

CITY OF ALBUQUERQUE



May 9, 2018

Mike Balaskovits, PE
Bohannon Huston, Inc.
7500 Jefferson St NE
Albuquerque, NM 87109

**RE: Broadstone Highlands Hotel Block
Grading and Drainage Plan
Engineer's Stamp Date: 5/4/18
Hydrology File: K15D034B**

Dear Mr. Balaskovits:

Based on the information provided in the submittal received on 5/4/18 the above-referenced Grading and Drainage Plan cannot be approved for Building Permit until the following are addressed:

PO Box 1293

Albuquerque

NM 87103

www.cabq.gov

1. Clearly define which elements of the grading plan and drainage improvements are public and to be constructed by work order, and which elements are private and to be constructed by building permit.
2. Add note on the plan that "No work shall be performed in the public ROW and public easements without an approved Work Order."
3. The 18" HDPE penetration into the new (public?) type-A inlet cannot be accepted. This will either need to be RCP, or be 12" or less and piped into back on inlet, similar to std dwg 2237.
4. Provide valley gutter across the drive entrance on Copper and across the intersection of Copper and Mulberry.
5. Provide alley gutter along Mulberry, between the east parking and the drive aisle, where the drainage will concentrate.
6. Clarify how standing water will be prevented in the NW corners of the west parking along Mulberry. Curb cuts that allow water to drain across the sidewalk are not acceptable.
7. Provide sections of the proposed retaining walls/stem walls and show the property line, existing and proposed grades on the section views. In accordance with DPM Ch.22, section 5 part B, grading and wall construction near the property line may not endanger adjacent property or constrain its use.

CITY OF ALBUQUERQUE



8. Depending on the above potential conflicts, the following will be required:
 - a. Any private encroachment into the public ROW by the footer, retaining wall or any structure will require a revocable permit.
 - b. Any private encroachment into public easements by the footer, retaining wall or any structure will require an encroachment agreement.
9. Please update the land treatments to reflect the subbasins so that the first flush requirement/fee-in-lieu amount can be determined. For instance it is unlikely that the rooftop drainage basins have 10% land treatment C. Payment of the fee in lieu for the required first flush volume will then be needed.
10. This project requires an ESC Plan, submitted to the Stormwater Quality Engineer (Curtis Cherne PE, ccherne@cabq.gov or 924-3420).

If you have any questions, please contact me at 924-3695 or dpeterson@cabq.gov.

Sincerely,

Dana M. Peterson
Senior Engineer, Planning Dept.
Development Review Services

PO Box 1293

Albuquerque

NM 87103

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toll free: 800.877.5332

CLIENT/COURIER TRANSMITTAL

To: James D. Hughes
City of Albuquerque
600 2nd St. NW
Albuquerque, NM 87102

Requested by: Michael Balaskovits

Date: May 4, 2018

Time Due: ☐ This A.M.
☒ This P.M.
☐ Rush _____
☐ By Tomorrow

Phone: (505) 924-3880

Job No.: 20160155

Job Name: Highlands Hotel

DELIVERY VIA

☒ **Courier** ☐ **Federal Express**
☐ **Mail** ☐ **UPS**
☐ **Other**

PICK UP

Item: _____

<u>ITEM NO.</u>	<u>QUANTITY</u>	<u>DESCRIPTION</u>
1	1	Drainage Info Sheet
2	1	Drainage Management Plan
3	1	Grading Plan

COMMENTS / INSTRUCTIONS

James,

Please find attached the Drainage Management Plan for the Highlands Hotel. We are requesting Hydrology approval in support of Building Permit Approval.
Let me if you have any questions.

Thanks,
Mike

REC'D BY: _____ **DATE:** _____ **TIME:** _____



City of Albuquerque

Planning Department

Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET (REV 3/2018)

Project Title: _____ **Building Permit #:** _____ **Hydrology File #:** _____

DRB#: _____ **EPC#:** _____ **Work Order#:** _____

Legal Description: _____

City Address: _____

Applicant: _____ **Contact:** _____

Address: _____

Phone#: _____ **Fax#:** _____ **E-mail:** _____

Other Contact: _____ **Contact:** _____

Address: _____

Phone#: _____ **Fax#:** _____ **E-mail:** _____

Check all that Apply:

IS THIS A RESUBMITTAL?: ____ Yes ____ No

DEPARTMENT:

- ☐ HYDROLOGY/ DRAINAGE
☐ TRAFFIC/ TRANSPORTATION

TYPE OF SUBMITTAL:

- ☐ ENGINEER/ARCHITECT CERTIFICATION
☐ PAD CERTIFICATION
☐ CONCEPTUAL G & D PLAN
☐ GRADING PLAN
☐ DRAINAGE MASTER PLAN
☐ DRAINAGE REPORT
☐ FLOODPLAIN DEVELOPMENT PERMIT APPLIC
☐ ELEVATION CERTIFICATE
☐ CLOMR/LOMR

☐ TRAFFIC CIRCULATION LAYOUT (TCL)
☐ TRAFFIC IMPACT STUDY (TIS)

☐ OTHER (SPECIFY) _____
☐ PRE-DESIGN MEETING?

TYPE OF APPROVAL/ACCEPTANCE SOUGHT:

- ☐ BUILDING PERMIT APPROVAL
☐ CERTIFICATE OF OCCUPANCY

☐ PRELIMINARY PLAT APPROVAL
☐ SITE PLAN FOR SUB'D APPROVAL
☐ SITE PLAN FOR BLDG. PERMIT APPROVAL
☐ FINAL PLAT APPROVAL

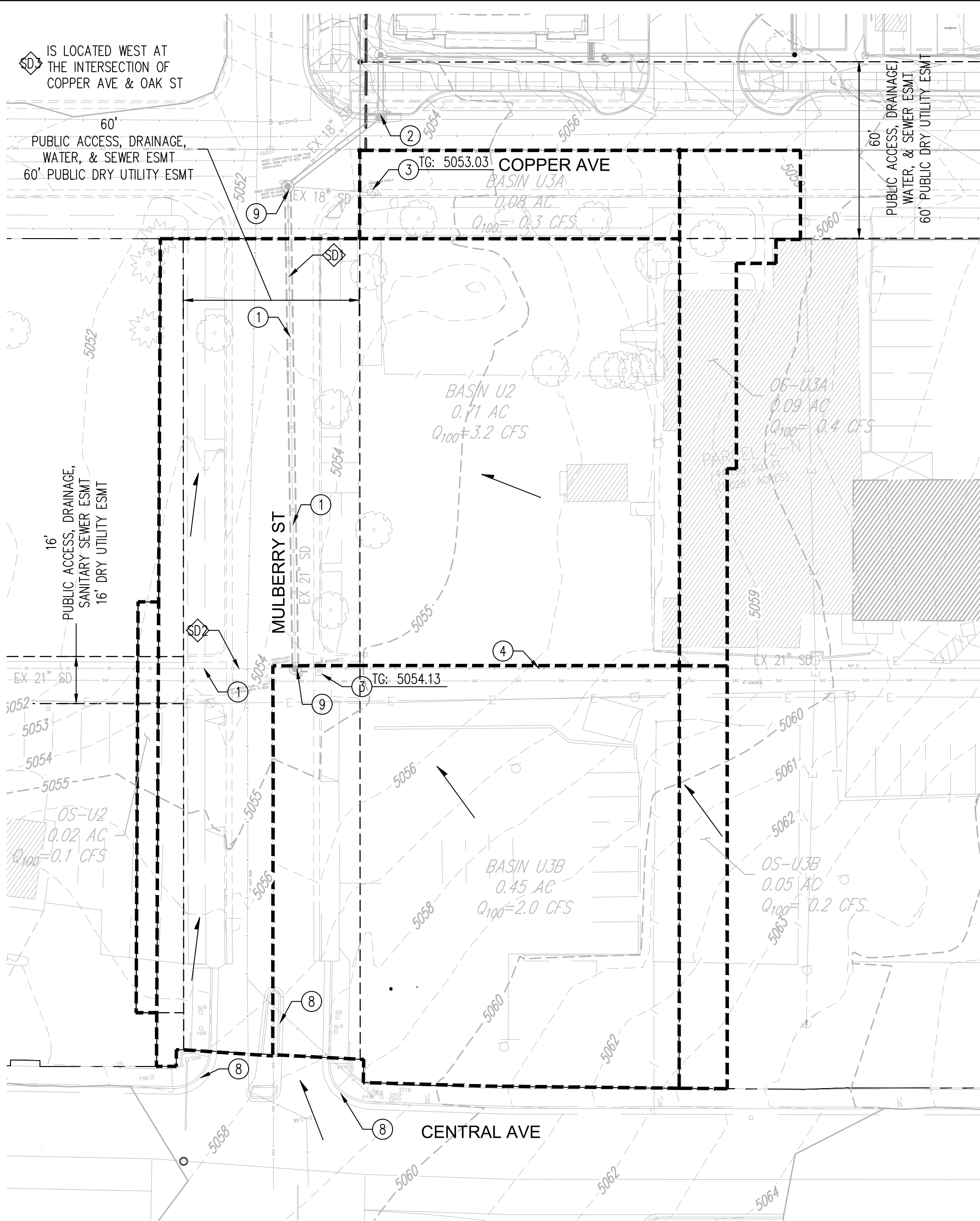
☐ SIA/ RELEASE OF FINANCIAL GUARANTEE
☐ FOUNDATION PERMIT APPROVAL
☐ GRADING PERMIT APPROVAL
☐ SO-19 APPROVAL
☐ PAVING PERMIT APPROVAL
☐ GRADING/ PAD CERTIFICATION
☐ WORK ORDER APPROVAL
☐ CLOMR/LOMR
☐ FLOODPLAIN DEVELOPMENT PERMIT
☐ OTHER (SPECIFY) _____

DATE SUBMITTED: _____ **By:** _____

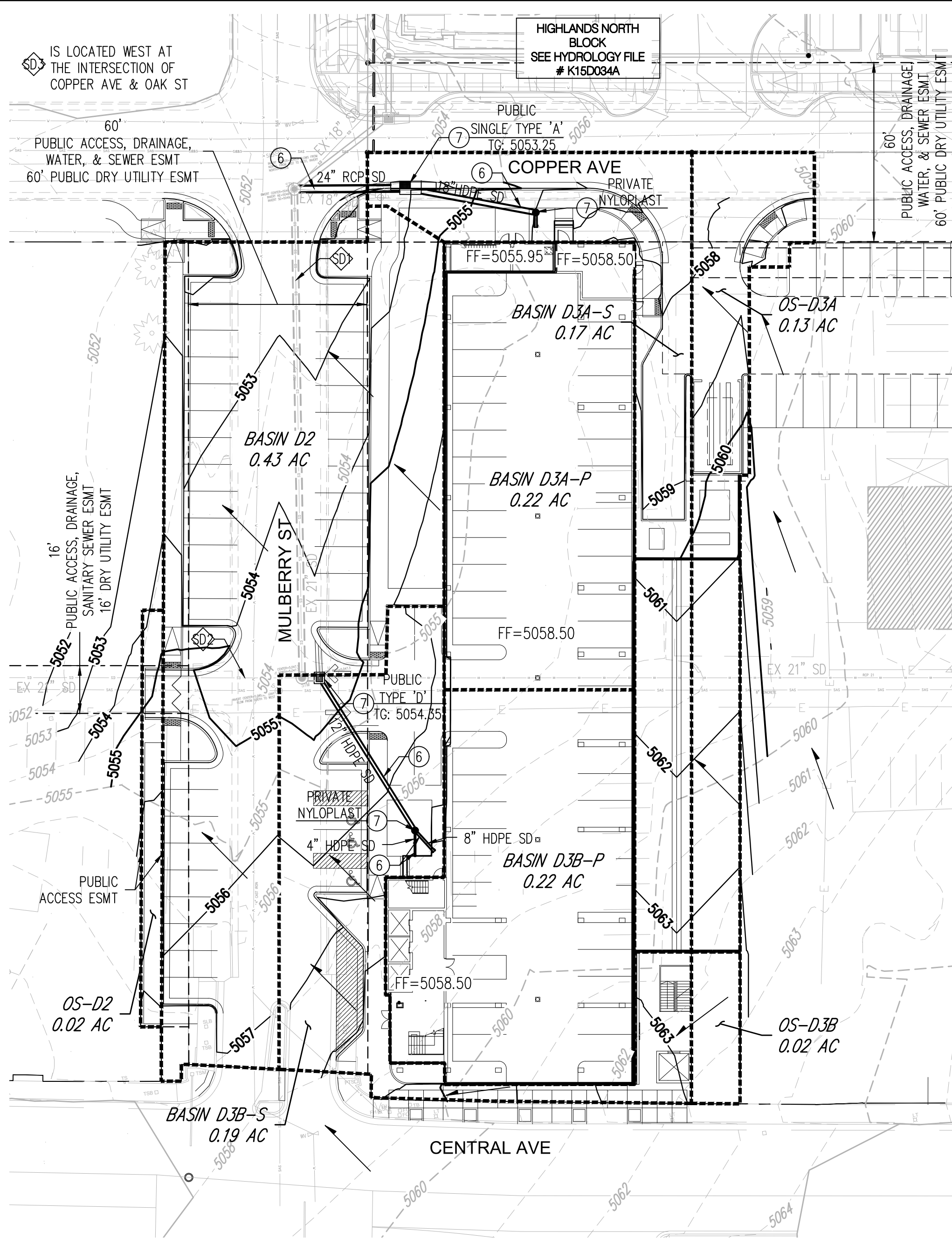
COA STAFF:

ELECTRONIC SUBMITTAL RECEIVED: _____

FEE PAID: _____



EXISTING CONDITIONS



PROPOSED CONDITIONS

Highlands Hotel Development										
Existing Developed Conditions Basin Data Table										
This table is based on the DPM Section 22.2, Zone: 2										
Basin ID	Area	Area	Land Treatment Percentages				Q(100yr)	Q(100yr)	V(100yr)	V(100yr-6hr)
	(SQ. FT)	(AC.)	A	B	C	D	(cfs/ac.)	(CFS)	(inches)	(CF)
CURRENT ONSITE BASINS										
U2	30848	0.71	0.0%	0.0%	15.0%	85.0%	4.47	3.16	1.97	5066
U3A	3267	0.08	0.0%	0.0%	15.0%	85.0%	4.47	0.33	1.97	537
U3B	19680	0.45	0.0%	0.0%	15.0%	85.0%	4.47	2.02	1.97	3233
TOTAL	53795	1.23	-	-	-	-	-	5.52	-	8836
CURRENT OFFSITE BASINS										
OS-U2	978	0.02	0.0%	0.0%	0.0%	100.0%	4.70	0.11	2.12	173
OS-U3A	3943	0.09	0.0%	0.0%	20.0%	80.0%	4.39	0.40	1.92	632
OS-U3B	2341	0.05	0.0%	0.0%	20.0%	80.0%	4.39	0.24	1.92	375
TOTAL	7262	0.17	-	-	-	-	-	0.74	-	1179

Highlands Hotel Development											
Proposed Developed Conditions Basin Data Table											
This table is based on the DPM Section 22.2, Zone: 2											
Basin ID	Area	Area	Land Treatment Percentages				Q(100yr)	Q(100yr)	V(100yr)	V(100yr-6hr)	V(100yr-24hr)
	(SQ. FT)	(AC.)	A	B	C	D	(cfs/ac.)	(CFS)	(inches)	(CF)	(CF)
PROPOSED ONSITE BASINS											
D2	18549	0.43	0.0%	0.0%	10.0%	90.0%	4.54	1.93	2.02	3124	3680
D3A-P	9578	0.22	0.0%	0.0%	10.0%	90.0%	4.54	1.00	2.02	1613	1900
D3A-S	7618	0.17	0.0%	0.0%	10.0%	90.0%	4.54	0.79	2.02	1283	1512
D3B-P	9630	0.22	0.0%	0.0%	10.0%	90.0%	4.54	1.00	2.02	1622	1911
D3B-S	8412	0.19	0.0%	0.0%	10.0%	90.0%	4.54	0.88	2.02	1417	1669
TOTAL	53787	1.23	-	-	-	-	-	5.61	-	9059	10672
PROPOSED OFFSITE BASINS											
OS-D2	978	0.02	0.0%	0.0%	0.0%	100.0%	4.70	0.11	2.12	173	205
OS-D3A	5455	0.13	0.0%	0.0%	10.0%	90.0%	4.54	0.57	2.02	919	1082
OS-D3B	829	0.02	0.0%	0.0%	10.0%	90.0%	4.54	0.09	2.02	140	164
TOTAL	7262	0.17	-	-	-	-	-	0.76	-	1231	1452

STORM DRAIN ANALYSIS POINT COMPARISON						
AP ID	Pipe Size	Existing Contributing Basins	Proposed Contributing Basins	Existing Conditions Q(100yr) (CFS)	Proposed Conditions Q(100yr) (CFS)	Difference from Existing Conditions to Proposed Conditions Q(100yr) (CFS)
SD1	21"	U3A, OS-U3A	D3A-P, D3A-S, OS-D3A	0.73	2.36	+1.63
SD2	21"	U3B, OS-U3B	SD1, D3B-P, D3B-S, OS-D3B	2.99	4.33	+1.35
SD3 (IN OAK ST)	24"	U2, OS-U2	D2, OS-D2	3.27	2.04	-1.23

NOTE: "+" indicates an increase in Q from existing to proposed. "-" indicates a decrease in Q from existing to proposed. In the event the proposed increase of flow in SD2 (1.35 CFS) were to exceed the existing capacity of the pipe, the flow would continue to SD3 which occurs today.

DRAINAGE NARRATIVE

EXISTING CONDITIONS

THIS SITE IS LOCATED AT THE NORTHEAST CORNER OF MULBERRY ST NE AND CENTRAL AVE NE. IT IS CURRENTLY DEVELOPED AND SLOPES FROM SOUTHEAST TO NORTHWEST. THE DRAINAGE ULTIMATELY OUTFALLS TO THE EXISTING PUBLIC STORM DRAIN SYSTEM LOCATED WEST OF THE SITE, UNDER I-25. THIS SITE HAS HISTORICALLY BEEN FULLY DEVELOPED AS COMMERCIAL DEVELOPMENT.

THE SITE LIES WITHIN TWO EXISTING ONSITE BASINS, U2 & U3. BASIN U2 IS A PART OF A LARGER BASIN THAT SURFACE DRAINS NORTH IN MULBERRY ST TO COPPER AVE AND TO AN INLET IN OAK ST. THIS STORM DRAIN SYSTEM ULTIMATELY HEADS WEST UNDER I-25. AT THE NORTHWEST CORNER OF THIS BASIN IS A PORTION OF THE EXISTING SITE THAT DOES NOT DIRECTLY SURFACE DRAIN INTO MULBERRY STREET, BUT RATHER SHEET FLOWS NORTHWEST DIRECTLY INTO COPPER AVE, BUT IS ULTIMATELY A PART OF BASIN U2. BASIN U3 IS ALSO A PART OF A LARGER BASIN THAT SURFACE DRAINS TO AN EXISTING 21" STORM DRAIN SYSTEM LOCATED WITHIN THE ALLEY WEST OF THE SITE. AN INLET IN COPPER AVE NORTH OF THIS SITE AND AT THE INLET LOCATED AT THE INTERSECTION OF MULBERRY ST AND THE ALLEY WAY ACCEPTS DISCHARGE INTO THIS SYSTEM.

THE ONSITE BASINS HAVE BEEN DELINEATED WITHIN THE PROPERTY LINE AND THE OFFSITE BASINS ARE PROPOSED IMPROVEMENTS OUTSIDE OF THE PROPERTY LINE, BUT ARE ULTIMATELY A PART OF THE EXISTING BASINS U2 & U3.

THE TOTAL ONSITE EXISTING FLOW RATE FROM THE CURRENT DEVELOPMENT IS APPROXIMATELY 5.5 CFS. THE TOTAL OFFSITE EXISTING FLOW RATE FROM THE CURRENT DEVELOPMENT IS APPROXIMATELY 0.7 CFS.

PROPOSED CONDITIONS

THE DEVELOPMENT WILL INCLUDE A NEW HOTEL THAT SITS AT THE NORTHEAST INTERSECTION OF CENTRAL AVE AND MULBERRY ST. ON STREET PARKING WILL BE PROVIDED AS A RESULT OF THIS PROJECT. TWO EXISTING STORM DRAIN INLETS WILL BE REMOVED AND RELOCATED AS A RESULT OF NEW CURB AND GUTTER IMPROVEMENTS AND GRADING. THIS IMPERVIOUS AREA OF THE SITE WILL INCREASE SLIGHTLY OVER THE HISTORIC CONDITIONS TO 90% D AND 10% C FOR DEVELOPED FLOWS. LANDSCAPED AREAS THROUGHOUT THE SITE WILL BE DEPRESSED WHERE APPLICABLE TO CAPTURE DRAINAGE IN AN ATTEMPT TO MEET THE FIRST FLUSH REQUIREMENTS, HOWEVER, ULTIMATELY THE CLIENT HAS DECIDED TO PAY CASH-IN-LIEU FOR THE FIRST FLUSH REQUIREMENTS.

DEVELOPED BASINS

THE DEVELOPED BASINS WILL ADHERE TO THE HISTORIC FLOW WITH FEW EXCEPTIONS. THE FOLLOWING IS A DESCRIPTION OF HOW EACH DEVELOPED BASIN WILL DRAIN. PLEASE REFER TO THE "PROPOSED DEVELOPED CONDITIONS BASIN DATA TABLE" FOR THE PROPOSED BASIN FLOWS.

BASIN D2 INCLUDES A PORTION OF THE SITE'S PROPOSED PARKING IMPROVEMENTS AS WELL AS MULBERRY ST. THIS AREA WILL CONTINUE TO SHEET FLOW TO COPPER AVE HEADING WEST INTO THE INLETS AT COPPER AVE AND OAK ST.

OFFSITE BASIN OS-D2 INCLUDES A PORTION OF SITE'S PROPOSED SIDEWALK TO THE WEST OF MULBERRY ST. THIS SIDEWALK HAS BEEN GRANTED A PUBLIC ACCESS EASEMENT AND WILL SHEET FLOW INTO MULBERRY ST AND CONTINUE TO THE INLET AT OAK ST.

BASIN D3A-P INCLUDES ROOF DRAINAGE FROM THE HOTEL THAT WILL BE PIPED DIRECTLY INTO THE COPPER AVE PROPOSED RELOCATED INLET WHICH ULTIMATELY TIES TO THE EXISTING 21" RCP LINE THAT RUNS IN MULBERRY ST.

BASIN D3A-S INCLUDES A PORTION OF THE SITE'S EASTERN HARDSCAPE AND LANDSCAPING FEATURES WHICH WILL CONTINUE TO SHEET FLOW INTO THE PROPOSED RELOCATED INLET WITHIN COPPER AVE.

OFFSITE BASIN OS-D3A INCLUDES A PORTION OF THE SITE'S ENTRANCE, TRASH ENCLOSURE, & HARDSCAPE BETWEEN THE PROPOSED DEVELOPMENT TO THE EAST. THIS AREA WILL CONTINUE TO SHEET FLOW INTO COPPER AVE AND COLLECTED WITH THE PROPOSED RELOCATED INLET (THE DUMPSTER ENCLOSURE WILL HAVE A SEPARATE DRAIN THAT CONNECTS TO THE SANITARY SEWER SERVICE).

BASIN D3B-P INCLUDES ROOF DRAINAGE FROM THE HOTEL THAT WILL BE PIPED INTO THE PROPOSED RELOCATED INLET WITHIN MULBERRY WHICH ULTIMATELY TIES TO THE EXISTING 21" RCP LINE THAT RUNS WEST THROUGH THE EXISTING ALLEY.

BASIN D3B-S INCLUDES A PORTION OF THE SITE'S HARDSCAPE, LANDSCAPE, PROPOSED PARKING IMPROVEMENTS, AS WELL AS A PORTION OF MULBERRY ST. THIS AREA CONTINUES TO SHEET FLOW TO THE PROPOSED RELOCATED INLET WITHIN MULBERRY ST.

OFFSITE BASIN OS-D3B INCLUDES PROPOSED HARDSCAPE AREA OFF OF THE CENTRAL SIDEWALK AND WILL DRAIN TOWARDS CENTRAL AVE WHICH ULTIMATELY DISCHARGES INTO MULBERRY ST & INTO THE PROPOSED RELOCATED TYPE "D" INLET.

THE TOTAL ONSITE PROPOSED FLOW RATE FROM THE PROPOSED DEVELOPMENT IS APPROXIMATELY 5.6 CFS. COMPARISON OF THE FLOW BETWEEN EXISTING AND PROPOSED CONDITIONS WAS FOUND TO HAVE AN OVERALL INCREASE OF 0.1 CFS, INDICATING THAT THE DEVELOPED FLOWS HAVE INCREASED THE PROPOSED DEVELOPED FLOWS BY LESS THAN 2%.

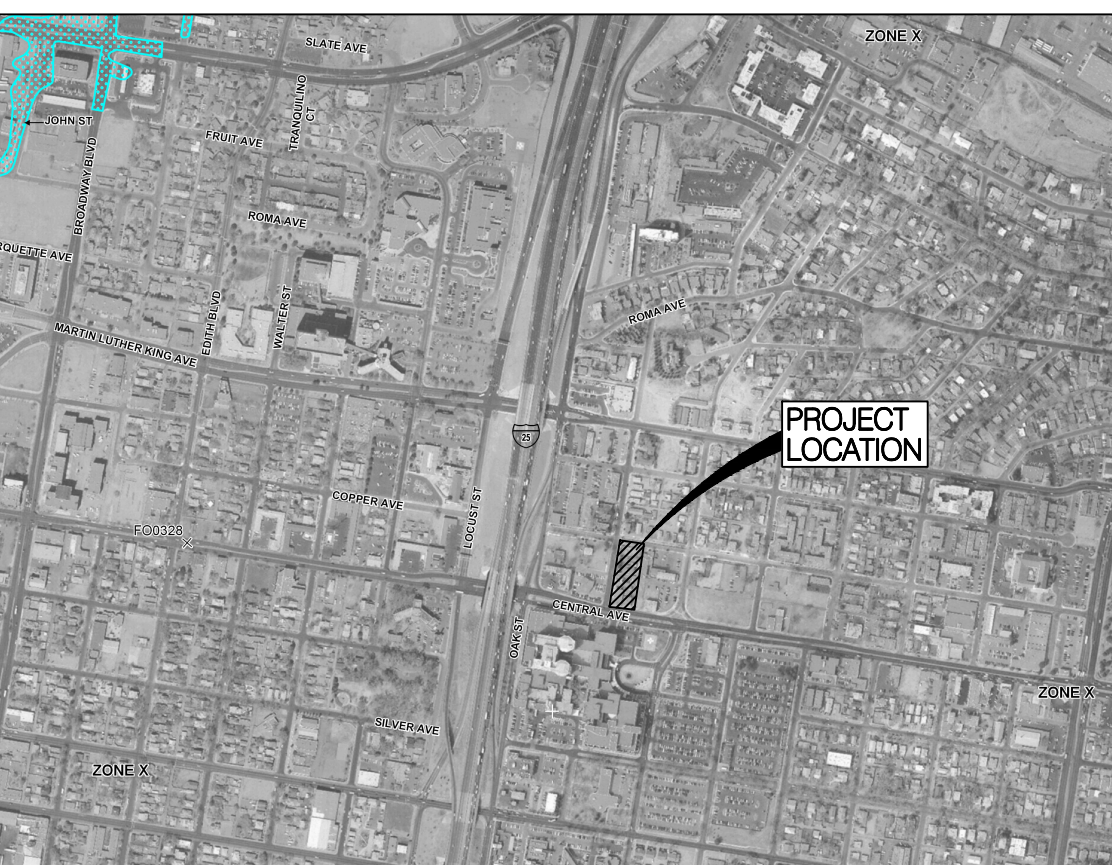
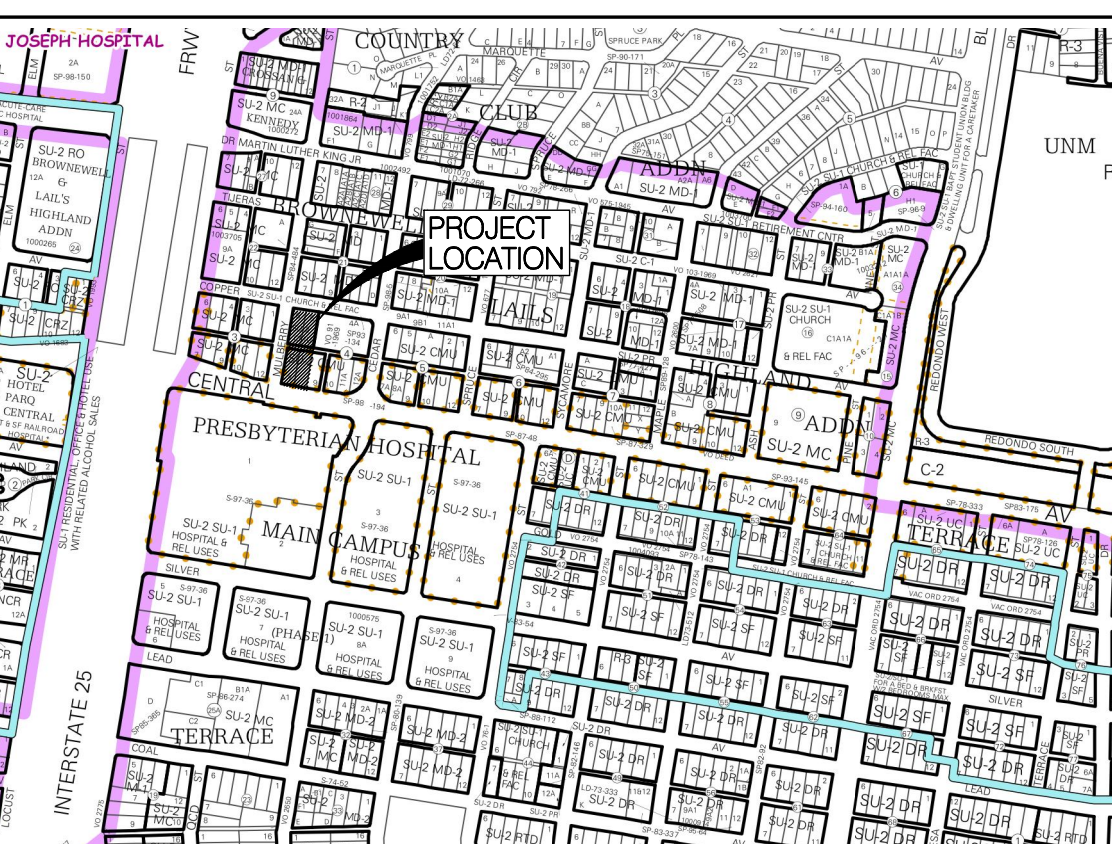
TO ACCOUNT FOR THE OFFSITE DRAINAGE FROM THE PARCEL TO THE EAST IN THE INTERIM CONDITION (PRIOR TO DEVELOPMENT OF THIS SITE), THE SITE WILL BE GRADED TO DRAIN TO THE NORTH AS IT DOES HISTORICALLY TODAY TO AVOID IMPACT ON THE HOTEL SITE. A SEPARATE GRADING AND DRAINAGE PLAN WILL BE PROVIDED IN THE FUTURE.

CONCLUSION

THE DEVELOPED FLOWS FOR THIS SITE GENERALLY REMAINS UNCHANGED FROM THE EXISTING CONDITIONS. HOWEVER THIS PLAN DIVERTS FLOWS DIRECTLY INTO THE RELOCATED INLETS FROM THE PROPOSED BUILDING. THESE ADJUSTMENTS ARE NOTED ON THE "STORM DRAIN ANALYSIS POINT COMPARISON" TABLE WHICH DEMONSTRATE THAT THE DRAINAGE ELEMENTS PROPOSED WITH THE PROJECT ARE CAPABLE OF SAFELY CONVEYING THE 100 YR, 6 HR STORM EVENT IN ACCORDANCE WITH THE DEVELOPMENT PROCESS MANUAL. WITH THIS SUBMITTAL, WE ARE REQUESTING COA HYDROLOGY APPROVAL IN SUPPORT OF BUILDING PERMIT APPROVAL, FOUNDATION PERMIT APPROVAL, GRADING PERMIT APPROVAL.

VICINITY MAP

ZONE MAP K-15-Z



FEMA FIRM

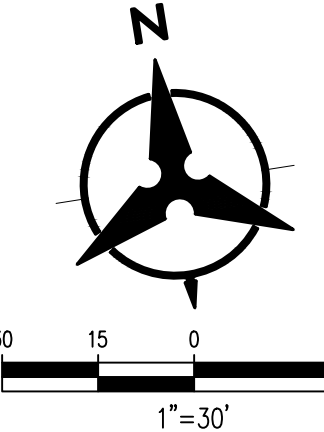
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KEYNOTES

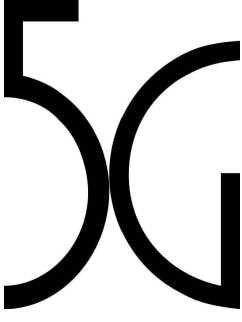
- EXISTING STORM DRAIN TO REMAIN.
- STORM DRAIN INLET AND IMPROVEMENTS TO BE CONSTRUCTED A PART OF PROJECT DRB #1010879 / CPN # 764782.
- EXISTING INLET TO BE REMOVED AND RELOCATED.
- EXISTING STORM DRAIN TO BE REMOVED.
- EXISTING STORM DRAIN INLET TO BE REMOVED.
- PROPOSED NEW STORM DRAIN.
- PROPOSED NEW STORM DRAIN INLET.
- EXISTING ART CURB & GUTTER CONSTRUCTED WITH ART PROJECT.
- EXISTING MANHOLE TO REMAIN.

GRADING LEGEND

--- PROPERTY LINE	PROPOSED CURB & GUTTER
--- PROJECT LIMITS OF GRADING	DIRECTION OF FLOW
--- EXISTING INDEX CONTOUR	WATER BLOCK/GRADE BREAK
--- EXISTING INTERMEDIATE CONTOUR	PROPOSED STORM DRAIN LINE
EXISTING GROUND SPOT ELEVATION	PROPOSED STORM DRAIN MANHOLE
PROPOSED INDEX CONTOUR	PROPOSED STORM DRAIN INLETS
PROPOSED INTERMEDIATE CONTOUR	PROPOSED RETAINING WALL
PROPOSED FINISHED GRADE SPOT ELEVATION	EASEMENT
TC=TOP OF CURB, FL=FLOW LINE, TS=TOP OF SIDEWALK, TG=TOP OF GRATE, FGH=FINISH GROUND HIGH, FGL=FINISH GROUND LOW	EXISTING BASIN BOUNDARY
BASIN DXX-S PROPOSED BASIN ID-SHEET FLOW	EXISTING BASIN ID
BASIN DXX-P PROPOSED BASIN ID-PIPED FLOW	



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Heads Up Landscaping
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(505) 888-9615 John Brady

STRUCTURAL ENGINEER
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Plano, TX 75075
(214) 501-3364 Mohammad Kabir)

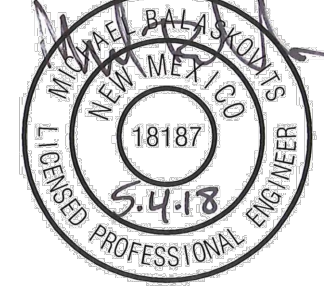
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918 Dragon Street, Suite 500
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(214) 515-0925 Mark Portnoy)

OWNER/DEVELOPER
Titan Development
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Albuquerque, New Mexico 87120
(505) 888-0163 John Rogers

OPERATOR
Intermountain Management, LLC
2390 Tower Drive
Monroe, Louisiana 71201
(318) 612-7126 Dave Raymond)

DATE	ISSUE TITLE
01/12/16	ISSUE FOR DESIGN DEVELOPMENT
04/22/18	ISSUE FOR PERMIT

REV.	DATE	ISSUE TITLE



NOT FOR CONSTRUCTION

SPRINGHILL SUITES - ALBUQUERQUE
CENTRAL AVE. & MULBERRY ST.
ALBUQUERQUE, NM 87106

DRAINAGE
MANAGEMENT PLAN

IMM012
PROJECT NUMBER SHEET NUMBER

C-001

SHEET C-101

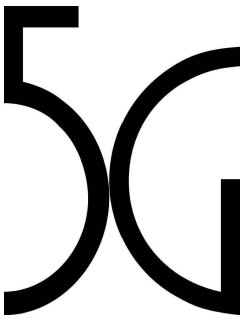
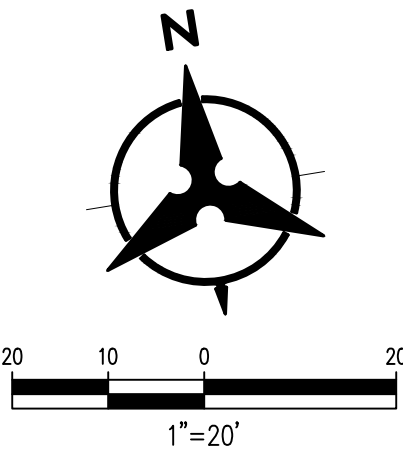
SHEET C-102

GENERAL SHEET NOTES

1. ALL WORK DETAILED ON THESE PLANS AND PERFORMED UNDER THIS CONTRACT SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND THE PROJECT GEOTECHNICAL REPORT, WHERE APPLICABLE. COA PUBLIC WORKS STANDARDS SHALL APPLY.
2. THE CONTRACTOR SHALL ABIDE BY ALL LOCAL, STATE, AND FEDERAL LAWS, RULES AND REGULATIONS WHICH APPLY TO THE CONSTRUCTION OF THESE IMPROVEMENTS, INCLUDING EPA REQUIREMENTS WITH RESPECT TO STORM WATER DISCHARGE.
3. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL FIELD VERIFY THE HORIZONTAL AND VERTICAL LOCATIONS OF ALL POTENTIAL OBSTRUCTIONS INCLUDING ALL UNDERGROUND UTILITIES. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION OBSERVER OR ENGINEER SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY.
4. TWO (2) WORKING DAYS PRIOR TO ANY EXCAVATION, THE CONTRACTOR SHALL CONTACT LINE LOCATING SERVICE FOR LOCATION OF EXISTING UTILITIES.
5. ALL ELECTRICAL, TELEPHONE, CABLE TV, GAS AND OTHER UTILITY LINES, CABLES, AND APPURTENANCES ENCOUNTERED DURING CONSTRUCTION THAT REQUIRE RELOCATION, SHALL BE COORDINATED WITH THAT UTILITY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION OF ALL NECESSARY UTILITY ADJUSTMENTS. NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR DELAYS OR INCONVENIENCES CAUSED BY UTILITY COMPANY WORK CREWS. THE CONTRACTOR MAY BE REQUIRED TO RESCHEDULE HIS ACTIVITIES TO ALLOW UTILITY CREWS TO PERFORM THEIR REQUIRED WORK.
6. THE CONTRACTOR IS RESPONSIBLE FOR PROTECTING ALL EXISTING UTILITY LINES WITHIN THE CONSTRUCTION AREA. ANY DAMAGE TO EXISTING FACILITIES CAUSED BY CONSTRUCTION ACTIVITY SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE AND APPROVED BY THE CONSTRUCTION OBSERVER.
7. CONSTRUCTION ACTIVITY SHALL BE LIMITED TO THE PROPERTY AND/OR PROJECT LIMITS. ANY DAMAGE TO ADJACENT PROPERTIES RESULTING FROM THE CONSTRUCTION PROCESS SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE.
8. OVERNIGHT PARKING OF CONSTRUCTION EQUIPMENT SHALL NOT OBSTRUCT DRIVEWAYS OR DESIGNATED TRAFFIC LANES. THE CONTRACTOR SHALL NOT STORE ANY EQUIPMENT OR MATERIAL WITHIN THE PUBLIC RIGHT-OF-WAY.
9. THE CONTRACTOR SHALL OBTAIN ALL THE NECESSARY PERMITS FOR THE PROJECT PRIOR TO COMMENCING CONSTRUCTION (I.E., BARRICADING, TOPSOIL DISTURBANCE, EXCAVATION PERMITS, DRIVEWAY PERMITS, ETC.).
10. ALL PROPERTY CORNERS DESTROYED DURING CONSTRUCTION SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE. ALL PROPERTY CORNERS MUST BE RESET BY A REGISTERED LAND SURVEYOR.
11. THE CONTRACTOR SHALL PREPARE A CONSTRUCTION TRAFFIC CONTROL AND SIGNING PLAN AND OBTAIN APPROVAL OF SUCH PLAN FROM THE TRAFFIC ENGINEERING DEPARTMENT PRIOR TO BEGINNING ANY CONSTRUCTION WORK ON OR ADJACENT TO EXISTING STREETS.
12. ALL BARRICADES AND CONSTRUCTION SIGNING SHALL CONFORM TO APPLICABLE SECTIONS OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD), US DEPARTMENT OF TRANSPORTATION, LATEST EDITION.
13. THE CONTRACTOR SHALL MAINTAIN ALL CONSTRUCTION BARRICADES AND SIGNING AT ALL TIMES. THE CONTRACTOR SHALL VERIFY THE PROPER LOCATION OF ALL BARRICADING AT THE END AND BEGINNING OF EACH DAY.
14. THE PROJECT MUST CONFORM WITH THE EROSION AND SEDIMENT REQUIREMENTS OF THE 2003 EPA CONSTRUCTION GENERAL PERMIT OR LOCAL STANDARDS & CODES WHICHEVER IS MORE STRINGENT.

GRADING SHEET NOTES

1. EXCEPT AS PROVIDED HEREIN, GRADING SHALL BE PERFORMED AT THE ELEVATIONS AND IN ACCORDANCE WITH THE DETAILS SHOWN ON THIS PLAN.
2. THE COST FOR REQUIRED CONSTRUCTION DUST AND EROSION CONTROL MEASURES SHALL BE INCIDENTAL TO THE PROJECT COST.
3. ALL WORK RELATIVE TO FOUNDATION CONSTRUCTION, SITE PREPARATION, AND PAVEMENT INSTALLATION, AS SHOWN ON THIS PLAN, SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE "GEOTECHNICAL INVESTIGATION," AS PROVIDED BY THE ARCHITECT OR OWNER. ALL OTHER WORK SHALL, UNLESS OTHERWISE STATED OR PROVIDED FOR HEREON, BE CONSTRUCTED IN ACCORDANCE WITH THE PROJECT (FIRST PRIORITY) SPECIFICATIONS, AND/OR THE COA STANDARD SPECIFICATIONS FOR PUBLIC WORKS.
4. EARTH SLOPES SHALL NOT EXCEED 5 HORIZONTAL TO 1 VERTICAL PER THE GEOTECHNICAL REPORT UNLESS SHOWN OTHERWISE.
5. IT IS THE INTENT OF THESE PLANS THAT THIS CONTRACTOR SHALL NOT PERFORM ANY WORK/DISTURBANCE OUTSIDE OF THE PROPERTY BOUNDARIES EXCEPT AS REQUIRED BY THIS PLAN.
6. THE CONTRACTOR IS TO ENSURE THAT NO SOIL ERODES FROM THE SITE ONTO ADJACENT PROPERTY OR PUBLIC RIGHT-OF-WAY.
7. A DISPOSAL SITE FOR ANY & ALL EXCESS EXCAVATION MATERIAL, AND UNSUITABLE MATERIAL AND/OR A BORROW SITE CONTAINING ACCEPTABLE FILL MATERIAL SHALL BE OBTAINED BY THE CONTRACTOR IN COMPLIANCE WITH APPLICABLE ENVIRONMENTAL REGULATIONS AND APPROVED BY THE OBSERVER. ALL COSTS INCURRED IN OBTAINING A DISPOSAL OR BORROW SITE AND HAUL TO OR FROM SHALL BE CONSIDERED INCIDENTAL TO THE PROJECT AND NO SEPARATE MEASUREMENT OR PAYMENT SHALL BE MADE.
8. PAVING AND ROADWAY GRADES SHALL BE +/- 0.1' FROM PLAN ELEVATIONS. PAD ELEVATION SHALL BE +/- 0.05' FROM BUILDING PLAN ELEVATION.
9. ALL PROPOSED CONTOURS REFLECT TOP OF PAVEMENT ELEVATIONS IN THE PARKING AREA AND MUST BE ADJUSTED FOR MEDIANS AND ISLANDS.
10. VERIFY ALL ELEVATIONS SHOWN ON PLAN FROM BASIS OF ELEVATION CONTROL STATION PRIOR TO BEGINNING CONSTRUCTION.
11. SIDEWALK CROSS-SLOPES SHALL BE AT A MINIMUM OF 1.0% AND A MAXIMUM OF 2.0%.
12. HOPE PIPE AND FITTINGS SHALL BE INSTALLED AND BACKFILLED PER MANUFACTURER SPECIFICATIONS. CONNECTIONS TO CONCRETE MANHOLES AND CONCRETE DROP INLETS SHALL USE WATER STOP GASKETS AND SHALL BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS.



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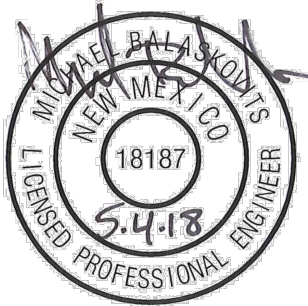
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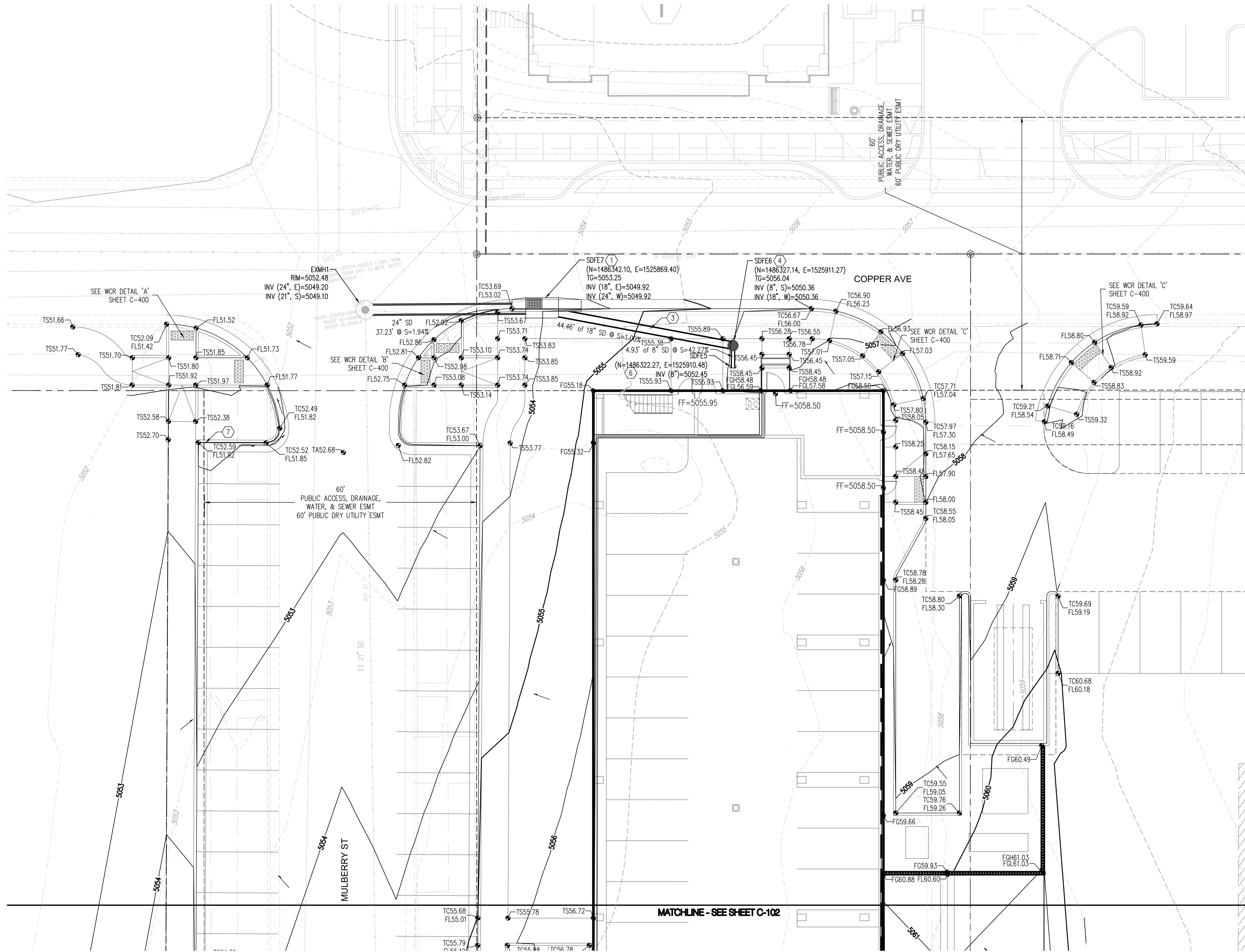
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OVERALL GRADING &
DRAINAGE PLAN

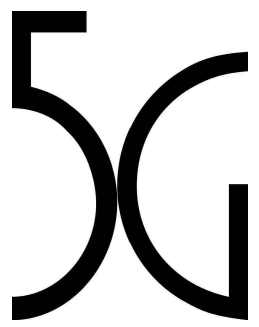
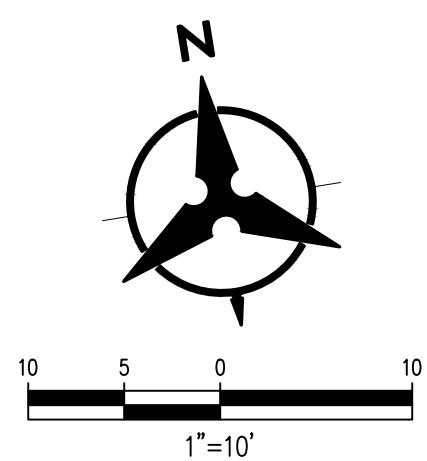


GRADING KEYNOTES

1. INSTALL SINGLE GRATE TYPE 'A' INLET PER COA STD. DWG. 2201.
2. INSTALL TYPE 'D' INLET PER COA STD. DWG. 2206 & CONNECT TO EXISTING STORM DRAIN.
3. INSTALL HDPE (N12WT, OR APPROVED EQUAL) STORM DRAIN PIPE (SIZE PER PLAN).
4. INSTALL 18" NYLOPLAST STORM DRAIN INLET OR APPROVED EQUAL PER MANUFACTURER'S SPECIFICATIONS.
5. INSTALL PRE-FABRICATED STORM DRAIN FITTING.
6. STUB PROPOSED ROOF DRAIN CONNECTIONS WITHIN 5' OF THE BUILDING. SEE PLUMBING PLANS FOR CONTINUATION.
7. INSTALL CURB OPENING PER DETAIL ON SHEET C-400.
8. INSTALL 12" SIDEWALK CULVERT PER COA STD. DWG. 2236.
9. REMOVE EXISTING STORM DRAIN.
10. REMOVE EXISTING STORM DRAIN INLET.
11. INSTALL 2' ALLEY GUTTER PER COA STD. DWG. 2415A.

GRADING LEGEND

	PROPERTY LINE		PROPOSED CURB & GUTTER
	PROJECT LIMITS OF GRADING		DIRECTION OF FLOW
	EXISTING INDEX CONTOUR		WATER BLOCK/GRADE BREAK
	EXISTING INTERMEDIATE CONTOUR		PROPOSED STORM DRAIN LINE
	EXISTING GROUND SPOT ELEVATION		PROPOSED STORM DRAIN MANHOLE
	PROPOSED INDEX CONTOUR		PROPOSED STORM DRAIN INLETS
	PROPOSED INTERMEDIATE CONTOUR		PROPOSED RETAINING WALL
	PROPOSED FINISHED GRADE SPOT ELEVATION		EASEMENT
TC=TOP OF CURB, FL=FLOW LINE, TS=TOP OF SIDEWALK, TG=TOP OF GRATE, FGH=FINISH GROUND HIGH, FGL=FINISH GROUND LOW			



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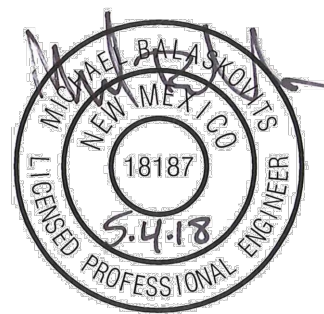
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GRADING &
DRAINAGE PLAN

IMM012

PROJECT NUMBER

C-101

SHEET NUMBER

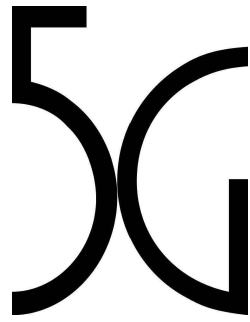


GRADING KEYNOTES

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GRADING LEGEND

- | | |
|--|------------------------------|
| --- PROPERTY LINE | PROPOSED CURB & GUTTER |
| --- PROJECT LIMITS OF GRADING | DIRECTION OF FLOW |
| --- EXISTING INDEX CONTOUR | WATER BLOCK/GRADE BREAK |
| --- EXISTING INTERMEDIATE CONTOUR | PROPOSED STORM DRAIN LINE |
| • 5025.25 EXISTING GROUND SPOT ELEVATION | PROPOSED STORM DRAIN MANHOLE |
| --- 5025 PROPOSED INDEX CONTOUR | PROPOSED STORM DRAIN INLETS |
| --- 5024 PROPOSED INTERMEDIATE CONTOUR | PROPOSED RETAINING WALL |
| • 26.75 PROPOSED FINISHED GRADE SPOT ELEVATION | EASEMENT |
| TC=TOP OF CURB | |
| FL=FLOW LINE | |
| TS=TOP OF SIDEWALK | |
| TG=TOP OF GRATE | |
| FGH=FINISH GROUND HIGH | |
| FGL=FINISH GROUND LOW | |



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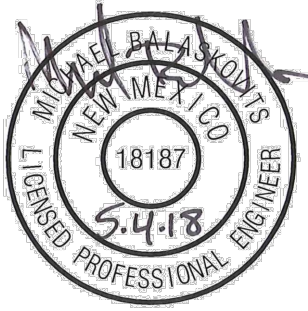
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GRADING &
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PROJECT NUMBER

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