPONSIBLE FOR ANY OMISSION OR VARIATION FROM THE LOCATION SHOWN. THE CONTRACTOR SHALL NOTIFY "MISS DIG" AT 1 (800) 482-7171 OR 811 THREE (3) WORKING DAYS PRIOR TO THE START OF CONSTRUCTION

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B C	ISSUED FOR CLIENT REVIE REVIEW - 75% DESIGN	EW			KAS101023 KAS101823
DRAWN BY: KAS	CHECK BY: XXXX		APPROVED BY XXXX		CREATED: 09/04/2023
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	SPECIFICATIONS
DIV	ISION 01 - GENERAL NOTES
GEN	
۱.	ANY DISCREPANCIES OR CONFLICT BETWEEN ANY PART OF THE DESIGN DOCUMENTS, OR BETWEEN THE DESIGN DOCUMENTS AND APPLICABLE CODES, LAWS, OR ORDINANCES, SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER, AND THE MORE STRINGENT REQUIREMENTS SHALL GOVERN.
2. <	TYPICAL DETAILS AND OTHER SECTIONS // DETAILS APPLY TO CONDITIONS THAT ARE SIMILAR TO THE CONDITIONS DESCRIBED IN THE SECTIONS / DETAILS, EVEN IF THEY ARE NOT SPECIFICALLY REFERENCED ON THE PLANS.
3.	THE CONTRACTOR SHALL BE RESPONSIBLE FOR MEANS, METHODS, SEQUENCES, AND PROCEDURES OF CONSTRUCTION.
1.	NO CHANGE IN SIZE OF DIMENSION OF STRUCTURAL MEMBERS SHALL BE MADE WITHOUT THE WRITTEN APPROVAL OF THE ARCHITECT / ENGINEER.
5.	THE STRUCTURE IS DESIGNED TO FUNCTION AS A UNIT UPON COMPLETION. THE CONTRACTOR IS RESPONSIBLE FOR FURNISHING ALL TEMPORARY BRACING AND / OR SUPPORT THAT MAY BE REQUIRED AS THE RESULT OF THE CONTRACTOR'S CONSTRUCTION METHODS AND // OR SEQUENCES. PERMANENT BRACING IS TO BE COORDINATED WITH THE EXISTING BUILDING AND ITS COMPONENTS.
5.	DO NOT SCALE THESE DRAWINGS. USE DIMENSIONS. DIMENSIONS SHOWN ON STRUCTURAL DRAWINGS ARE FOR REFERENCE ONLY. CONTRACTOR SHALL VERIEY ALL DIMENSIONS WITH ARCHITECTURAL DRAWINGS AND PRE-ENGINEERED DRAWINGS.
7.	THE CONTRACTOR SHALL INFORM THE ENGINEER IN WRITING OF ANY DEVIATION FROM THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL NOT BE RELIEVED OF THE RESPONSIBILITY FOR SUCH DEVIATION BY THE ENGINEER'S APPROVAL OF SHOP DRAWINGS, PRODUCT DATA, ETC., UNLESS THE CONTRACTOR HAS SPECIFICALLY INFORMED THE ENGINEER OF SUCH DEVIATION AT THE TIME OF SUBMISSION, AND THE ENGINEER HAS GIVEN WRITTEN APPROVAL TO THE SPECIFIC DEVIATION.
3.	CONSTRUCTION SHALL COMPLY FULLY WITH THE APPLICABLE PROVISIONS OF OSHA AND THE LOCAL GOVERNING CODES, CURRENT EDITION, AND ALL REQUIREMENTS SPECIFIED IN THE CODES SHALL BE ADHERED TO AS IF THEY WERE CALLED FOR OR SHOWN ON THE DRAWINGS. THIS SHALL NOT BE CONSTRUED TO MEAN THAT REQUIREMENTS SET FORTH ON THE DRAWING MAY BE MODIFIED BECAUSE THEY ARE MORE STRINGENT THAN THE CODE REQUIREMENTS OR BECAUSE THEY ARE NOT SPECIFICALLY REQUIRED BY CODE.
).	WORK CONSTRUCTED PER THESE DRAWINGS SHALL BE INSPECTED BY AN INDEPENDENT TESTING AGENCY RETAINED TO ENSURE COMPLIANCE WITH THE REQUIREMENTS SHOWN ON THE DRAWINGS. SPECIAL INSPECTIONS REQUIRED BY THE GOVERNING BUILDING CODE, LOCAL BUILDING DEPARTMENT AND THE CONTRACT DOCUMENTS SHALL BE PERFORMED BY A QUALIFIED SPECIAL INSPECTOR. PROJECT SITE VISITS BY THE STRUCTURAL ENGINEER DOES NOT CONSTITUTE OR REPLACE INSPECTION.
0.	PRIOR TO CONSTRUCTION, THERE SHALL BE A COORDINATION MEETING BETWEEN THE OWNER AND CONTRACTOR ON SITE.
1.	CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFICATION OF ALL DIMENSIONS AND COORDINATING MECHANICAL AND ELECTRICAL REQUIREMENTS INTO THEIR SHOP DRAWINGS AND WORK.
DIV	ISION 01-GENERAL NOTES
	THE CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH THE REQUIREMENTS OF THE PLANS.
2. 3.	TOPOGRAPHIC INFORMATION BY ENGINEER OF RECORD AND IS SHOWN FOR REFERENCE ONLY. WALLS HAVE BEEN DESIGNED FOR SINGLE STAGE CONSTRUCTION.
, ŀ.	PLAN DOES NOT TAKE INTO ACCOUNT ANY WORK NOT SPECIFICALLY SHOWN ON THIS PLAN THAT
5.	IS OUTSIDE THE SCOPE OF THE EARTH RETENTION. SURCHARGE LOAD WAS NOT INCLUDED IN THE DESIGN EITHER ABOVE OR BELOW THE WALL.
	ISION 02-SITE WORK
<u>SEN</u>	ERAL
•	SOILS INFORMATION PROVIDED BY THE CLIENT FROM BORINGS COMPLETED BY SOILS & STRUCTURES DATED $09/15/22$ (JN#2023.1550).
2.	OVERALL STABILITY OF SEGMENTAL BLOCK WALLS WAS CALCULATED USING THE MINIMUM FACTORS OF SAFETY AGAINST FAILURE AS REQUIRED PER THE SPECIAL PROVISION: A. OVERTURNING: 1.5 B. SLIDING RESISTANCE: 1.5 C. BEARING CAPACITY: 2.0 D. SLOPE STABILITY: 1.33
3.	CONCRETE BLOCK WALLS WERE DESIGNED USING REDI-ROCK INTERNATIONAL'S PROPRIETARY SOFTWARE.
ŀ.	CONTRACTOR SHALL COMPLY WITH THE INSTALLATION MANUAL PRODUCED BY REDI-ROCK INTERNATIONAL FOR THE WALL TYPE PROPOSED. THESE DRAWINGS SHALL BE USED IN CONJUNCTION WITH THIS MANUAL.
<u>10</u>	DULAR BLOCK RETAINING WALL
•	CONTRACTOR SHALL EXCERCISE CAUTION WHEN PLACING AND GRADING EMBANKMENT. SURCHARGE LOADS WERE INCLUDED IN LONG TERM STABILITY CALCULATION FOR RETAINING WALLS.
2. 3.	DESIGN SURCHARGE LOADS: NOT INCLUDED IN THE DESIGN. PROTECT ALL COMPONENTS FROM DAMAGE AND INSPECT EACH UNIT FOR DAMAGE PRIOR TO
1.	INSTALLATION. ALL UNITS ARE TO BE MADE FROM REDI-MIX CONCRETE IN ACCORDANCE WITH ASTM C94 WITH A
5.	MINIMUM CONCRETE COMPRESSIVE STRENGTH $F'_{c} = 4,000$ PSI AT 28-DAYS. EXPOSED FACE SHALL BE FINISHED WITH A CONSISTENT ARCHITECTURAL TEXTURE AS
	DETERMINED IN THE SUBMITTAL STAGE. OBTAIN APPROVALS FROM THE PROJECT ENGINEER PRIOR TO INSTALLATION PER THE REQUIREMENTS OF THE SPECIAL PROVISION.
5. 7	ALLOWABLE SOIL BEARING CAPACITY OF FOUNDATION ASSUMED 2,500 PSF PER GEOTECH.
7.	<ul> <li>THE FOLLOWING SOILS SHALL BE PROVIDED FOR THE SPECIFIED LOCATIONS AND COMPACTED TO</li> <li>THE FOLLOWING MINIMUM PERCENTAGES OF MAXIMUM DRY DENSITIES;</li> <li>A. NATIVE SOILS UNDER LEVELING PAD</li></ul>
7.	FREE DRAINAGE STONE SHALL BE PROVIDED BEHIND WALL WHERE SHOWN IN THE DETAILS. DRAINAGE STONE SHALL BE PROVIDED FROM BASE OF LEVELING PAD PER DETAILS. PROVIDE NON-WOVEN GEOTEXTILE FILTER FABRIC PER DETAILS.

- STRUCTURAL SOIL BACKFILL SHALL BE AS SPECIFIED IN THE DETAILS WITH A MINIMUM ANGLE OF INTERNAL FRICTION (Ø):
- 9. USE NATIVE SOILS FOR BACKFILL MEETING OR EXCEEDING MEDIUM SAND.
- 10. LEVELING PAD SHALL EXTEND IN AN EQUAL MANNER EITHER SIDE OF BOTTOM BLOCK WITH A MINIMUM COMPACTED THICKNESS OF 12" U.N.O.
- 11. ALL BLOCKS SHALL BE PLACED WITH THE FRONT SIDE EDGES IN CONTACT WITH EACH OTHER.
- 12. BASE BLOCKS SHALL BE PLACED TO THE GRADES SPECIFIED IN THE PLANS, LEVEL, AND IN FULL CONTACT WITH THE LEVELING PAD.
- 13. FILL ALL INTERIOR SPACES AND SPACES BETWEEN THE BLOCKS WITH FREE DRAINAGE MATERIAL AS SPECIFIED IN THESE PLANS.

## SPECIFICATIONS (CONTINUED)

- MAXIMUM LIFTS FOR STRUCTURAL BACKFILL SHALL BE 9".
- ALLOWABLE TOLERANCES SHALL BE AS FOLLOWS: VERTICAL WALL ..... 2 DEGREES
- HORIZONTAL WALL ..... 1 IN PER 10 FEET
- USE HALF-BLOCKS AT WALL ENDS WHERE WALL IS EXPOSED.
- ENGAGED WITH GEOGRID PRIOR TO BACKFILL WITH GRID SLACK REMOVED.

SION 03 - CONCRETE

ALL CAST IN PLACE CONCRETE SHALL BE NORMAL WEIGHT AND CONFORM TO ACI SPECIFICATIONS, BE AIR ENTRAINED 5%  $\pm$ 1%, AND SHALL ATTAIN A 28–DAY COMPRESSIVE STRENGTH AS FOLLOWS: FOOTINGS, WALLS AND PIERS: SLAB ON GRADE AND EXTERIOR CONCRETE: CONCRETE ON COMPOSITE DECK:

REINFORCEMENT FOR CONCRETE SHALL CONFORM TO THE FOLLOWING: DEFORMED BARS SHALL BE ASTM A615 GRADE 60. WELDED WIRE FABRIC SHALL BE ASTM A185 AND MINIMUM END AND SIDE LAP OF 10". FLAT S ONLY.

- ALL CONCRETE DESIGN AND CONSTRUCTION SHALL CONFORM TO THE LATEST EDITION OF THE FOLLOWING\_STANDARDS:
- 'BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE (ACI 318)'. 'SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDING (ACI 301)'. 'DETAILS AND DETAILING OF CONCRETE REINFORCEMENT (ACI 315)'.
- BASE PLATES, ANCHOR BOLTS, SUPPORT ANGLES, ETC., BELOW GRADE SHALL BE COVERED WITH A MINIMUM OF 3" &ONCRETE./
- EXPOSED EDOES OF CONCRETE SHALL HAVE A 34" CHAMFER.
- RÉINFORCING SHAIL BE/LOCATED/ AND SUPPORTED PRIOR TO PLACING ANY CONCRETE. BARS AND WWF SHALL BE SECURELY HELD/IN POSITION. WWF SHALL BE SUPPORTED ON CHAIRS AT 2'-O" CENTERS TO ADEQUATELY SUPPORT THE MESH, PLACEMENT AND SPACING MAY BE INCREASED BY WNER. ANY DISPLACED REINFORCING STEEL SHALL BE REPOSITIONED TO ITS PROPER LOCATION PRIOR TO CONCRETE/PLACEMENT/INSERTING DOWELS/INTO WET CONCRETE IS NOT PERMITTED.
- CONVEY THE CONCRETE ₱ROM THE ₱1XER AND PLACE SO THAT THERE SHALL BE NO SEGREGATION OF THE INGREDIENTS. DEPOSIT THE CONCRETE AS NEARLY AS POSSIBLE IN ITS FINAL POSITION TO AVOID RE-HANDLING. DO NOT DEPOSIT CONCRÉTE WHICH HAS ATTAINED INITIAL SET OR HAS CONTAINED ITS WATER CONTENT FOR OVER 11/2 HOURS,
- CONCRETE SHALL BE IMMEDIATELY VIBRATED, SPADED, OR OTHERWISE AGITATED THOROUGHLY IN A MANNER APPROVED BY THE ENGINEER TO REMOVE ALL AIR POCKETS, WORK MIXTURE INTO CORNERS, AROUND REINFORCEMENTS AND INSERTS, AND TO PREVENT FORMATION OF VOIDS. TAPPING OR EXTERNAL VIBRATION OF FORMS SHALL NOT BE PERMITTED.
- BEFORE DEPOSITING CONCRETE ON OR AGAINST CONCRETE THAT HAS SET, THOROUGHLY ROUGHEN AND CLEAN EXISTING SURFACES OF LAITANCE, FOREIGN MATTER, LOOSE PARTICLES, ETC. SLUSH
- DO NOT ALLOW LOADS ON SLAB UNTIL CONCRETE HAS ATTAINED A MINIMUM OF 75% OF THE 28-DAY SPECIFIED STRENGTH.
- GROUT SHALL BE NON-SHRINK AND NON-METALLLC, AND SHALL FOLLOW MANUFACTURER'S RECOMMENDATIONS. EQUAL TO MASTER FLOW 928 BY MASTER BUILDERS, INC.
- SLABS CAST ON GRADE SHALL BE 4" THICK CONCRETE REINFORCED WITH 6X6, W1.4XW1.4 WWR IN TOP 3/3 OF SLAB, UNLESS NOTED OTHERWISE.
- FIBER REINFORCEMENT SHALL COMPLY WITH ASTM CL116. FIBERS SHALL BE DESIGNED AND ENGINEERED SPECIFICALLY FOR CONCRETE REINFORCEMENT AND HAVE LONG-TERM RESISTANCE TO DETERIORATION WHEN EXPOSED TO MOISTURE AND ALKALIS. ADD FIBER REINFORCEMENT TO MIX AT A RATE OF 1.5 POUNDS PER CUBIC YARD, OR AS RECOMMENDED BY MANUFACTURER FOR SPECIFIC PROJECT CONDITIONS.
- USE OF CALCIUM CHLORIDE, CHLORIDE IONS, OR OTHER SALTS IN CONCRETE IS NOT PERMITTED.
- CONTRACTOR SHALL PREPARE AND SUBMIT REINFORCEMENT SHOP DRAWINGS TO THE STRUCTURAL NGINEER FOR REVIEW PRIOR TO FABRICATION. THE SHOP DRAWINGS SHALL CLEARLY SHOW REINFORCEMENT LENGTHS AND BENDS, LOCATIONS OF BARS, METHODS OF SUPPORT, DETAILS OF PLACEMENT AND PLACEMENT COORDINATION WITH FORMWORK, EMBEDMENTS, CONCRETE VIBRATION, AND CONSTRUCTION JOINTS. THE DRAWINGS SHALL ALSO INDICATE OPENINGS, SLEEVES, CURBS, AND CONCRETE DIMENSIONS IN ACCORDANCE WITH ACI 315. PROVIDE AT MINIMUM WALL COLUMN AND BEAM ELEVATIONS: WALL, COLUMN AND BEAM SECTIONS, MATERIAL SCHEDULES, BAR LAP SCHEDULES, AND LOCATIONS.
- CONTRACTOR SHALL PROVIDE CONTINUOUS REINFORCEMENT WHEREVER POSSIBLE; SPLICE ONLY AS SHOWN OR APPROVED; STAGGER SPLICES WHERE POSSIBLE; USE SPLICE LENGTHS AS NOTED. DOWELS SHALL MATCH THE SIZE AND SPACING OF THE SPECIFIED REINFORCEMENT AND SHALL BE LAPPED WITH TENSION SPLICES, UNLESS NOTED OTHERWISE.
- INDICATED ON CONSTRUCTION DOCUMENTS AND / OR AS SHOWN ON THE APPROVED REINFORCING STEEL SHOP DRAWINGS.
- APPROVED REBAR COUPLERS MAY BE USED TO AID PLACEMENT OF DOWELS THROUGH FORMS. MECHANICAL SPLICES SHALL DEVELOP 125% OF THE TENSILE STRENGTH OF THE REBAR.
- REINFORCING STEEL SHALL NOT BE CUT, BENT OR STRAIGHTENED IN THE FIELD UNLESS
- HORIZONTAL CONSTRUCTION JOINTS ARE PERMITTED ONLY WHERE INDICATED. THE LOCATION OF VERTICAL CONSTRUCTION JOINTS SHALL BE SUBMITTED TO THE STRUCTURAL ENGINEER FOR REVIEW AND APPROVAL. CONSTRUCTION JOINTS SHALL BE THOROUGHLY MECHANICALLY ROUGHENED, CLEANED, AND BONDING AGENT APPLIED BEFORE PLACEMENT OF ADJOINING CONCRETE.
- THE USE OF CHLORIDES SUCH AS DEICING SALTS IS PROHIBITED FOR MELTING ICE PRIOR TO PLACEMENT OF CONCRETE.
- REINFORCING PROTECTION FOR CAST-IN-PLACE CONCRETE AS PER ACI 318, UNLESS NOTED OTHERWISE.
- A. CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH: ALL REINFORCING\_\_\_\_\_\_ 3"
- B. FORMED SURFACES EXPOSED TO EARTH OR WEATHER:
- 1) NO. 6 THRU NO. 18 BARS\_\_\_\_\_\_ 2) NO. 5 BAR, W32 OR D31 WIRE AND SMALLER  $1\frac{1}{2}$
- C. SURFACES NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND:
- 1) BEAMS, COLUMNS, PRIMARY REINFORCEMENT, TIES, STIRRUPS, OR SPIRALS \_\_\_\_\_
- 2) SLABS, WALLS, AND JOISTS
- NO. 14 AND NO. 18 BARS 11/2" NO. 11 BAR AND SMALLER \_\_\_\_\_  $1\frac{1}{2}$ "

- 30. DE-BONDING GREASE USED WITH ANCHORS: VANTAGE K-218 PT GREASE OR EQUAL.

WALL REINFORCEMENT SHALL BE MIRAGRID 8XT OR EQUAL GEOGRID. STONES SHALL BE FULLY

F'C = 4,000 PSIF'C = 4,000 PSIF'C = 4,000 PSI

EXISTING SURFACES WITH NEAT CEMENT GROUT IMMEDIATELY BEFORE PLACING NEW CONCRETE.

MINIMUM LAP SPLICE SHALL BE CLASS B PER ACI 318. LOCATION OF LAP SPLICES SHALL BE AS

APPROVED BY THE STRUCTURAL ENGINEER OR AS INDICATED ON THE DRAWINGS.

\_\_\_\_\_ 1½"

29. HORIZONTAL REINFORCING BARS SHALL BE LAPPED AROUND CORNERS OF INTERSECTING FOOTINGS. STANDARD ACI HOOKS AND BENDS SHALL BE USED.

## SPECIFICATIONS (CONTINUED)

<u>DIVISION 31 – EARTHWORK</u>

SITE CLEARING

- 1. CONTACT MISS DIG AT 8-1-1 A MINIMUM OF 72 HOURS PRIOR TO COMMENCING WORK.
- 2. INSTALL TEMPORARY SOIL AND EROSION CONTROL MEASURES. REMOVE UPON COMPLETION OF PROJECT AND ONCE VEGETATION IS ESTABLISHED. MAINTAIN THESE MEASURES IN WORKING ORDER AT ALL TIMES.

3. COMPLY WITH THE INDIVIDUAL REQUIREMENTS ON THE AGENCY PERMITS.

EARTHWORK

- 1. PROTECT ALL STRUCTURES AND THOSE AREAS DESIGNATED FOR PROTECTION.
- 2. CONSTRUCT ALL GRADES TO THAT DESIGNATED ON THE PLANS. ANY DISCREPANCIES SHOULD BE IDENTIFIED AHEAD OF CONSTRUCTION TO THE ENGINEER. ENGINEER WILL NOT BE RESPONSIBLE FOR ANY DISCREPANCIES THAT ARE NOT DISCUSSED PRIOR TO CONSTRUCTION.
- ALL STORED MATERIALS SUCH AS FILL MATERIALS, TOPSOIL, AND ANY OTHER TEMPORARY STOCKPILES SHALL BE STORED ON OWNER'S PROPERTY IN DESIGNATED AREAS.
- 4. MAINTAIN ALL SLOPES TO A MINIMUM OF 3H:1V, UNLESS NOTED OTHERWISE. WHERE SLOPES ARE GREATER THAN 3H:1V, SLOPE STABILIZATION PRACTICES SHALL BE MAINTAINED UNTIL ADEQUATE VEGETATION IS ESTABLISHED.
- 5. ALL SUB-BASE MATERIAL SHALL BE MDOT CLASS II.
- 6. COMPACT ALL BACKFILLS AND FOUNDATIONS SOILS TO A MINIMUM OF 95% OF MAXIMUM DRY DENSITY.
- 7. CONTRACTOR IS RESPONSIBLE FOR ESTABLISHING GROUND COVER ON AREAS DISTURBED BY CONSTRUCTION AND SHALL REPAIR ALL WASHOUTS AND EROSION DURING THE GUARANTEE PERIOD ON ONE (1) YEAR AFTER GROUND COVER IS ESTABLISHED AT NO ADDITIONAL COST TO THE OWNER.

LAWNS AND GRASSES

- 1. PROCEED WITH PLANTING ONLY WHEN EXISTING AND FORECASTED WEATHER CONDITIONS PERMIT PLANTING TO BE PERFORMED WHEN BENEFICIAL AND OPTIMUM RESULTS MAY BE OBTAINED.
- 2. SEEDING ON NON-MAINTAINED AREAS: CEREAL RYE MIX
- 3. SEEDING ON MAINTAINED AREAS: KENTUCKY BLUEGRASS
- 4. FERTILIZER: 240 LBS/ACRE
- MULCH: STRAW MULCH AT 2 TONS/ACRE OR SPRAY APPLIED TACKIFIER
- EXCELSIOR MULCH BLANKETS: NORTH AMERICAN GREEN DS150 ON SLOPES GREATER THAN 3H:1V AND ALONG ALL TRAFFIC AREAS
- USÉ TURF REINFORCEMENT MATS IN AREAS WHERE SLOPES ARE GREATER THAN 3H:1V
- /ROLL (AND RAKE /TOPSØIL, REMOVE RIDGES, AND FILL DEPRESSIONS. REMOVE ALL DELETERIOUS (DEBRIS,ROCKS GREATER THAN 1″IN DIAMETER,CONSTRUCTION DEBRIS,ETC.
- PROMPTLY CLEANUP DEBRIS FROM OPERATIONS.

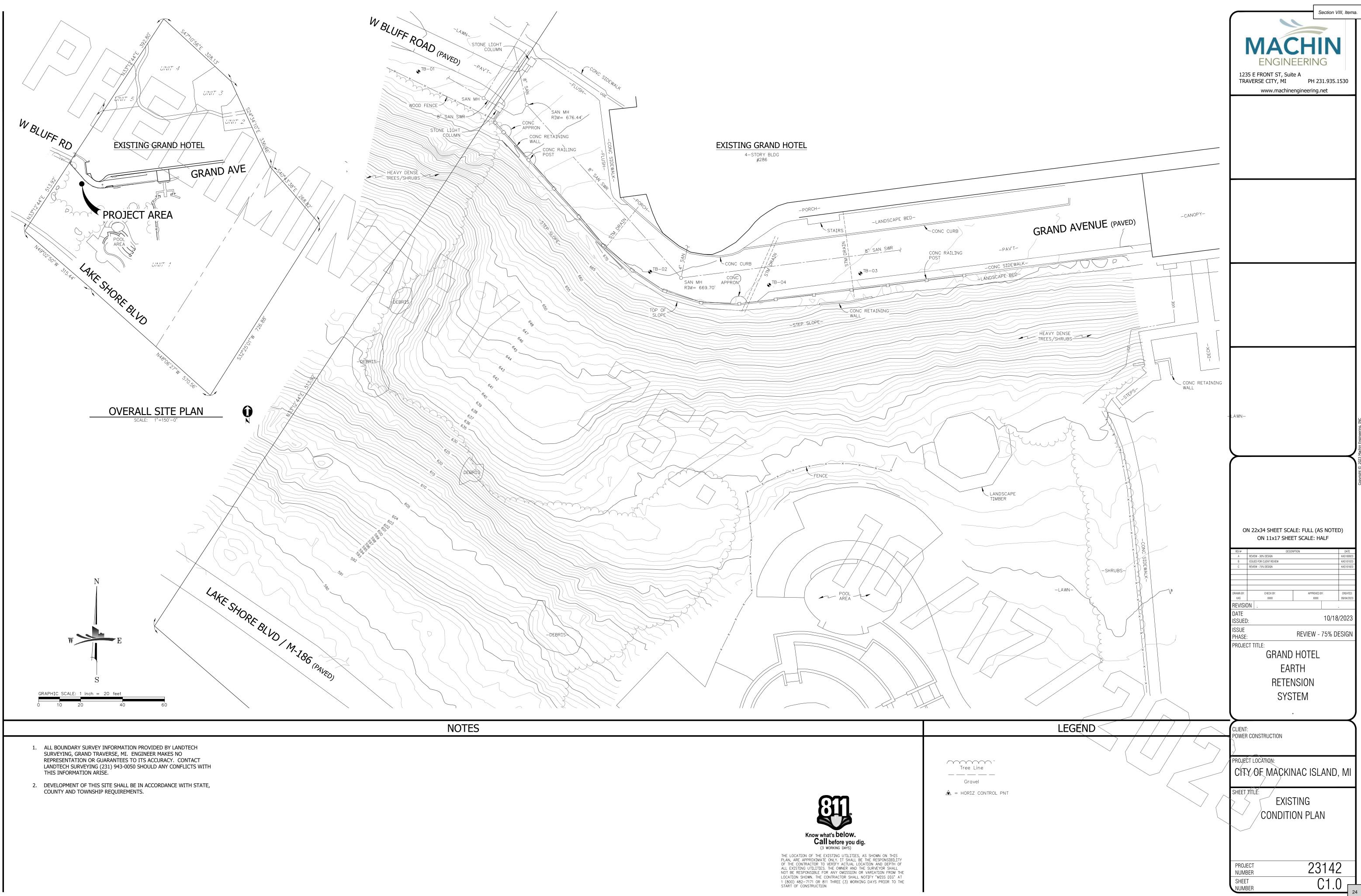
## <u>DIVISION 33 - UTILITIES / STORMWATER</u>

MATERIAL

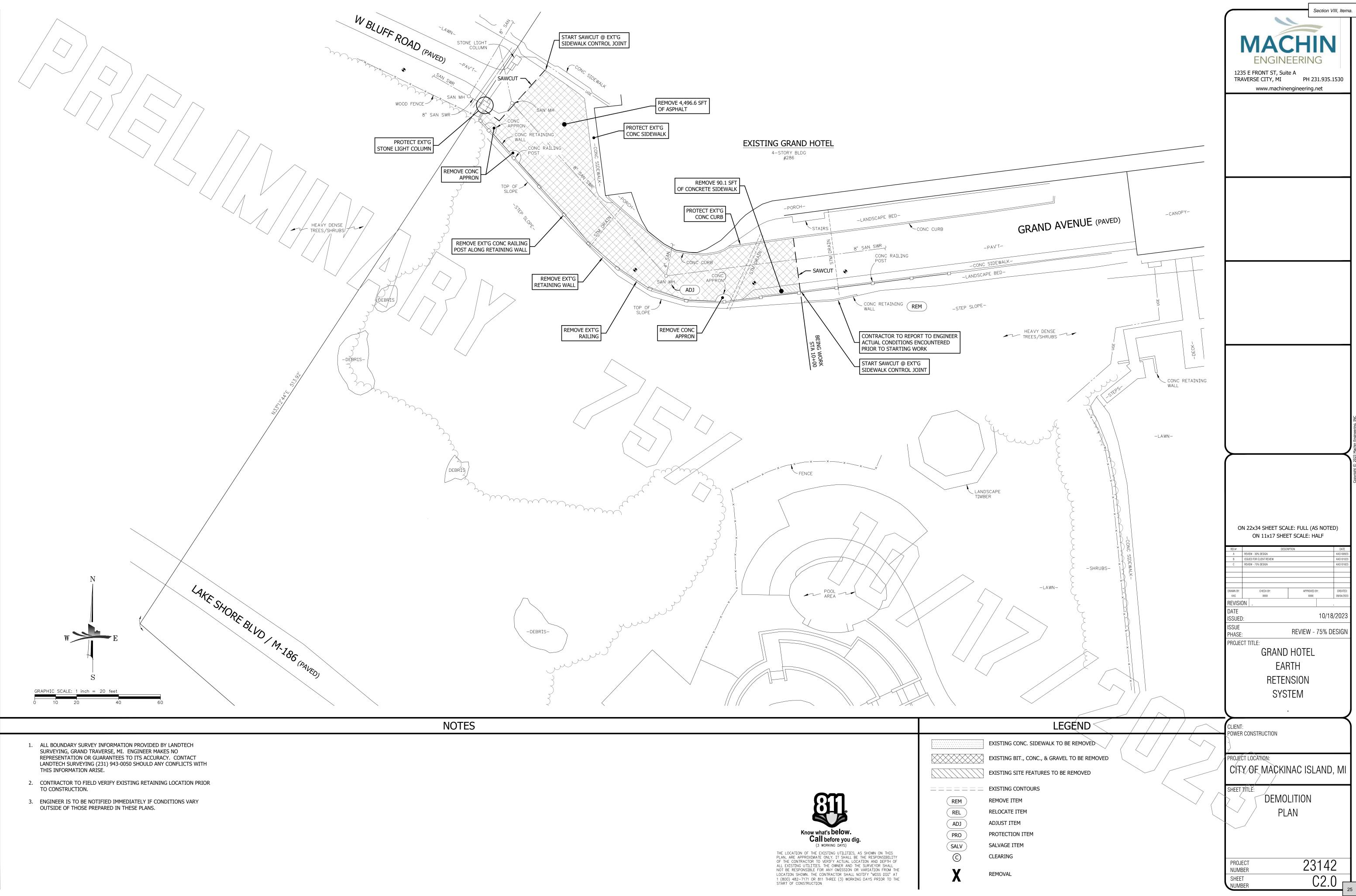
- CATCH BASINS SHALL BE INSTALLED WITH FINAL RIM ELEVATION AND INVERTS AS SHOWN ON PLANS. CATCH BASIN'S SHALL HAVE SUMPS MATCHING THE DIMENSIONS AS IDENTIFIED IN THE DETAILS WHERE SHOWN.
- 2. ALL STONE SHALL BE CLEAN, CRUSHED, AND ANGULAR MEETING MDOT 6A CRUSHED REQUIREMENTS OR EQUAL.
- PIPING SHALL BE SMOOTHED LINED, CORRUGATED PLASTIC PIPE SIMILAR TO ADS N-12 WT IB OR 3. EQUAL AND SHALL BE DESIGNED TO MEET APPLICABLE AASHTO LOADING FOR INSTALLATIONS $\sim$ UNDER ASPHALT ROADS.
- 4. INSTALLATION OF STORMWATER PIPE SHALL BE IN ACCORDANCE WITH ASJM D2321 AND MANUFACTURER GUIDELINES.
- 5. GEOTEXTILE FABRIC SHALL BE FREE DRAINING, NON-WOVEN WITH AN (EQUIVALENT WEIGHT TO 60Z AS PRODUCED BY CSI GEOTURF OR EQUAL.
- 6. POSITIVE DRAINAGE TO STORM SEWER AT BUILDING PERIMETERS AND ENTRIES IS REQUIRED,
- 7. STORM DRAINAGE LINES AND CULVERTS REQUIRED TO BE WATERTIGHT.
- 8. ABANDONED MANHOLES ARE TO BE REMOVED AND PIPES CAPPED WITH GROUT.
- 9. ALL DRAIN GRATES AND MANHOLE COVERS SHALL BE CAST IRON AND FABRICATED TO SUPPORT AN HS-20 DESIGN AXLE LOAD.
- 10. ALL DRAIN GRATES AND MANHOLE COVERS SHALL BE SET TO FINAL GRADE BY USE OF CONCRETE RINGS AND ADJUSTMENT COLLARS MADE FOR THAT PURPOSE.

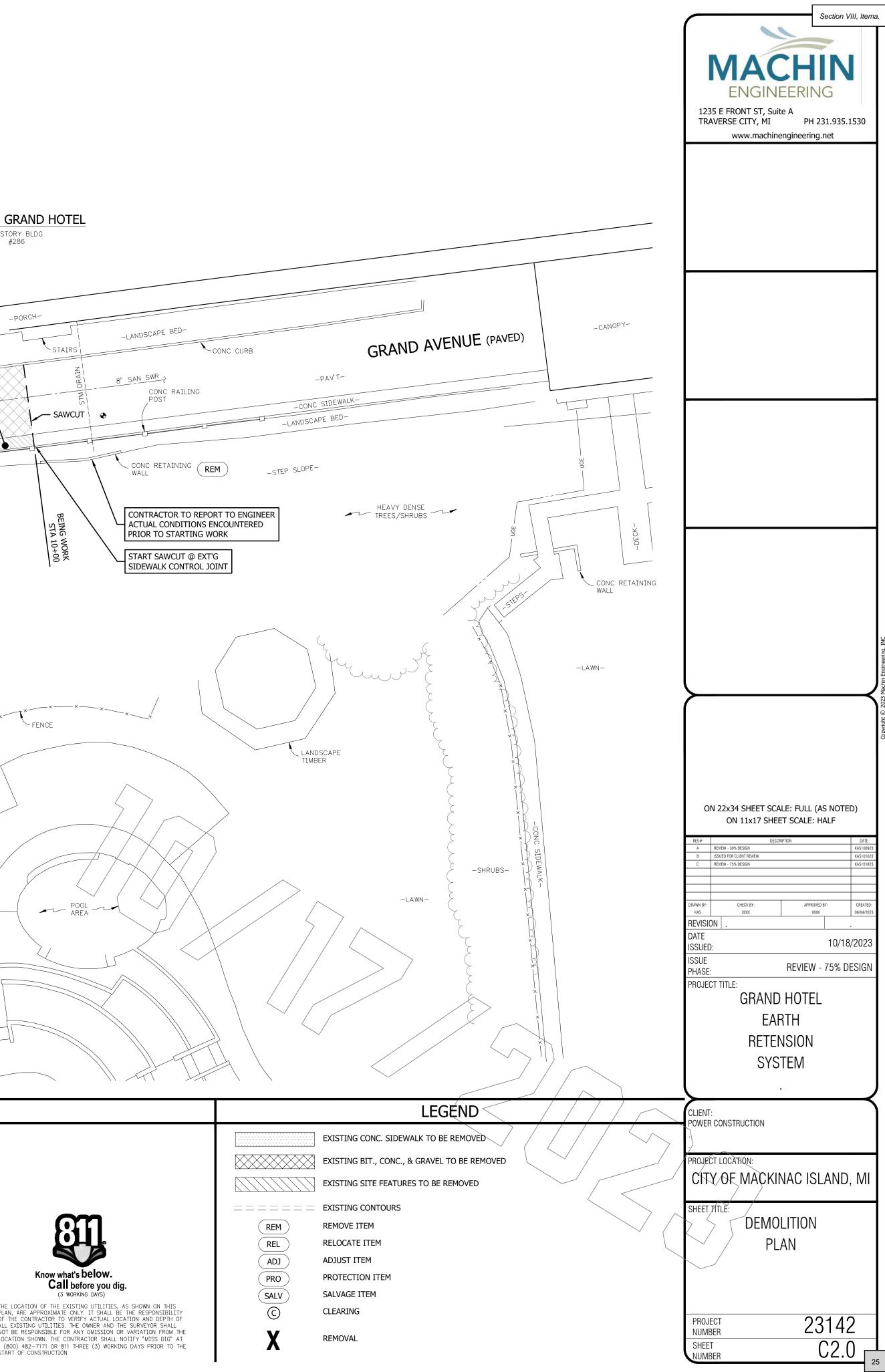
## SPECIFICATIONS (CONTINUED)

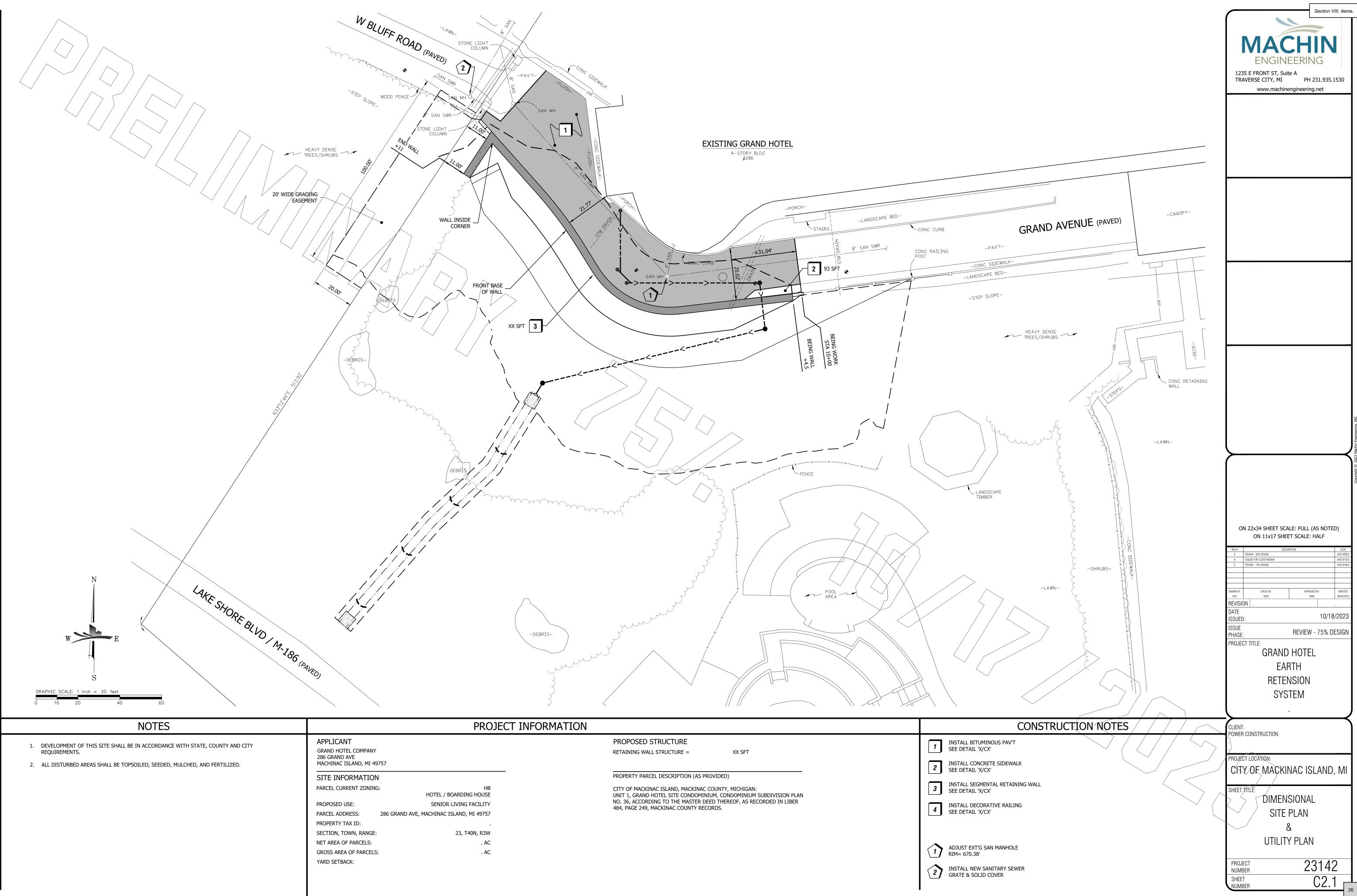
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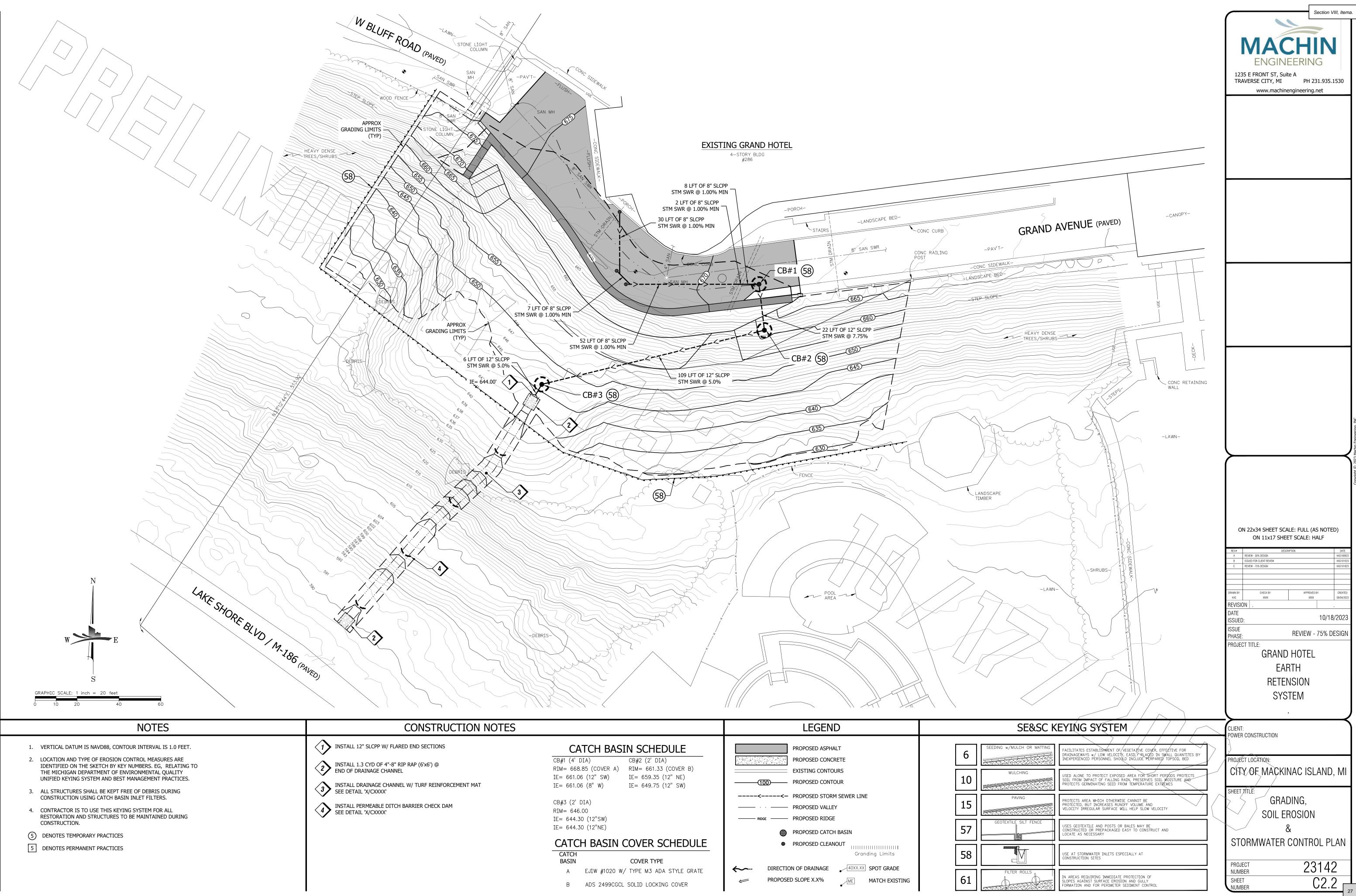




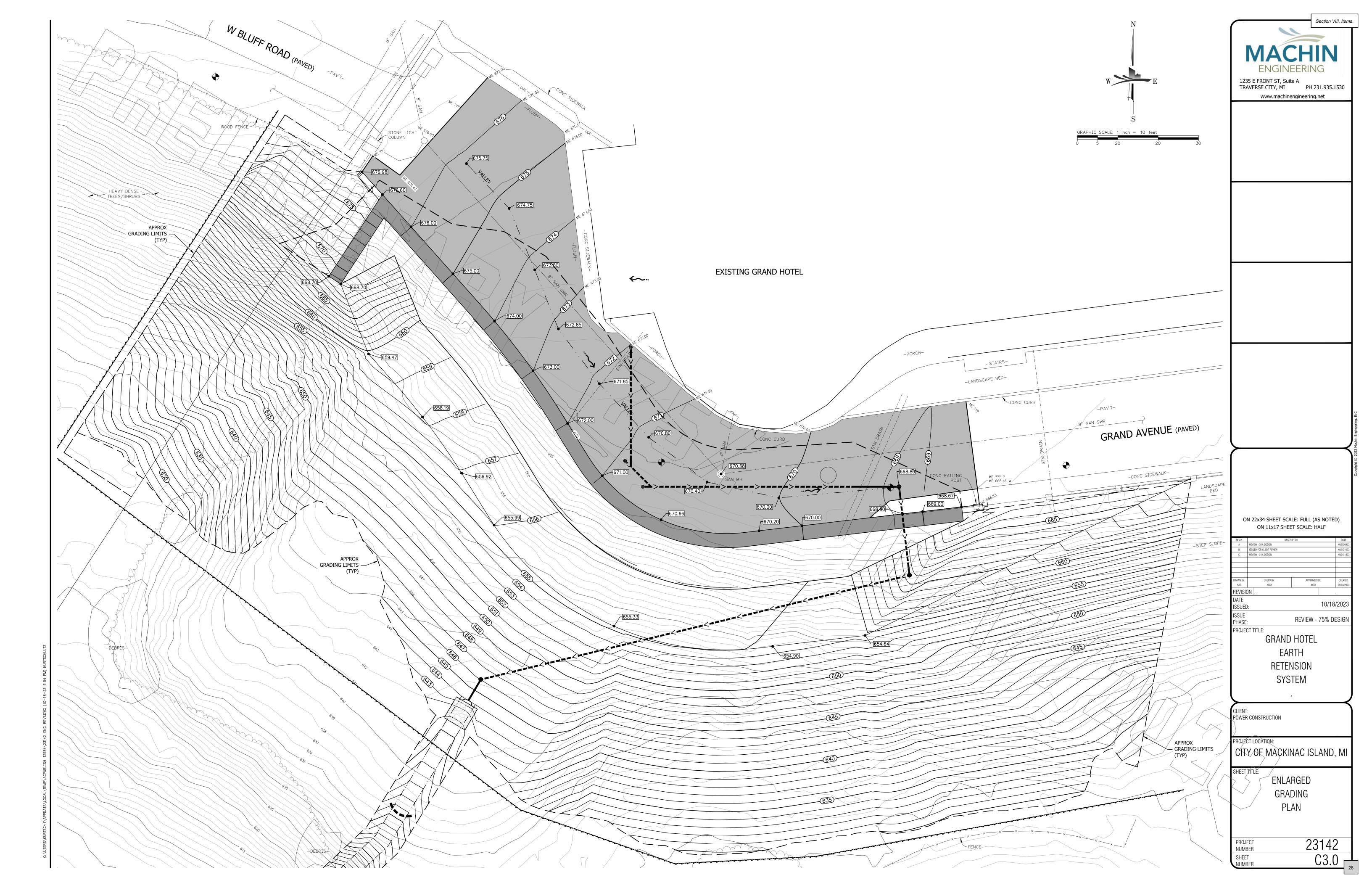


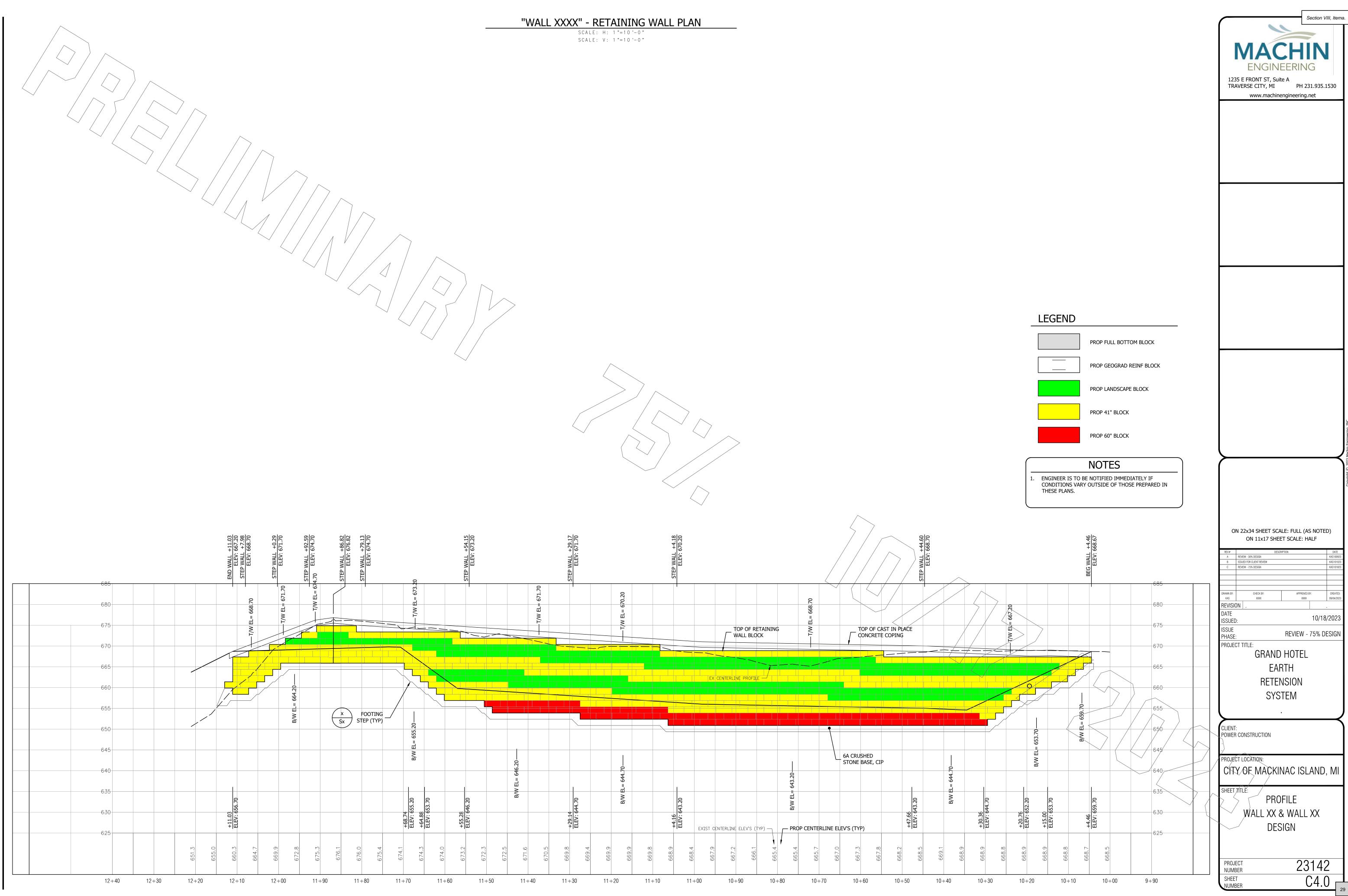


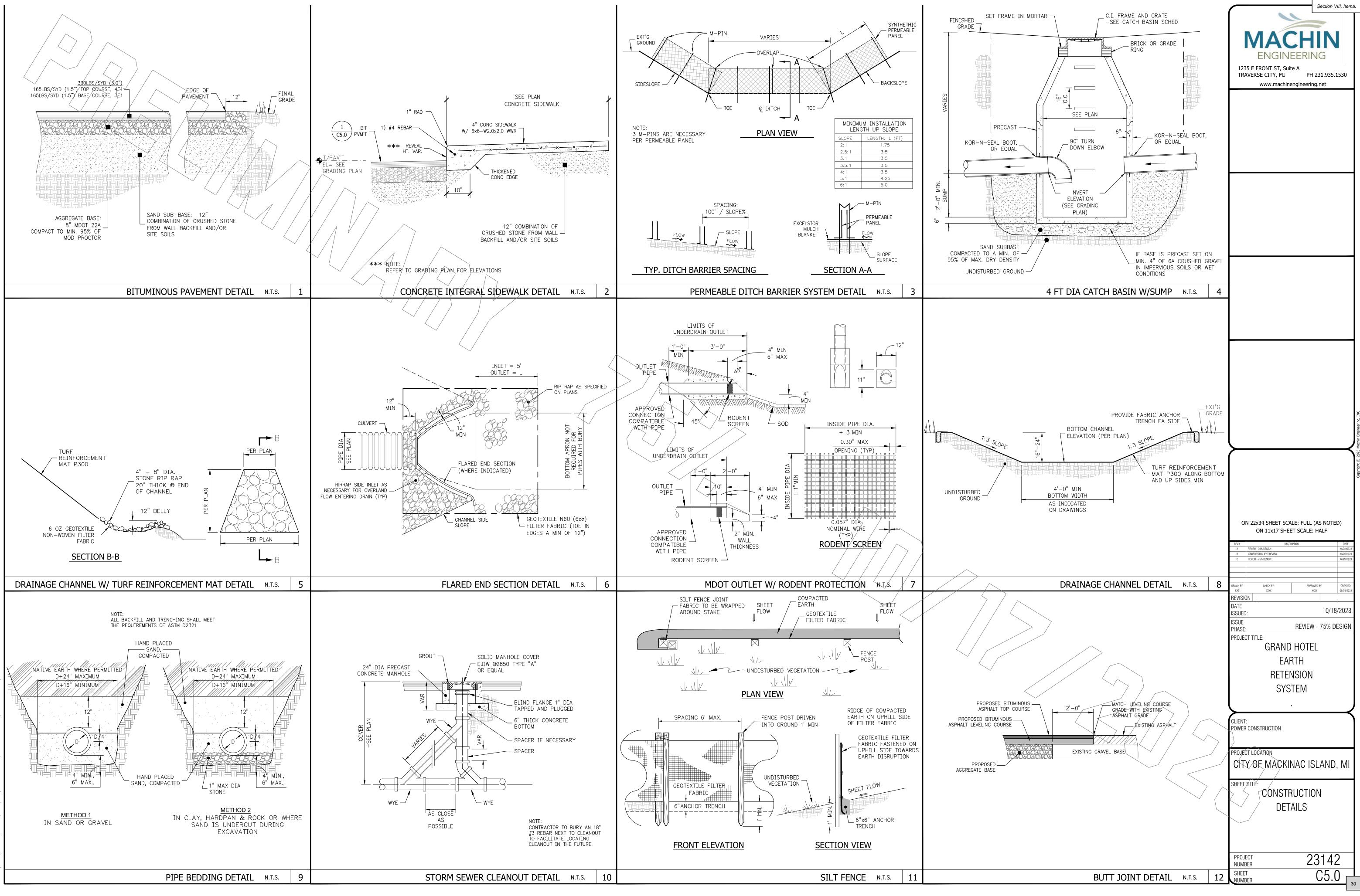
	L	
PROPOSED STRUCTURE XX SFT	1	INSTALL BITUMINOUS F SEE DETAIL 'X/CX'
 PROPERTY PARCEL DESCRIPTION (AS PROVIDED)	2	INSTALL CONCRETE SID SEE DETAIL 'X/CX'
CITY OF MACKINAC ISLAND, MACKINAC COUNTY, MICHIGAN: UNIT 1, GRAND HOTEL SITE CONDOMINIUM, CONDOMINIUM SUBDIVISION PLAN	3	INSTALL SEGMENTAL RI SEE DETAIL 'X/CX'
NO. 36, ACCORDING TO THE MASTER DEED THEREOF, AS RECORDED IN LIBER 484, PAGE 249, MACKINAC COUNTY RECORDS.	4	INSTALL DECORATIVE F SEE DETAIL 'X/CX'
	(1)	ADJUST EXT'G SAN MAN RIM= 670.38'
	2	INSTALL NEW SANITAR

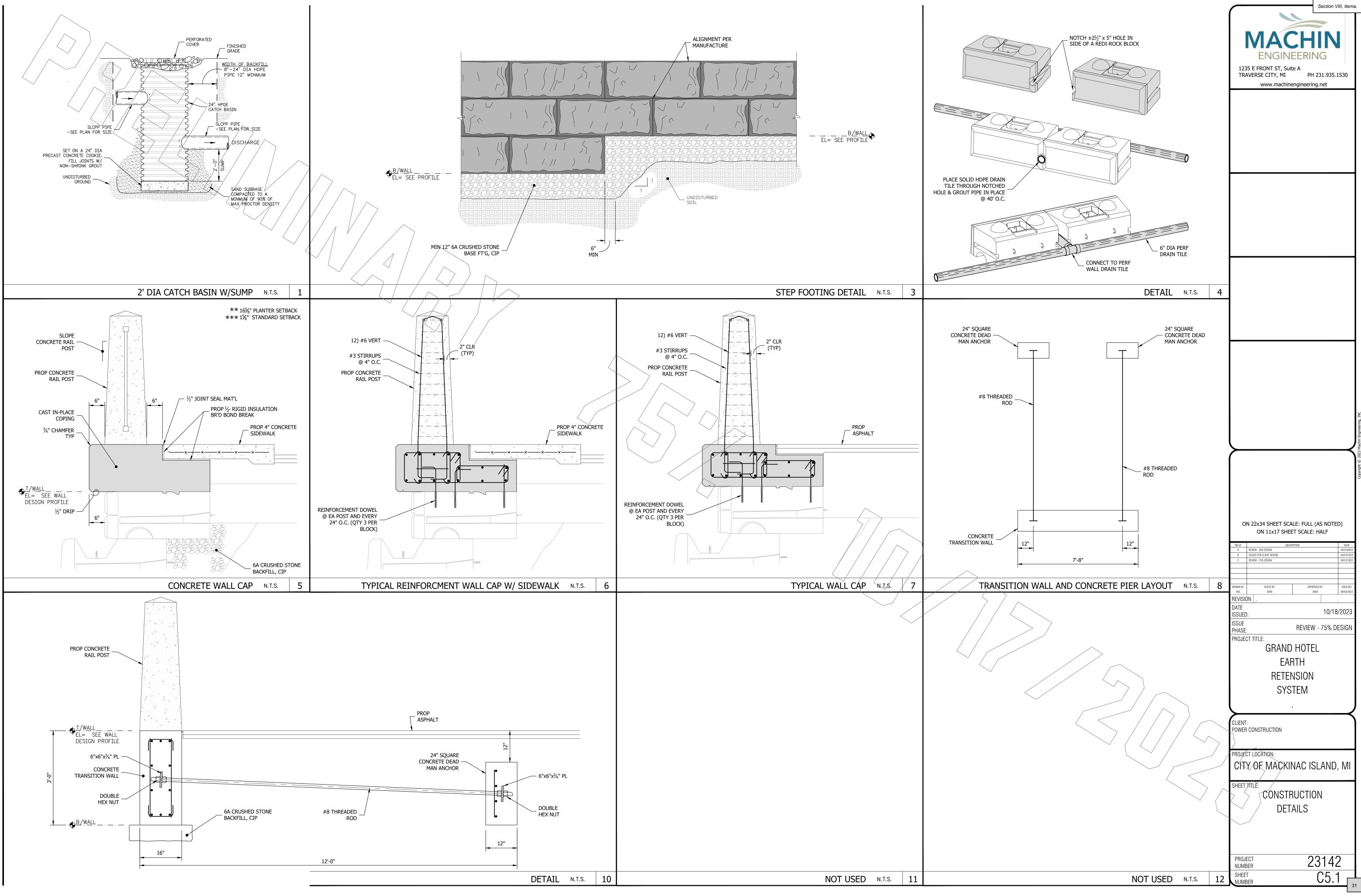


N NOTES		LEGEND		
447	CATCH BASIN SCHEDULE           CB#1 (4' DIA)         CB#2 (2' DIA)           RIM= 668.85 (COVER A)         RIM= 661.33 (COVER B)           IE= 661.06 (12" SW)         IE= 659.35 (12" NE)	PROPOSED ASPHALT PROPOSED CONCRETE EXISTING CONTOURS PROPOSED CONTOUR	6 SEEDI	
1AT	IE= 661.06 (8" W) IE= 649.75 (12" SW) CB#3 (2' DIA) RIM= 646.00 IE= 644.30 (12"SW) IE= 644.30 (12"NE)	PROPOSED STORM SEWER LINE     PROPOSED VALLEY     RIDGE PROPOSED RIDGE     PROPOSED CATCH BASIN	15 57	
	CATCH BASIN COVER SCHEDULECATCH BASINCOVER TYPEAEJIW #1020 W/ TYPE M3 ADA STYLE GRATE	<ul> <li>PROPOSED CLEANOUT</li> <li>Granding Limits</li> <li>DIRECTION OF DRAINAGE</li> <li>40xx.xx</li> <li>SPOT GRADE</li> <li>PROPOSED SLOPE X.X%</li> <li>MF</li> <li>MATCH EXISTING</li> </ul>	58	

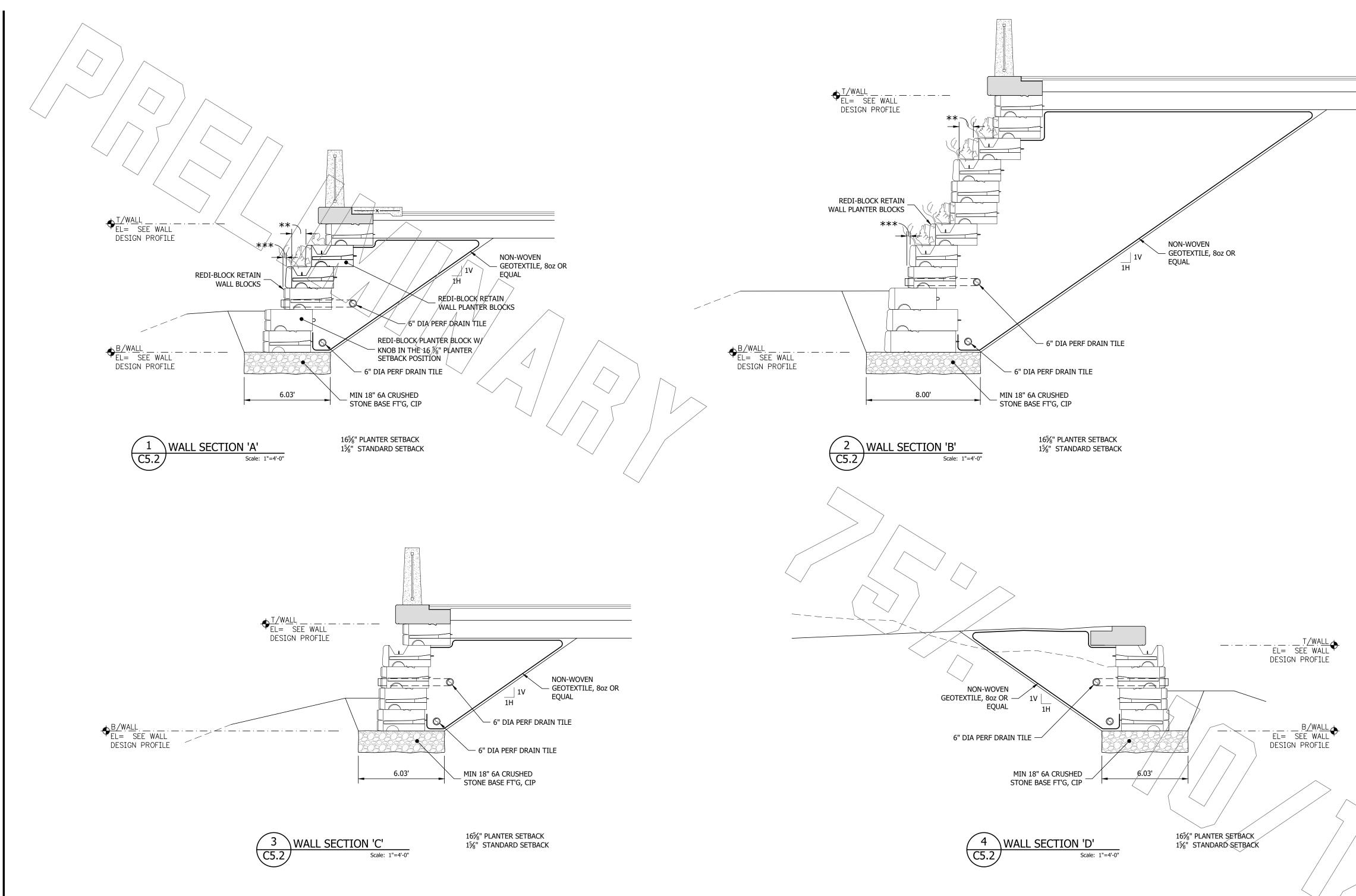






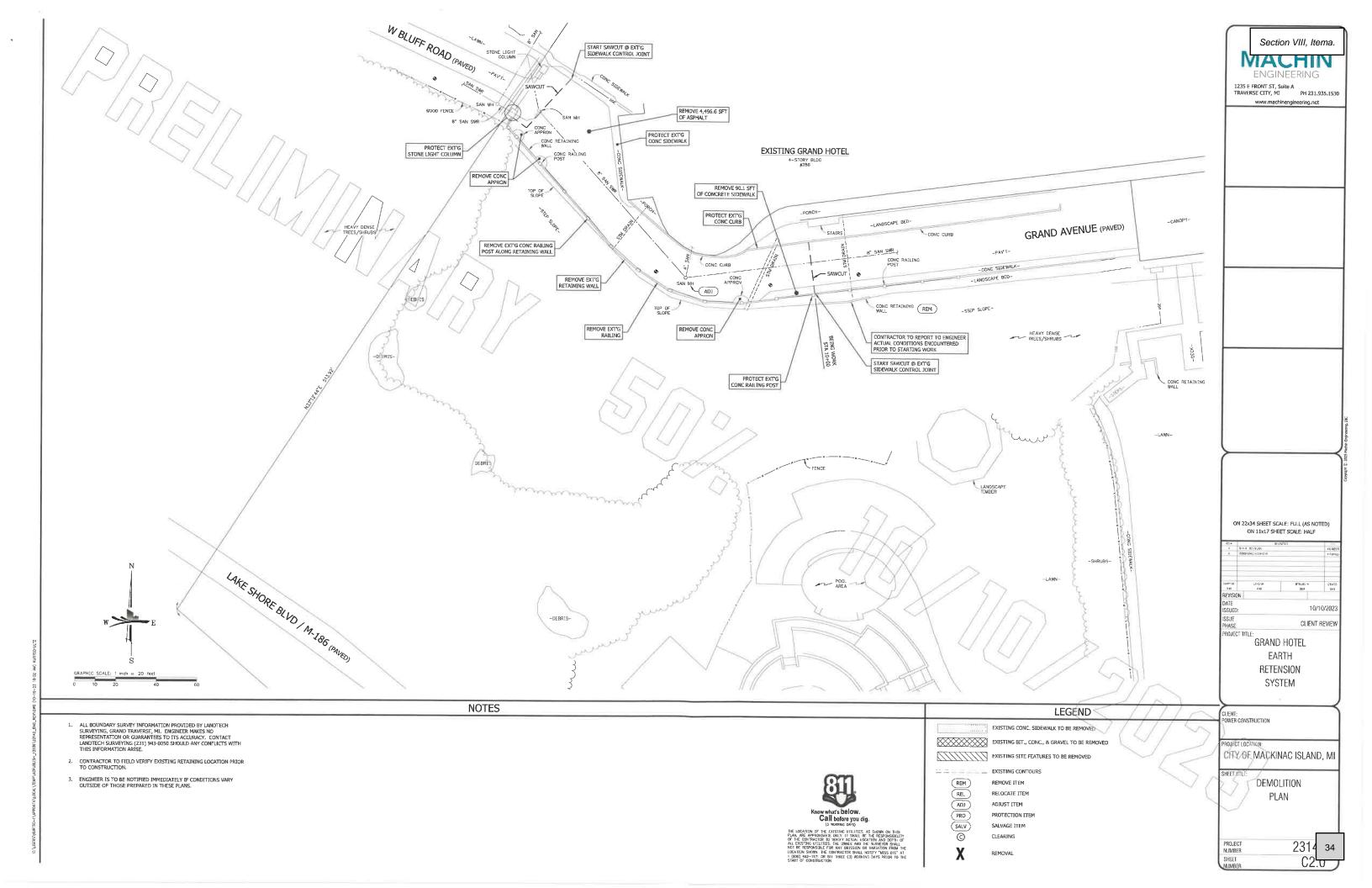


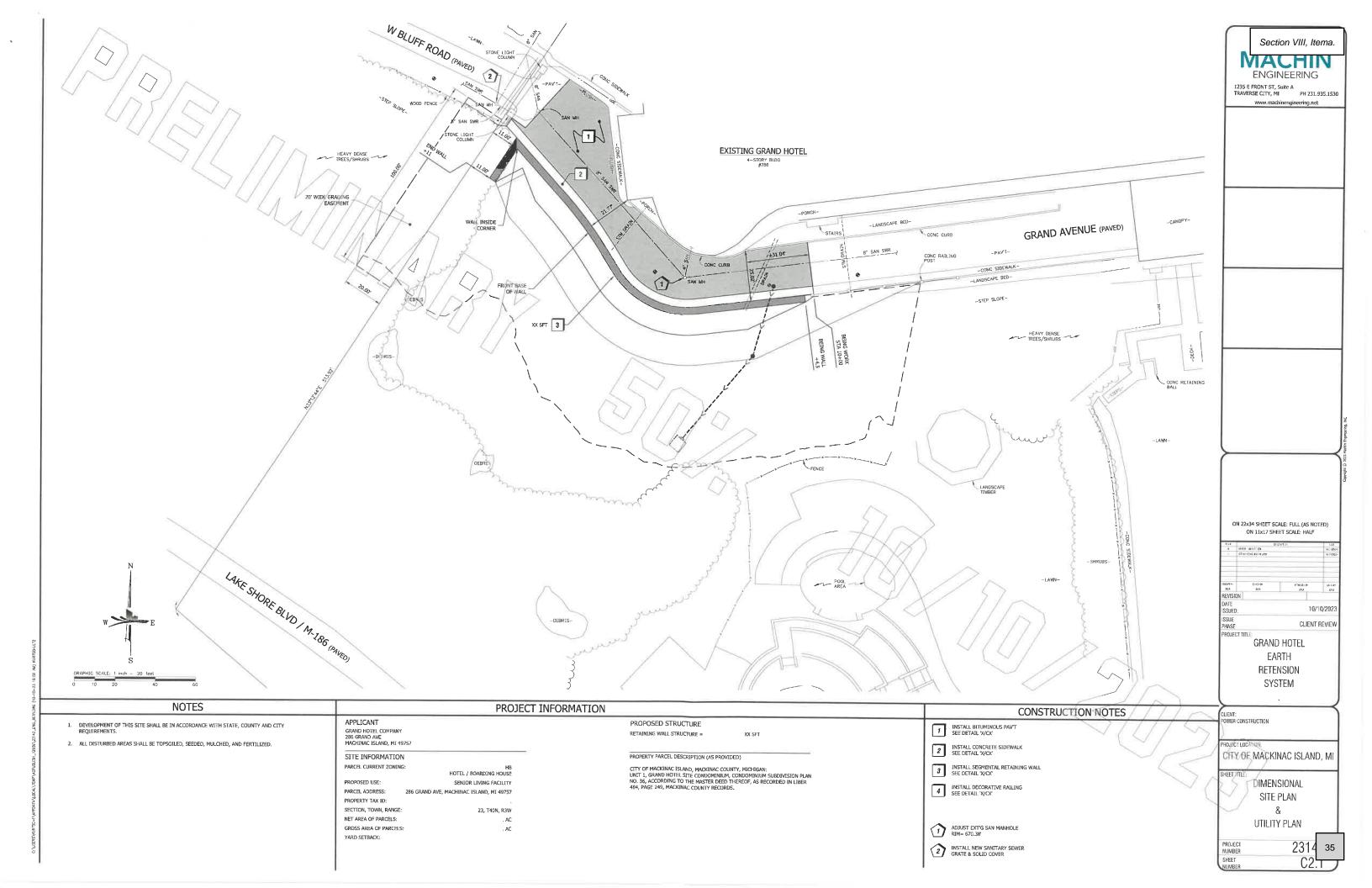
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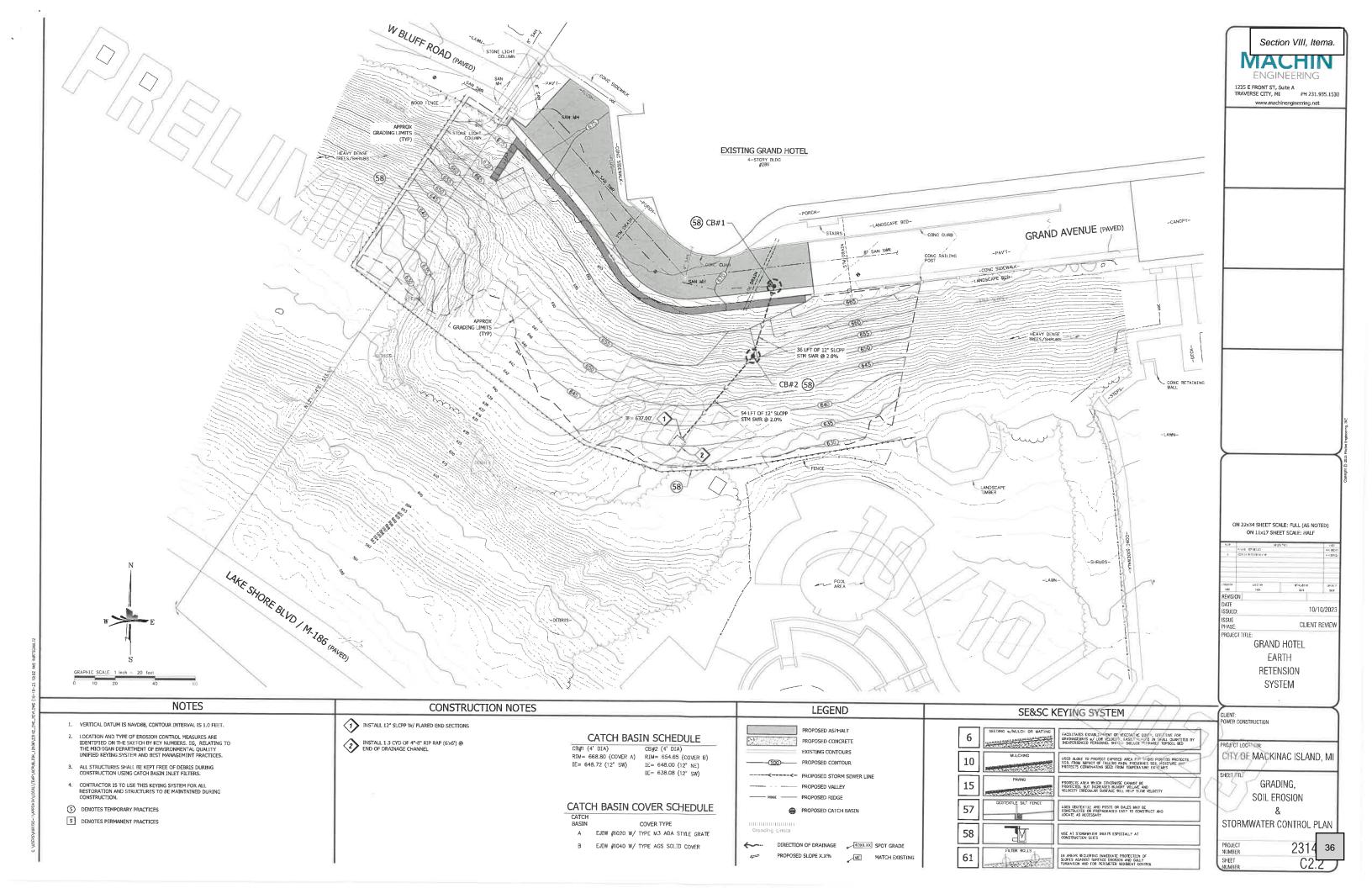


Section VIII, Itema.
I235 E FRONT ST, Suite A         TRAVERSE CITY, MI         PH 231.935.1530         www.machinengineering.net
ON 22x34 SHEET SCALE: FULL (AS NOTED) ON 11x17 SHEET SCALE: HALF
A         REVIEW - 30% DESIGN         KAS100923           B         ISSUED FOR CLIENT REVIEW         KAS101023           C         REVIEW - 75% DESIGN         KAS101823           DRAWN BY:         CHECK BY:         APPROVED BY:         CREATED:           DRAWN BY:         CHECK BY:         ADDRAWN BY:         CREATED:           DRAWN BY:         CHECK BY:         ADPROVED BY:         CREATED:           DATE         .         .         .           DATE         ISSUED:         10/18/2023         .
ISSUE PHASE: PROJECT TITLE: GRAND HOTEL EARTH RETENSION SYSTEM
CLIENT: POWER CONSTRUCTION
SHEET TITLE: CONSTRUCTION DETAILS
PROJECT 23142 NUMBER C5.2 NUMBER C5.2

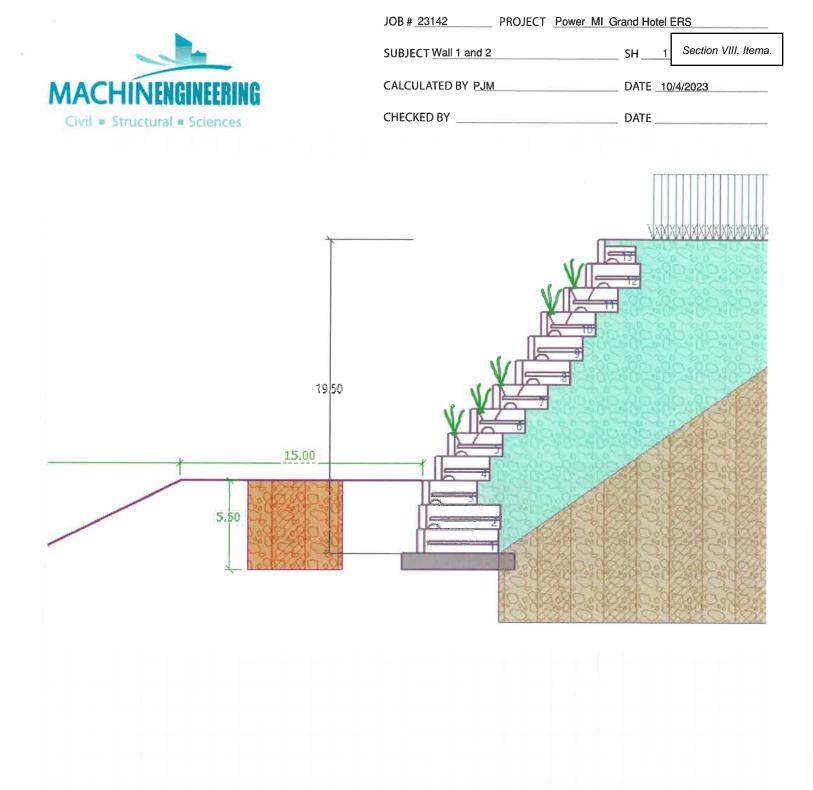




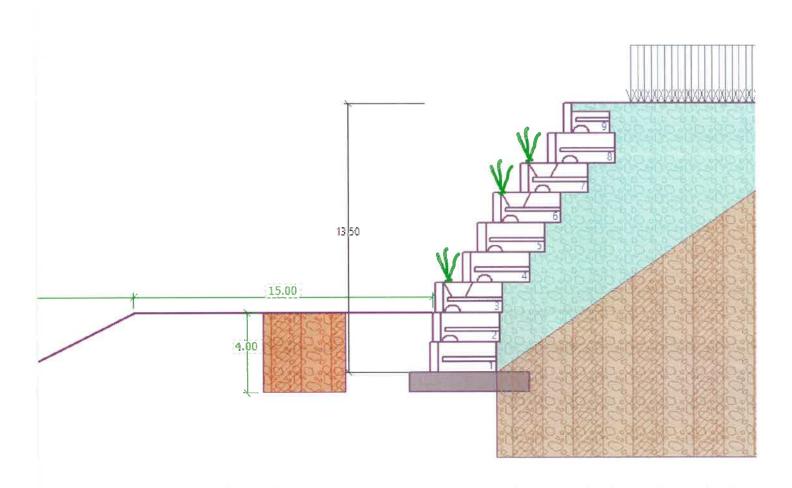




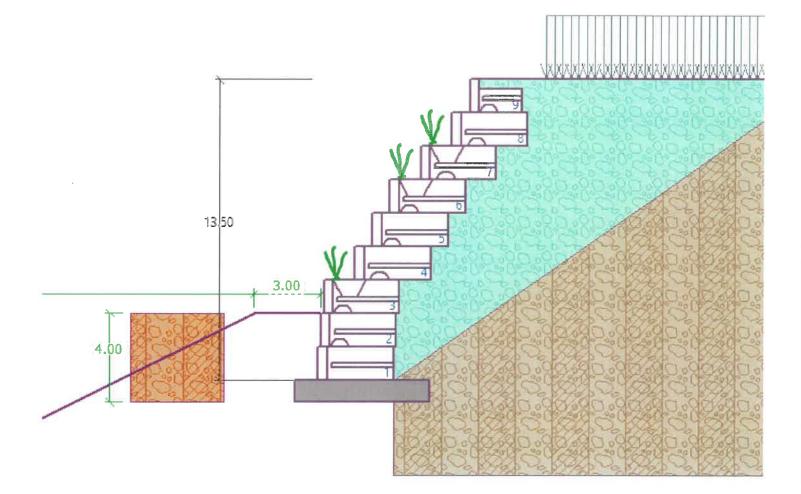




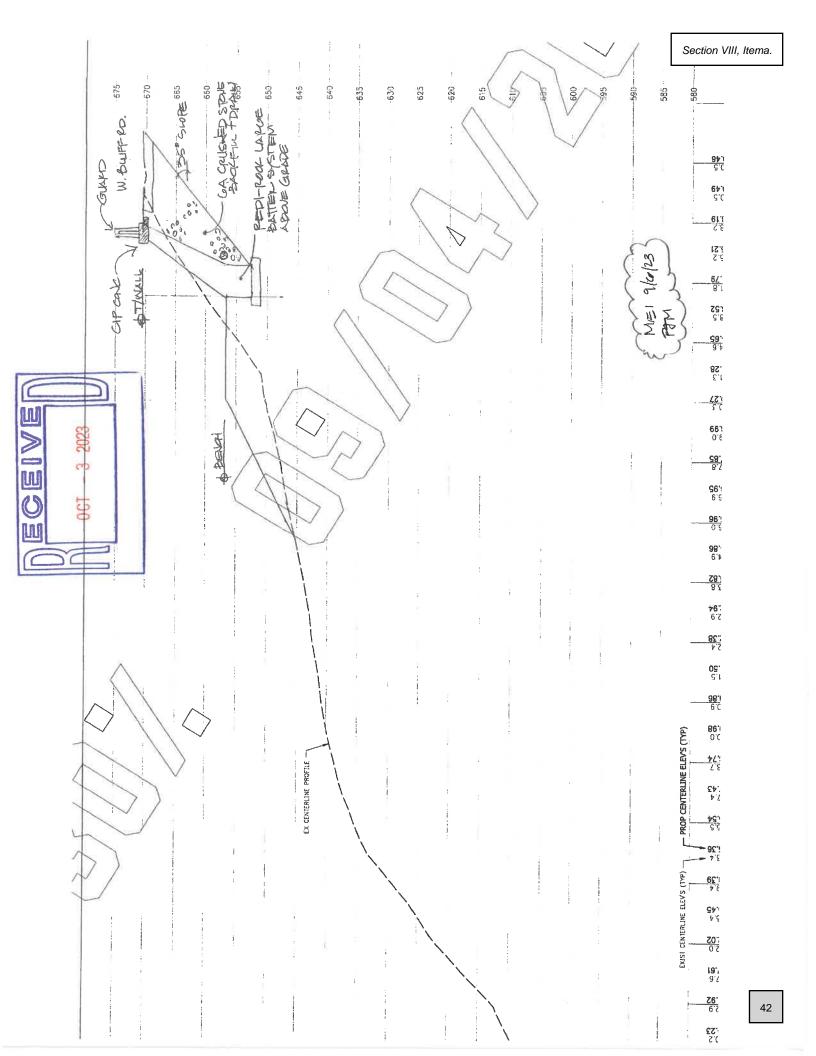
	JOB # 23142 PROJECT Por	wer MI Grand Hotel ERS
	SUBJECT Wall 3	Section VIII, Itema.
Civil = Structural = Sciences	CALCULATED BY PJM	DATE _10/4/2023
	CHECKED BY	DATE



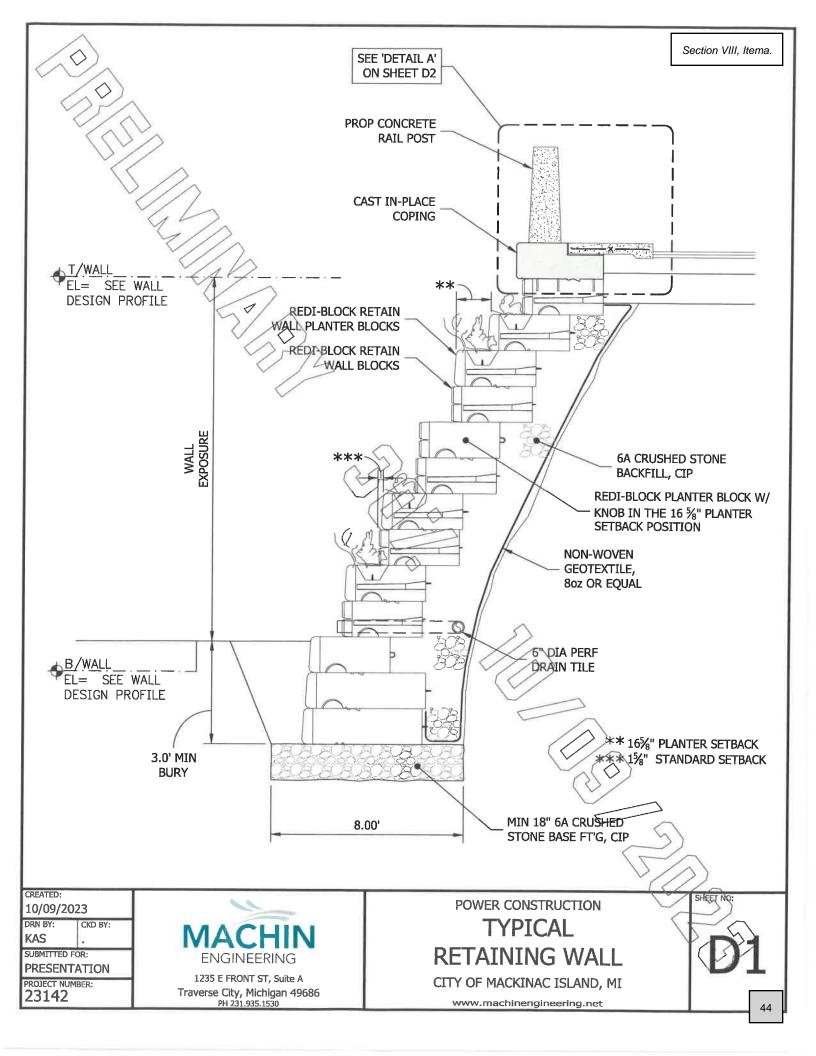
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	SUBJECT Wall 4	SH1 Section VIII, Itema.
MACHINENGINEERING	CALCULATED BY PJM	DATE <u>10/4/2023</u>
Civil = Structural = Sciences	CHECKED BY	DATE

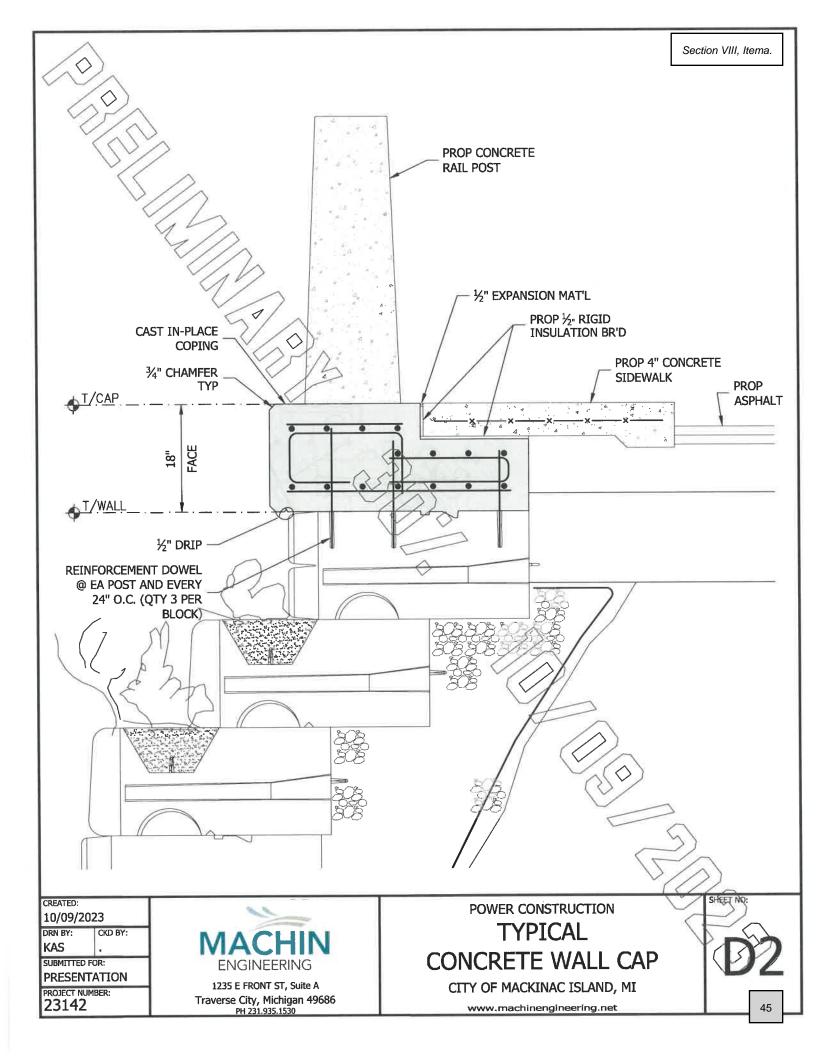


Section VIII, Itema.

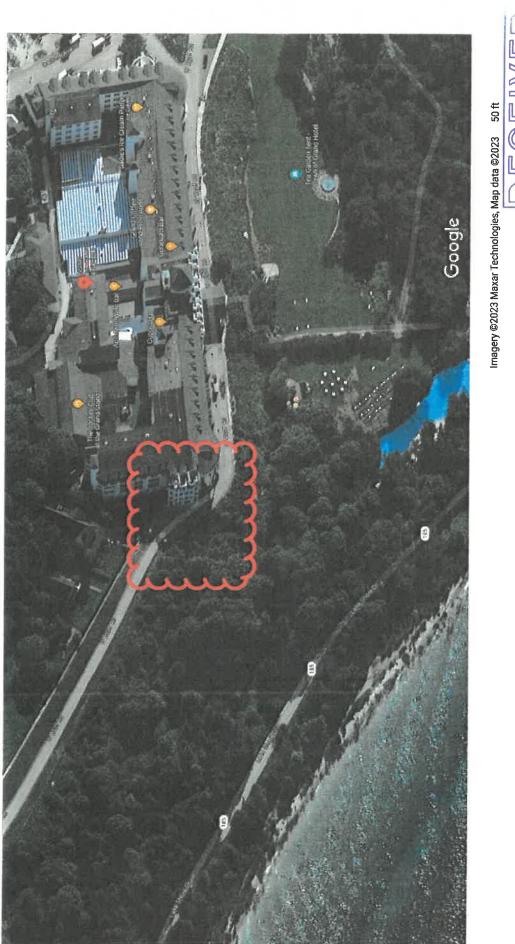








# Google Maps Grand Hotel



Section VIII, Itema.

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# REDI-ROCK® MOLD TEXTURE OPTIONS FOR MANUFACTUF

OCT - 3 2023

**REDI+ROCK** 

Section VIII, Itema.

Redi-Rock Ledgestone. It just has a certain ring to it, doesn't it? This texture has been extremely popular since it launched in 2010. The random, stacked stone appearance has often been imitated, but none compare to the original!

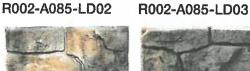
# Ledgestone Block Benefits

- Trapezoidal shape allows convex and concave radii
- 5.5 inch (140 millimeter) deep texture
- Colors can be formulated based upon local region
- Ten individual face molds offer up to 115 square feet (10.5 square meters) of non-repeating patterns
- Wet-cast concrete gives a greater level of detail and durability

R002-A085-LD01











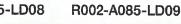


R002-A085-LD05

R002-A085-LD06

# R002-A085-LD07

## R002-A085-LD08



R002-A085-LD10











larger detail and other options >

### **Full Face Molds**

#### R002-A085-LD01



#### R002-A085-LD04



R002-A085-LD07



R002-A085-LD10



#### R002-A085-LD02



R002-A085-LD05



R002-A085-LD08



R002-A187-LD01 / LD02 42.5 in Curved Face Mold



#### R002-A085-LD03



R002-A085-LD06



R002-A085-LD09



R002-A193-LD01 Half Face Mold



# **Corner Face Molds**

R003-A066-LD01

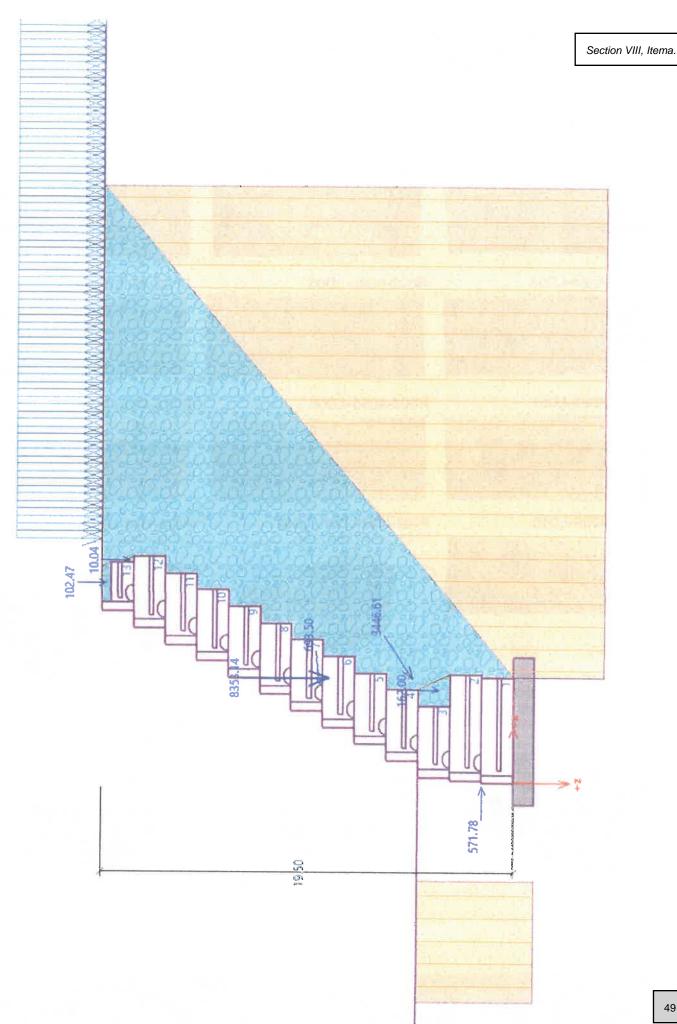


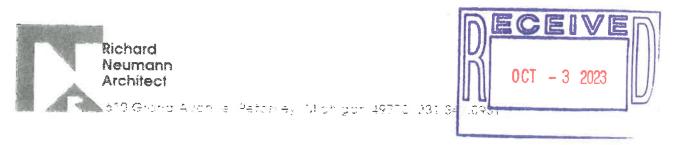
#### R003-A066-LD02



R003-A084-LD01 Half Corner Mold







29 September 2023

Katie Pereny, Secretary Planning Commission City of Mackinac Island Mackinac Island, MI 49757

#### Re: WEST BLUFF ROAD STABILIZATION PROJECT Architectural Review

Dear Ms. Pereny:

This letter is in response to a request from Davidson Hospitality Group to provide a review of a proposed emergency stabilization project to address erosion of the hillside below West Bluff Road near the southwest corner of The Grand Hotel. Long-term and recent more significant erosion of the hillside on hotel property below the road has raised concern as to the safety of this section of West Bluff Road.

Following more detailed engineering, The Grand Hotel proposes to shore up the road by installing an approximately 20 feet high by 150 feet long masonry retaining wall along a section of hillside below the road. The retaining wall would be constructed of precast concrete blocks using a system designed and fabricated by Redi-Rock International, of Charlevoix. It has the general appearance of random stacked stone similar to the natural limestone bedrock underlying and seen in the eroded bluffs found on the Island. This retaining wall system is comprised of ten different molded rock faces cast during fabrication, providing 115 square feet of non-repeating face pattern. The concrete comprising the rock-like block faces can be custom colored to match the native stone color, lending a more naturalistic appearance.

Used in this hillside location away from being associated with a building or structure, as is the white-painted stone wall of Fort Mackinac, the proposed new retaining wall of this more natural appearance would blend best to fit into the hillside. The proposed design includes a 15 feet wide level area at its base, along which it is proposed to place native plant materials that would screen portions of the new wall. This retaining wall appearance, rather than duplicate a more man-made painted white stone appearance, would be most appropriate at this location.

Should you have any questions, please let me know.

Sincerely.

West Bluff Road Stabilization Architectural Review 29 September 2023 Page 2

**RICHARD NEUMANN ARCHITECT** 

-Ack Mehmern

**Rick Neumann** 

c. Michael McHale, Davidson Hospitality Group Dennis Dombroski, City of Mackinac Island Erin Evashevski, Evashevski Law Office